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FRANK A. TAYLOR,
Director, United States National Museum.

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CONTRIBUTIONS
FROM THE
UNITED STATES NATIONAL HERBARIUM
VOLUME 32, PART 1

THE AMERICAN SPECIES
OF AESCHYNOMENE

By **VELVA E. RUDD**



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III

THE AMERICAN SPECIES OF AESCHYNOMENE ¹

BY VELVA E. RUDD

Introduction

The genus *Aeschynomene* is a member of the legume family characterized by papilionaceous flowers and jointed fruits, or loments. Its species range from herbaceous annuals to woody perennials, some treelike, as much as 8 m. tall. The plants may be erect to prostrate, but none are true vines. The leaflets are sensitive to light and, in most cases, to touch, placing this group in a general category commonly referred to as "sensitive plants."

Some 350 species have been ascribed to *Aeschynomene*. Approximately one half of them have been described from New World material, the others from the Old World, principally from Africa. About 50 species have since been transferred to other genera.

A complete monographic study of the genus has never been published. The early encyclopedic works lack many recently described species, and the limited regional treatments have produced considerable synonymy and misinterpretations. The desirability of clarification becomes obvious to anyone attempting to identify field collections.

The scope of this paper is a revision of the American species of *Aeschynomene*. No attempt has been made to include Old World synonymy, but a few Old World names and ranges are mentioned incidentally.

Thanks and appreciation are due the other staff members of the U. S. National Herbarium for their criticism and counsel, especially Ellsworth P. Killip, at whose suggestion the project was undertaken, Lyman B. Smith, and Albert C. Smith.

In addition to the facilities of the U. S. National Herbarium, it has been a privilege to consult specimens from other herbaria, especially the following. To the curators of those institutions the writer is grateful. Chicago Museum of Natural History (Ch), Gray Her-

¹ This paper is largely based on a dissertation submitted to the faculty of the Graduate Council of The George Washington University in partial satisfaction of the requirements for the degree of Doctor of Philosophy.

barium of Harvard University (GH), Instituto Agronomico do Norte, Belém, Brazil (IAN), Royal Botanic Gardens, Kew (K), Missouri Botanical Garden (Mo), New York Botanical Garden (NY), Muséum National d'Histoire Naturelle, Paris (P), Museu Nacional, Rio de Janeiro (R), Instituto de Botánica Darwinion, San Isidro, Argentina (SI), University of California (UC), Herbario San Marcos, Museo de Historia Natural, Lima, Perú (USM), Instituto Botánico, Ministerio de Agricultura y Cría, Caracas (Ven).

The abbreviations of herbarium names used above and in the citation of specimens, except for the Chicago Museum of Natural History, follow those of Lanjouw and Stafleu (*Index Herbariorum*, 1952, ed. 2, 1954).

Photographs of types in European herbaria made by J. F. Macbride and distributed by the Chicago Museum of Natural History (formerly Field Museum) are cited as "F. M. neg.," with the negative number and the initials of the herbarium in which the specimen was located. Other photographs consulted are cited with what information is available.

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Historical consideration

The name *Aeschynomene* was derived from the Greek word *αισχυνω*, meaning to be bashful or ashamed. It was used by early Greeks and others apparently as a generic term for sensitive plants, particularly for legumes such as *Acacia*, *Mimosa*, and *Cassia*. Pliny the Elder (Bostock and Riley, trans. 5:67. 1856), in discussing medicinal plants, included, as known to the Magi, "the herb *aeschynomene*, so-called from the shrinking of its leaves at the approach of the hand." The precise identity of that plant is not known. Adanson (*Familles des Plantes*, 2:328. 1763) cited Pliny's *Aeschynomene* as a *Mimosa*, and, considering Linnaeus' *Aeschynomene* a homonym, proposed the generic name *Gajati* for the latter.

Pre-Linnaean writers, such as Breyne (*Exoticarum Aliarumque Minus Cognitarum Plantarum Centuria Prima*. 1678), Ray (*Historia Plantarum*. 1686-1704), Rheede (*Horti Malabarici pars nona de Herbis et Diversis Illarum Speciebus*. 1689), and van Royen (*Florae Leydensis Prodrromus*. 1740), continued to use the name *Aeschynomene*, although not wholly in the modern sense. Breyne, for example, designated *Ae. aspera* L. as "Mimosa non spinosa." *Mimosa pigra* L. he called "Aeschynomene spinosa" but captioned the illustrative plates "Mimosa spinosa."

Linnaeus validated the generic name *Aeschynomene* for modern nomenclature by including it in the first edition of his "Species Plantarum" (713. 1753). Of the five species he listed, however, only three, *Ae. aspera*, *Ae. americana*, and *Ae. indica*, remain in the genus today; another, *Ae. arborea*, is a *Desmodium*, and *Ae. sesban* is a *Sesbania*. He failed to include *Ae. virginica*, which he cited as *Hedysarum virginicum*.

In the second (1060, 1061. 1753) and third (3:1162–1165. 1764) editions, Linnaeus included two additional species of *Aeschynomene*, *Ae. grandiflora* (actually a *Sesbania*) and *Ae. pumila*. The fourth edition, edited by Willdenow (3:1163, 1164. 1802) added *Ae. hispida* and *Ae. diffusa*.

Jacquin (Collect. ad Bot. 2:283. 1788; Ic. Pl. Rar. 3:13. 1792; Plantae Rarae Hort. Schoenbr. 2:59, t. 237. 1797; Fragm. Bot. 37, t. 42, f. 2. 1809) published four species of *Aeschynomene*, none of which are now retained in the genus.

Poiret, in Lamarck's "Encyclopedia Methodique" (4:447–453. 1797; Suppl. 4:76–78. 1816) described all the species of *Aeschynomene* known to him, some 29, 10 of which are now placed in other genera. Four species which he placed under *Hedysarum* (op. cit. 6:446–449. 1804) have been transferred to *Aeschynomene*.

Michaux, in his "Flora Boreali-Americana" (2:75. 1803), listed *Ae. platycarpa*, now placed in *Glottidium*, and *Ae. viscidula*.

The American travels of Humboldt and Bonpland resulted in the publication of four more South American species of *Aeschynomene* in "Nova Genera et Species Plantarum" (6:530–532. 1824).

DeCandolle, in his "Prodromus" (2:320–323. 1825), gave a list, with brief descriptions, of the then known 36 species of *Aeschynomene*. His generic definitions were more in line with present ideas, and, with the exception of about four species "minus notae aut dubiae," all were correctly placed as to genus. Twenty-two species were based on New World material.

In his "General System of Gardening and Botany" (2:283–286. 1832), Don listed, with brief descriptions, 40 species of *Aeschynomene*, adding three new species based on collections attributed to Ruiz and Pavon.

Vogel (Linnaea 12:81–96. 1838) published "De Hedysareis Brasiliae," based chiefly on Sellow collections, which included 16 species, 11 of them new, all described in detail. In this paper he proposed the division of the genus into two sections, *Eu-aeschynomene* and *Ochopodium*.

The next major treatment of the genus was by Bentham in Martius' "Flora Brasiliensis" (15 (1):56–70. 1859). Even with considerable reduction to synonymy, he presented 24 species of *Aeschynomene*,

eight of them new, with adequate descriptions, keys, and several illustrations. This included most of the then known American species of *Aeschynomene*.

The generic name *Macromiscus* was introduced in 1846 by Turczaninow (Bull. Soc. Nat. Mosc. 19:508. 1846), with *M. brasiliensis* Turcz. assigned to it at that time and *M. glandulosus* Turcz. the following year (op. cit. 20:174. 1847). Bentham, in "Flora Brasiliensis" (loc. cit.), interpreted *M. brasiliensis*, apparently correctly, as a synonym of *Aeschynomene montevidensis* Vog. and used *M. glandulosus* as the basis for *Ae. rostrata* Benth.

Hemsley (Biol. Centrali-Americana 1:270-272. 1879) listed, with brief descriptions and with citations to collections, 17 species of Mexican *Aeschynomene* and three unnamed specimens which were new or unknown to him.

Taubert, in Engler and Prantl's "Die Natürlichen Pflanzenfamilien" (3 (3):319. 1894), stated that there were 50 species of *Aeschynomene* in the whole world. He briefly characterized the two sections of the genus but did not go into detail as to species.

The genus *Climacorachis* was published by Hemsley and Rose (Contr. U. S. Nat. Herb. 8:43. 1903) to accommodate certain Mexican collections. In the present paper, this material is being interpreted as somewhat aberrant species of *Aeschynomene* of the series *Americanae*.

Small (Fl. Miami 90, 200. 1913) proposed the generic name *Secula*, based on *Aeschynomene viscidula* Michx. Later, he also transferred *Ae. histrix* to the genus *Secula*.

From time to time one or more species have been described by various botanists, among them Vellozo, Micheli, Rose, Robinson, Brandege, Jones, Standley, Gleason, Hassler, Grisebach, Small, Sandwith, and others, as cited in the systematic treatment in this paper.

In addition to the floristic works thus far mentioned, there have been numerous regional treatments, published in recent years, that have presented the pertinent species of *Aeschynomene*. Among the regions which have been so treated are the eastern United States (Small, 1933; Fernald, 1950; Gleason, 1952), Arizona (Kearney and Peebles, 1951), México (Standley, 1922; Morton, 1944), Guatemala (Standley and Steyermark, 1946), Costa Rica (Standley, 1937), Panama Canal Zone (Standley, 1928), Cuba (León and Alain, 1951), Jamaica (Fawcett and Rendle, 1920), Venezuela (Pittier, 1944, 1945), Surinam (Amshoff, 1939), Perú (MacBride, 1943), and Argentina (Burkart, 1939).

Economic consideration

The species of *Aeschynomene* have relatively minor economic importance but, as is characteristic of legumes, they contribute to the supply of soil nitrogen by producing root nodules in symbiosis with nitrogen-fixing bacteria. In Java several species occurring as weeds were tested as green manure, but the report (Heyne, Nutt. Plant. Ned. Ind. 783. 1927) "neither condemned nor praised," and apparently the practice has not been established.

The pith from certain species of *Aeschynomene* in South America is used for corks and for stropping knives and razors. In the Old World, particularly the Orient, the pith is said to be used for making artificial flowers and as a cork substitute for helmets, floats for nets, insect-boxes, etc. (Burkill, Dictionary of the Economic Products of the Malay Peninsula, 59. 1935; Don, op. cit. 2:283. 1832). It has also been reported that stem fibers are used to make "rice-paper," but, according to Burkill, "this wants confirmation."

Cattle have been observed to graze various species of *Aeschynomene* and, apparently, the leaves and tender shoots are generally palatable to livestock. None of the species is known to be poisonous. However, lacking the abundance and luxuriant growth of the more commonly utilized legumes, *Aeschynomene* is relatively unimportant as forage.

Ordetx Ros (Flora Apicola de la América Tropical, 282. 1952) states that *Aeschynomene americana* is visited by bees in the morning, but not with great interest; they obtain pollen and possibly some nectar. Gentry noted in his collection data for *Ae. petraea* var. *grandiflora* that it was "visited by bees." No other remarks on possible roles as honey plants have been noted.

Several species of the genus have showy flowers, but they seem to have been cultivated only in botanic gardens.

Geographic distribution

Aeschynomene is chiefly a tropical genus (fig. 1), with a few species occurring in warm temperate areas. In America, presumably native, it ranges from about lat. 40° N. to 35° S. along the Atlantic coast, and from lat. 28° N. to 17° S. on the Pacific side. In the Old World the distribution is principally in Africa, southeastern Asia, and the Pacific Islands, apparently including both native species and introduced American weeds.

About one-half of the species are hydrophytes, found in marshes, mud holes, rice paddies, wet meadows, and along stream banks. The others are more xeric, occurring in savanna, caatinga, pine barrens,

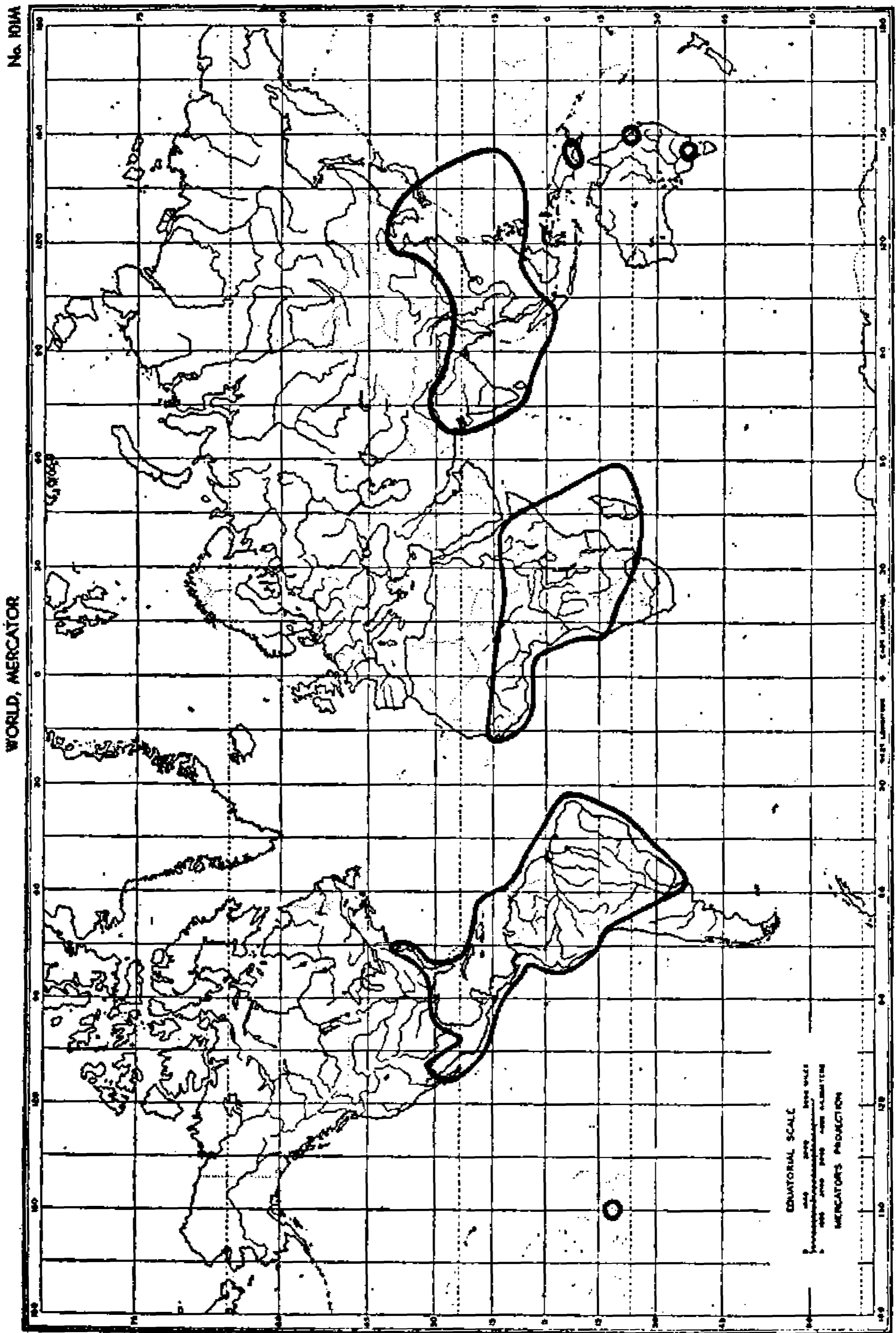


FIGURE 1. Geographic distribution of the genus *Aeschynomene*.

oak woods, on rocky hillsides, sandy beaches, or in dry waste places. A number of species are widespread. Several are known only from the type collection.

The species of the section *Aeschynomene* are predominantly hydric, long-lived annuals, and, with few exceptions, are found on relatively young land areas, i. e., areas of late Pleistocene to Recent emergence or deposition, such as the coastal plain of southeastern United States, most of the Antilles, the Yucatán Peninsula of México, and the basins of the Amazon and Paraná rivers of South America.

Within this section, the series have somewhat distinctive distribution patterns, which suggest their areas of origin and paths of migration.

The series *Americanae* (fig. 2) includes mostly amphibious plants, and some which occur in pine and oak woods or in dry pastures. From the available data there does not appear to be a rigid correlation between species and habitats, the members of the group evidently having somewhat flexible edaphic requirements. Although the group is widespread in tropical America, the greatest diversity of taxa occurs in México. The possibility is suggested that the series originated in the region of the southern Sierra Madre, and then, with Pleistocene emergence of such land as the Yucatán Peninsula and the Antilles, gradually spread to present locations. Today the *Americanae* seem to be especially abundant in the Caribbean area, where its migration may be facilitated by hurricanes.

The series *Fluminenses* (fig. 3) has been inadequately collected and its range may be greater than the available specimens would indicate. The presently known pattern is interesting: Cuba, Hispaniola, and east-central South America.

The *Montevidenses* (fig. 4), as indicated by the collections to date, are most abundant in South America from eastern Brazil to the vicinity of Buenos Aires, Argentina. The northernmost species of the group, apparently native to the southern edge of the Guiana highlands, has also been collected in a few isolated locations northwestward to Cuba and British Honduras. Because of inadequate collections, it is difficult to know the extent of the native range, or if some of the outlying stations represent introductions.

The *Sensitivae* (fig. 5), although widespread in tropical America, especially in marshy situations on Recent lands, show greatest diversity along a line from Guatemala to southern Brazil. With the exception of one variety known only from southern Florida, all members of this series are found along this line. Perhaps this was the area of origin of the group, with migration to the present outlying locations occurring in late Pleistocene and Recent time.

The *Indicae* (fig. 6) are the most widespread. The group extends to both the northern and southern extremes of latitude of the genus'

range in America. The distribution is predominantly coastal, in some cases estuarine, but also inland in swamps or along streams. Relatively few individuals are found in pastures or open woods. In spite of the widespread range of the group as a whole, several of the individual species are definitely localized. For example, one species is known to occur only in estuarine situations between Philadelphia, Pa., and southern Virginia. Another seems to be restricted to northern Argentina. Those taxa more widely ranging tend to be more variable and to intergrade with their neighbors. This is an extremely complex and apparently recent group.

Members of the section *Ochopodium* fall into two groups. One group includes the shrubby species, which compose the series *Pleuronerviae* (fig. 8) and *Scopariae* (fig. 9). They are mesic to subxeric, and are known almost exclusively from older lands, areas which have had a continuous history above sea level since Cretaceous time. Such areas include the Sierras of México and of northern Central America, the massifs of Hispaniola, the Sierra Maestra of Cuba, the Andes from Colombia to Perú, and the highlands of the Guianas and Brazil.

The members of the *Pleuronerviae* are found chiefly from Baja California, Cuba, and Hispaniola to the highlands of Brazil, with relatively little migration to younger areas having taken place. The majority of the species have extremely limited ranges. The *Scopariae* are found from Baja California and the western Sierra Madre of México southward in the mountain areas to Perú, with outliers in the Guiana and Brazilian highlands.

The distribution patterns of these two series are discontinuous. In many cases, what appear to be closely related species are widely separated by areas of erosion, submergence, or uplift. For example, the Amazon river system separates the Andes and the Brazilian and Guiana highlands. Baja California is separated from the Mexican mainland by the trough of the Gulf of California. What are most perplexing are the wide separations in which one of a pair of related species is in southern Brazil and the other in México, or Hispaniola. With the information available to date, it is impossible to know if parallel development is involved or if we are dealing with relicts.

The other group of the section *Ochopodium*, consisting of members of the series *Viscidulae* (fig. 7), is somewhat intermediate in habit and habitat and includes herbaceous perennials, essentially mesophytes. Some of these are found on moist beaches or in sandy pine barrens, others in more or less open thickets, on rocky hillsides, and in pastures. As a group, they seem not to be restricted to lands of any particular age, but some species seem to be distributed predominantly on young lands, others at the margins of older areas.

Distribution data presented in connection with the species descriptions point out exceptions, as well as conformity, to the résumés given above. The distribution patterns are obscured, in some cases, by hydrophytes which can withstand drought and by a few mesophytes which are able to survive periodic inundations or drought. Some patterns have been altered by erosion and diastrophism. Obviously, there has been considerable biotic interference—grazing, burning, and cultivation. Migration apparently has been facilitated by hurricanes and transport of ballast, cattle, and fodder. It is probably more than coincidence that a number of outlying collections of otherwise intraneous species have been made at agricultural experiment stations.

Morphological characteristics

The genus *Aeschynomene* includes both herbaceous and shrubby species, annuals and perennials. The plants may be prostrate to erect, from a few centimeters long to treelike individuals as much as 8 m. tall. None are true vines.

The roots commonly bear bacterial nodules, typical of the family. Usually there is a well developed primary root. In some species the secondary roots form a fibrous mat, especially in sandy soils where the water table is near the surface of the ground. In many of the marsh plants, the roots and lower stems are thickened by aerenchyma tissue.

The stems are essentially terete and finely striate. In some species of the section *Ochopodium*, the young stems are somewhat angular. The surface may be glabrous to densely pubescent, with or without glandular hairs. The shrubby species usually develop gray or brownish bark as they mature.

The stipules are paired and may be persistent or caducous. In the American species of the section *Aeschynomene* they are peltate, appendiculate below the point of attachment. In the section *Ochopodium* they are attached at the base and are not appendiculate. In several species, *Ae. egena* and *Ae. tenuis*, for example, the stipules are obliquely subcordate at the base, suggesting a tendency toward development of an appendage.

Pubescence is basically of two kinds, simple trichomes and multicellular, bulbous-based glandular hairs. One or both kinds may be present. The glandular hairs range from colorless to golden, and may be as much as 3–4 mm. long. The simple pubescence is white or cinereous, appressed to patent, sometimes crispate, the hairs about 1 mm. long, or less. The indument usually appears on very young organs, although glandular hairs, in some cases, do not develop until the plant is nearly mature. In other cases the glandular hairs appear

early and then drop off, leaving only basal scars. Both kinds of pubescence occur in the section *Ochopodium*, but only glandular hairs, well developed or merely incipient, are found in the American § *Aeschynomene*. Verrucose and muricate excrescences that are found on fruits of many species appear to be tissue growth related to abortive glandular development.

The inflorescences are axillary and in some species also terminal. They are basically racemose, sometimes paniculate, sometimes fasciculate, or, rarely, the flowers are solitary. The axis may be straight or flexuose. Bracts and bracteoles, the latter paired and immediately subtending the calyx, are more or less stipule-like and intergrading with them, but are mostly smaller and not appendaged. The peduncles and pedicels are glabrous to pubescent, usually with somewhat more glandular development than the vegetative stems.

The flowers are 5-merous. The calyx, commonly persistent, is bilabiate in the § *Aeschynomene*, the vexillar lip (i. e., opposite the standard petal) 2-parted, the carinal lip (opposite the keel petals) 3-parted. In the section *Ochopodium*, the calyx is campanulate, with five subequal lobes, the carinal lobe frequently slightly longer and narrower than the others.

The corolla is papilionaceous, yellowish, ranging from nearly white to buff or orange, striped, or sometimes completely suffused with red or purple. The color variation appears to be principally environmental, the basic yellow color tempered by anthocyanin.

The petals are commonly clawed; only in a few species are the standards found to be unclawed. The standard blades are variously orbiculate, ovate, cordate, or reniform. They may be entire or ciliolate with bulbous-based glandular hairs. The apex occasionally is retuse or emarginate. In the American § *Aeschynomene* all the petals are glabrous, exclusive of marginal cilia. In the section *Ochopodium*, the standard, with very few exceptions, is pubescent on the outer face, but the wings and keel are glabrous. The wings are about as long as the standard, the blades obliquely spatulate, uniauriculate at the base, the claws attenuate. The keel petals also are approximately as long as the standard, but are falcate, slightly curved or, more often, bent at a 60–90° angle; they are sometimes moderately rostrate.

The leaves are pinnately compound, 5- to about 80-foliolate, odd or even numbered, the leaflets alternate or subopposite. The petioles are about as long as the leaflets, ranging from about 2–40 mm. in length. A positive correlation seems to exist between the lengths of these two leaf parts. In most species the leaf rachis terminates in a mucro, but in a few species of the section *Ochopodium* there are terminal leaflets.

The leaflets are subsessile, pulvinate, sensitive to light and, in most cases, to touch. They are relatively small, the smallest scarcely 2 mm. long and less than 1 mm. wide, the largest about 40 mm. long and 20 mm. wide. All are glabrous in the section *Aeschynomene*, but they may be glabrous to sericeous in the section *Ochopodium*. Most species are minutely glandular-punctate. Margins in either section may be entire or serrulate-denticulate with tuberculate-based glandular hairs. The apex is almost invariably mucronate or mucronulate, and may be retuse, obtuse, or acute. The base may be subcordate to cuneate but commonly is obliquely rounded. Venation is 1-costate in all species except those of the series *Americanæ*, which appear to be 2- to several-costate. The single costa may vary from central in some species to marginal in others. The secondary venation is prominent or obscure, pinnate or reticulate. The leaflets are conduplicate in the bud, except those of marginally costate species in which only half of the blade develops.

The 10 stamens are essentially diadelphous, 5:5. All the filaments are free from about midlength to apex, but below that are united to form a sheath. By anthesis, this sheath splits longitudinally along the lower, or carinal, side. There also is a tendency toward splitting along the upper, or vexillar, side, which results in two phalanges of five stamens each. This occurs commonly in the § *Aeschynomene*, but in the species of the *Ochopodium* group it frequently is delayed, or merely incipient, sometimes the opening forming only at the base. The anthers are dorsifixed, sometimes nearly basifixed. The pollen grains are ellipsoidal, tricolpate, but otherwise unmarked.

The ovaries are 2-18-ovulate or, rarely, 1-ovulate. They are sessile or short-stipitate, glabrous to pubescent, the hairs simple or glandular. The style is glabrous, flexible, about as long as the ovary, the base usually persisting as a cuspidate apex to the fruit. The terminal, stigmatic surface is minutely capitate or penicellate.

The fruits are (1-) 2-18-articulate loment, subsessile to long-stipitate, laterally compressed, sometimes torulose. They may be glabrous to densely pubescent, indehiscent or dehiscent along the lower, or carinal, suture. The margin sometimes separates from the body of the articles. In certain species, especially in the series *Americanæ*, there is a tendency for articulation to fail. Usually the basal article is continuous with the stipe, and the first dehiscence occurs between the basal article and the second article. In some cases, the basal ovule aborts and appears to be part of the stipe, with the dehiscence seeming to occur at the base of the first article. Fruit indument, if present, is composed, in the § *Aeschynomene*, entirely of glandular hairs or, in certain members of the series *Americanæ*, of a puberulence which appears to be incipient glandular hairs. In the

section *Ochopodium*, glandular hairs may be present and also there may be simple pubescence of crispate, spreading, or appressed hairs. There is some variability of pubescence, but in general there is specific constancy.

The seeds are reniform, smooth, sublustrous, light brown to black, with a nearly circular hilum. Martin (Amer. Midl. Nat. 36:513-660. 1946), in a study of internal morphology, found the seeds of *Ae. virginica* to have an axile, slightly bent embryo, some endosperm, and fleshy cotyledons. The development of the embryo of *Ae. indica* has been described by Rau (New Phyt. 50:124-126. 1951).

Histological studies of the Argentine species of *Aeschynomene* have been made by Manganaro (Revista del Museo de la Plata, 27:17-252. 1923).

According to Kawakami (Bot. Mag. Tokyo, 44:319-328. 1930), *Ae. indica* has a chromosome count of $n=20$. Information on other species of *Aeschynomene* is lacking to date. The basic numbers for members of the Hedysareae have been reported by Kawakami (loc. cit.), Darlington and Janaki Ammal (Chromosome Atlas of Cultivated Plants. 1945), and Senn (Biblio. Genetica 12:175-336. 1938) as 7, 8, 9, 10, 11, and 12.

Taxonomic position

Aeschynomene is a genus of the Leguminosae, subfamily Lotoideae (see Rehder, Journ. Arn. Arb. 26:477. 1945), tribe Hedysareae, subtribe Aeschynomeninae.

The tribe Hedysareae—characterized by loment, fruits which break at maturity into 1-seeded articles—has been further divided by Taubert (in Engler and Prantl, Die Natürlichen Pflanzenfamilien, 3(3): 309. 1894) into subtribes, with *Aeschynomene* as the typical genus of the Aeschynomeninae. This division was based primarily on the arrangement of the 10 stamens, the filaments being united, separate, or united in part. For example, the Euhedysarinae have a free vexillar stamen, with the remaining nine united into a sheath, or tube. In the Patagoniinae, all the stamens are free except at the base. In the Stylosanthinae, all are united to form a tube.

The Aeschynomeninae are characterized by stamens which are essentially diadelphous, 5:5. The filaments form a tube which tends to split to form two phalanges of five stamens each. The splitting may occur by anthesis, or it may be delayed, or one side only splits open. Whether the break occurs along the carinal or vexillar side, or both, has been used somewhat as a key character, but it is not completely reliable.

The genera in addition to *Aeschynomene* that Taubert placed in the subtribe Aeschynomeninae include: *Nissolia*, *Chaetocalyx*, *Pictetia*,

Brya, *Poiretia*, *Amicia*, *Isodesmia*, *Diphaca*, *Cyclocarpa*, *Soemmeringia*, *Smithia*, *Geissaspis*, and *Discolobium*. Subsequently, five more genera have been described: *Raimondianthus*, *Fiebrigiella*, *Weberbauerella*, *Climacorachis*, and *Balisaea*. In the present paper *Climacorachis* is being reduced to synonymy within the genus *Aeschynomene*.

Taubert separated *Aeschynomene* from the other genera of the subtribe on the basis of such characters as: plants usually herbaceous, seldom shrubs, never vines; bracts small, never concealing the flowers; standard deciduous after flowering, in contrast to the persistent standard of *Soemmeringia*; staminal tube opening along the carinal side, or along the carinal and the vexillar side—in contrast to others which open only along the vexillar side, or remain closed; legumes straight or somewhat curved, not spiral, much longer than the calyx, rather than concealed as in *Smithia*.

Unfortunately, Taubert's key is rather out of date. Not only have new genera been added to the subtribe, but new species have been discovered which, in a number of cases, are exceptions to the genera as previously understood. For example, the numerous shrubby Mexican and Andean species that have been described since the publication of Taubert's work in 1892 belie the statement: "Krauter, selten Sträucher."

Systematic treatment

Aeschynomene

Aeschynomene L. Sp. Pl. 713. 1753, Gen. Pl. ed. 5. 319. 1754.

Gajati Rumph. ex Adans. Fam. 2: 328. 1763.

Macromiscus Turcz. Bull. Soc. Nat. Mosc. 19 (2): 507. 1846.

Ctenodon Baill. Adansonia 9: 236. 1870.

Secula Small, Fl. Miami 90, 200. 1913.

Climacorachis Hemsl. & Rose, Contr. U. S. Nat. Herb. 8:43. 1903.

Herbs to shrubs or small trees; leaves pinnately compound, 5–80-foliolate; stipules peltate, appendiculate below the point of attachment or attached at base, not appendiculate; inflorescences racemose, sometimes paniculate, terminal or axillary; flowers yellowish to red or purplish; calyx and corolla 5-merous; stamens 10, the filaments united into a sheath, open on the carinal side and, in some species, open also on the vexillar side, forming two phalanges of 5 stamens each; fruit a loment, (1–) 2–18-articulate; seeds reniform, light brown to black, smooth, sublustrous, the hilum circular.

The type of the genus is *Aeschynomene aspera* L., a native of India not known to occur in America. Apparently this taxon alone was the basis of the genus, since it is the only one cited in the first four editions of Linnaeus' "Genera Plantarum." It was not until the publication

of the first edition of his "Species Plantarum" (1753) that additional taxa appeared, with the original one given the trivial, or specific, name of *aspera*.

Vogel's division of the genus into two sections is being retained in this paper. In addition, it is believed that further subdivision into species groups, or series, is desirable. Baker (The Leguminosae of Tropical Africa. 1929) placed the species of *Aeschynomene* in series in his key but did not give the series names, descriptions, or typification. Bentham (Flora Brasiliensis 15(1): 1859) suggests species groups by his arrangement in the key, which are compatible with the present treatment.

Five series are recognized here in the section *Aeschynomene* and three in the section *Ochopodium*.

Key to sections and series

- Stipules peltate, appendiculate below the point of attachment; calyx bilabiate, the vexillar lip 2-merous, the carinal lip 3-merous . . . Section I. *Aeschynomene*
 Leaflets 2-several-costate Series 1. *Americanae*
 Leaflets 1-costate.
 Costa obviously excentric Series 2. *Fluminenses*
 Costa essentially central.
 Carinal lip of calyx deeply 3-lobed Series 3. *Montevidenses*
 Carinal lip of calyx entire or shallowly indented.
 Fruit, and often the vegetative parts, blackening on drying; calyx lips entire or nearly so Series 4. *Sensitivae*
 Fruit and vegetative parts turning brown or straw-colored on drying, or remaining green; calyx lips definitely indented Series 5. *Indicae*
 Stipules attached at base, not peltate; calyx campanulate, with five subequal lobes.
 Section II. *Ochopodium*
 Stems prostrate to suberect, herbaceous, rarely suffrutescent; leaflets preponderately obovate; fruits small, the articles 2-5.5 mm. in diameter.
 Series 6. *Viscidulae*
 Stems erect, woody or suffrutescent; leaflets ovate or suborbiculate to oblong or falcate; fruits with articles usually 6-15 mm. long and 4-9 mm. wide, rarely smaller.
 Leaflets oblique, ovate to falcate-oblong, the costa excentric, sometimes marginal; plants virgate or, if shrubby, the costa marginal.
 Series 7. *Pleuronerviae*
 Leaflets essentially symmetrical, suborbiculate to oblong, the costa central; plants mostly shrubby, sometimes suffrutescent . . . Series 8. *Scopariae*

Key to species and varieties

Section I. *Aeschynomene*

Series 1. *Americanae*

- Bracts flabellate (México to Honduras) . . . 1c. *Ae. americana* var. *flabellata*
 Bracts lanceolate to cordate, acute to acuminate.

Ovary and fruit glabrous to puberulent, sometimes with sparse development of glandular hairs, the mature fruit reticulate-veiny near the margins, usually muricate at the center of the articles, definitely articulated.

Fruit glabrous, or with only a slight tendency toward development of puberulence or glandular hairs (chiefly Caribbean and adjacent areas).

1a. *Ae. americana* var. *americana*

Fruit invested with puberulence or a few glandular hairs, or sometimes both (chiefly Caribbean and adjacent areas).

1b. *Ae. americana* var. *glandulosa*

Ovary villous; fruit hispid with yellow glandular hairs about 1 mm. long, the tuberculate bases usually dark; surface of fruit lacking conspicuous venation or murication; articulation between the seeds often weak or lacking. Flowers 10–15 mm. long, the calyx 6–8 mm. long (México: Sinaloa to Guerrero) 2. *Ae. unijuga*

Flowers less than 10 mm. long, the calyx less than 6 mm. long.

Fruit 5–7 mm. wide, the margins essentially entire, articulations mostly lacking (Guatemala) 3. *Ae. guatemalensis*

Fruit less than 5 mm. wide with one margin indented between the seeds, except in very short fruits, the other margin essentially entire; articulations usually distinct, sometimes lacking.

Articulations of fruit lacking or with only an occasional suture forming (México: Jalisco to Michoacán) 4c. *Ae. villosa* var. *mexicana*

Articulations of fruit distinct or with only an occasional suture lacking.

Inflorescences scarcely half as long as the leaves, fasciculate; leaflets mostly 10–15 mm. long; flowers 6–9 mm. long (México to Venezuela) 4b. *Ae. villosa* var. *longifolia*

Inflorescences about as long as the leaves or longer; leaflets usually less than 10 mm. long.

Flowers 3–5 mm. long; leaflets usually about 5 mm. long, or less (Arizona to northern South America and the Caribbean area) 4a. *Ae. villosa* var. *villosa*

Flowers 6–8 mm. long; leaflets mostly more than 5 mm. long (chiefly Caribbean and adjacent areas).

1b. *Ae. americana* var. *glandulosa*

Series 2. *Fluminenses*

Flowers 3–4 mm. long; fruit commonly 2-articulate, 2.5–3 mm. wide (central South America) 5. *Ae. parviflora*

Flowers 7–10 mm. long; fruit commonly 6–8-articulate, 4 mm. wide.

Fruit hispid (South America; Antilles) 6a. *Ae. fluminensis* var. *fluminensis*

Fruit glabrous (Cuba) 6b. *Ae. fluminensis* var. *tuberculata*

Series 3. *Montevidenses*

Fruit 2.5–4 mm. wide, the articles about 3–6 mm. long; flowers 4–12 mm. long.

Flowers 4–6 mm. long; fruit commonly 2-articulate, the stipe 7–10 mm. long (South America; Cuba; British Honduras) 7. *Ae. filosa*

Flowers (6–)8–12 mm. long; fruit commonly 3–5-articulate, the stipe 10–12 mm. long (British Guiana? and eastern Brazil) 8. *Ae. rostrata*

Fruit about 5 mm. wide, the articles 6–7 mm. long; flowers 13–25 mm. long.

Bracts 10–15 mm. long, 8–10 mm. wide; flowers 20–25 mm. long; leaflets 10–15 mm. long, 4–5 mm. wide (central Paraguay) 9. *Ae. paraguayensis*

Bracts 5–7 mm. long, 3–4 mm. wide; flowers 13–18 mm. long; leaflets 1.5–10 mm. long, 1–3 mm. wide (South America in valley of the Río Paraná and surrounding regions) 10. *Ae. montevidensis*

Series 4. *Sensitivae*

Stipe and basal article of fruit separated by a suture; fruits submoniliform with both margins crenate.

Fruit with articles 7-8 mm. long, 5-6 mm. wide, the stipe 10-15 mm. long; flowers 10-12 mm. long (Florida) . . . 11a. *Ae. pratensis* var. *pratensis*

Fruit with articles 5-6 mm. long, 4-5 mm. wide, the stipe 8-10 mm. long; flowers 8-11 mm. long (chiefly Caribbean area; South America)

11b. *Ae. pratensis* var. *caribaea*

Stipe and basal article continuous, not separated by a suture; fruits with one margin essentially entire, the other entire or crenate.

Flowers 10-20 mm. long.

Fruit with stipe 12-15 mm. long, the articles about 9-10 mm. long, 6 mm. wide; flowers 14-20 mm. long (southern Brazil) 12. *Ae. selloi*

Fruit with stipe less than 12 mm. long, the articles about 5-6 mm. in diameter; flowers 10-14 mm. long (southern México to Nicaragua) . 13. *Ae. deamii*

Flowers 4-9 mm. long.

Fruits commonly 10-14-articulate; flowers 7-9 mm. long (upper Amazon region) 14c. *Ae. sensitiva* var. *amazonica*

Fruits commonly 5-8- (rarely 9- or 10-) articulate; flowers 4-9 mm. long.

Upper stems glabrous to moderately hispid (axes of leaves and inflorescences often hispid on otherwise glabrous specimens); flowers 4-6(-8) mm. long (widespread tropical America)

14a. *Ae. sensitiva* var. *sensitiva*

Upper stems densely glandular-hispid, often the epidermis scarcely visible, the lower stems often glabrate; flowers about 7-9 mm. long (Colombia) 14b. *Ae. sensitiva* var. *hispidula*

Series 5. *Indicae*

Stipe of fruit 12-30 mm. long.

Fruit 4 mm. wide or less (México to Perú; Brazil) 21. *Ae. scabra*

Fruit 4.5-7 mm. wide.

Flowers 10-15 mm. long; leaflets entire or rarely with a few cilia (Atlantic Coast: New Jersey to southern Virginia) 15. *Ae. virginica*

Flowers 16-20 mm. long; leaflets conspicuously denticulate-ciliate (central Paraguay) 23. *Ae. magna*

Stipe of mature fruit less than 12 mm. long.

Leaflets entire, rarely with a few cilia or denticulations.

Plant generally glabrous to sparsely hispid; flowers 4-10 (-11) mm. long.

Flowers 4-7 (-9) mm. long; fruit 2.5-3.5 mm. wide, the stipe 3-4 (-6) mm. long (chiefly Caribbean area and eastern South America) 17a. *Ae. evenia* var. *evenia*

Flowers 8-10(-11) mm. long; fruit 3-5 mm. wide, the stipe (4-) 6-10 mm. long.

Fruit 4-5 mm. wide, commonly 6-10-articulate (rarely 11- or 12-articulate), with one margin crenate, the other entire (southern U. S. coastal plain: North Carolina to Texas; Puerto Rico.) . 16. *Ae. indica*

Fruit 3-4 mm. wide, commonly 12-18-articulate, with both margins subentire (Ecuador; Perú) 18. *Ae. pluriarticulata*

Plant generally hispid; flowers 8-15 mm. long (if plants glabrous, the flowers 10-15 mm. long).

Fruit predominantly slender, 3–3.5 (4) mm. wide, and long-stipitate, the stipe (5–) 10–15 mm. long (some fruits with shorter stipes may also be present) (México to Perú; Brazil) 21. *Ae. scabra*

Fruit 4–7 mm. wide, the stipe 4–10 mm. long (relatively broad and short-stipitate, the occasional narrow-fruited specimens short-stipitate).

Leaflets mostly large, commonly 12–20 mm. long and 4 mm. wide, the largest 30 mm. long and 8 mm. wide; fruit hispid at maturity, not muricate; flowers 8–10 mm. long (widespread American tropics) 20. *Ae. ciliata*

Leaflets commonly 8–10 mm. long and 2–3 mm. wide, rarely as much as 15 mm. long; fruit sparsely hispid to glabrous, usually muricate at maturity; flowers (8–) 10–15 mm. long (widespread American tropics) 19. *Ae. rudis*

Leaflets obviously denticulate or serrulate-ciliate.

Fruit less than 4 mm. wide; flowers 5–6 (–8) mm. long or less (chiefly northern and eastern South America; Antilles; Texas).

17b. *Ae. evenia* var. *serrulata*

Fruit 4 mm. wide or more; flowers 8–15 mm. long.

Upper stems and fruit hispidulous with short hairs 1 mm. long or less (south-central South America) 22. *Ae. denticulata*

Upper stems, and usually fruit, hispid with long yellow hairs about 2–4 mm. long.

Leaflets commonly 12–20 mm. long and 4 mm. wide, the largest 30 mm. long and 8 mm. wide; fruit hispid at maturity, not muricate (widespread American tropics) 20. *Ae. ciliata*

Leaflets commonly 8–10 mm. long and 2–3 mm. wide; fruit sparsely hispid to glabrous at maturity, usually muricate (widespread American tropics) 19. *Ae. rudis*

Section II. *Ochopodium*

Series 6. *Viscidulae*

Fruit 2- or 3- (rarely 4- or 5-) articulate and short-stipitate, the stipe 1–5 mm. long (except in *Ae. acapulcensis*, sometimes 6–7 mm. long, but fruit 2- or 3-articulate).

Articles of fruit 3.5–5.5 mm. in diameter; leaves 5–9-foliolate, the leaflets obovate-cuneate.

Surface of articles densely white-tomentulose and also beset with glandular hairs, rarely eglandular or the terminal articles glabrous, the articles 3.5–4 mm. in diameter; stipe 1–3 mm. long (southern United States coast to northern South America) 24. *Ae. viscidula*

Surface of articles glabrous, the articles 4–5.5 mm. in diameter; stipe 4–5 (–7) mm. long (México) 25. *Ae. acapulcensis*

Articles of fruit 2–3 mm. in diameter; leaves 8–30-foliolate, the leaflets elliptic-obovate to oblong.

Surface of articles crisp-pubescent to subglabrous, and also beset with glandular hairs; stipe 3–4 (–5) mm. long, commonly hispidulous with hairs about 1 mm. long.

Fruit 2- or 3-articulate; leaves 8–12-foliolate (widespread American tropics) 26a. *Ae. brasiliana* var. *brasiliana*

Fruit 4- or 5-articulate; leaves 14–20-foliolate (Venezuela)

26b. *Ae. brasiliana* var. *venezolana*

- Surface of articles pubescent to glabrous but lacking glandular hairs; stipe 1.5–3 mm. long, hispid, the hairs 2–4 mm. long, concentrated at base of first article.
- Articles of fruit about 3 mm. in diameter; flowers 6–9 mm. long (Paraguay and eastward) 27. *Ae. echinus*
- Articles of fruit 2–2.5 mm. in diameter (or, rarely, 3 mm. long); flowers 5–7 mm. long.
- Leaflets 7–12 mm. long, 2–4 mm. wide; stipules 5–15 mm. long, (1–)2–3 mm. wide at base; stems suberect (México to South America).
- 28c. *Ae. histrix* var. *densiflora*
- Leaflets 4–6(–8) mm. long, 1.5–3 mm. wide; stipules 4–5 mm. long, about 1 mm. wide at base; stems usually prostrate.
- Articles of fruit glabrous to moderately crisp-puberulent; stems and leaves moderately pubescent, often glabrate; bracteoles about as long as calyx; flowers 5–6 mm. long (Central and South America).
- 28a. *Ae. histrix* var. *histrix*
- Articles of fruit pubescent, the hairs usually appressed; stems and leaves generally canescent; bracteoles about half as long as calyx; flowers 6–7 mm. long (Florida; Central and South America).
- 28b. *Ae. histrix* var. *incana*
- Fruit 5–9- (infrequently 3- or 4-) articulate and long-stipitate, the stipe commonly 8–15 mm. long (but a few fruits with shorter stipes may also be present; *Ae. podocarpa* and *Ae. warmingii* are below average in number of articles and length of stipe).
- Leaflets predominantly obovate, sometimes subelliptic.
- Articles of fruit 2–2.5 mm. in diameter; leaves commonly 10–16-foliolate (widespread American tropics) 29. *Ae. elegans*
- Articles of fruit 3–4 mm. long, 2.5–3.5 mm. wide; leaves 5–9(–10)-foliolate.
- Flowers 7–9 mm. long; fruit 6–8-articulate, the stipe 6–14 mm. long (South America) 30. *Ae. falcata*
- Flowers 5–6 mm. long; fruit 4–5-articulate, the stipe (4–)5–8 mm. long (Puerto Rico) 31. *Ae. portoricensis*
- Leaflets oblong to elliptic.
- Stipe of fruit 7–10 mm. long (Colombia; Brazil) 32. *Ae. foliolosa*
- Stipe of fruit 5–7 mm. long.
- Leaflets 3–10 mm. long, 1.5–4 mm. wide (Brazil) . . . 33. *Ae. podocarpa*
- Leaflets 12–30 mm. long, 5–10 mm. wide (Brazil) . . . 34. *Ae. warmingii*

Series 7. *Pleuronerviae*

Costa of leaflet excentric but not marginal.

Leaflets (6–)10–20 mm. long, (1.5–)2–7 mm. wide.

Leaves 5–10-foliolate, the leaflets falcate-ovate, acute (Brazil)

35. *Ae. oroboides*

Leaves about 20–60-foliolate, the leaflets oblong, obtuse to subacute.

Inflorescences axillary, shorter than the subtending leaves; fruit 4–5 mm. wide (México to Venezuela) 36. *Ae. fascicularis*

Inflorescences terminal, and also axillary, longer than the leaves; fruit 3–4 mm. wide.

Leaflets 3–4 mm. wide, 8–14 mm. long, crisp-pubescent on both surfaces (Brazil) 37. *Ae. racemosa*

Leaflets 1.5–2.5(–3) mm. wide, 6–15 mm. long, appressed-pubescent to glabrous on both surfaces.

Flowers 6–7 mm. long, the calyx about 3 mm. long (Brazil).

38a. *Ae. marginata* var. *marginata*

Flowers 8–12 mm. long, the calyx 4–5 mm. long (Brazil)

38b. *Ae. marginata* var. *grandiflora*

Leaflets about 3–5 mm. long, 1–1.5(–2) mm. wide.

Fruit stipitate, the stipe 4–10 mm. long.

Flowers about 8 mm. long; fruit with stipe 10 mm. long, the articles about 4 mm. in diameter (Cuba) 39. *Ae. tenuis*

Flowers 6–6.5 mm. long; fruit with stipe 4–5 mm. long, the articles 2.5–3.5 mm. in diameter (widespread in Central and tropical South America) 40. *Ae. paniculata*

Fruit sessile, the stipe about 2 mm. long or less. Leaves about 1.5–2.5 cm. long, 15–24-foliolate (eastern Brazil) 41. *Ae. leptostachya*

Leaves about 3–7 cm. long, 20–80-foliolate.

Stipe of fruit about 2 mm. long; flowers 8–10 mm. long (eastern Brazil).

42. *Ae. brevipes*

Stipe of fruit scarcely 1 mm. long; flowers 6–8 mm. long (México).

43. *Ae. pinetorum*

Costa of leaflet marginal.

Flowers less than 10 mm. long; articles of fruit subelliptic to oblong, the length 1.5–2 times the width.

Pubescence subappressed; stipe of fruit 2 mm. long or less (eastern México).

44. *Ae. purpusii*

Pubescence spreading; stipe of fruit 3 mm. long or more (Honduras).

45. *Ae. standleyi*

Flowers about 10 mm. long or longer; articles of fruit suborbiculate.

Stems and leaves silvery-sericeous (Baja California) 46. *Ae. nivea*

Stems and leaves pubescent to glabrate, but less than silvery when mature.

Bracteoles about as long as the calyx (southwestern México).

47. *Ae. compacta*

Bracteoles about half as long as the calyx.

Fruit appressed-pubescent, the stipe 4–5 mm. long (Hispaniola).

48. *Ae. pleuronervia*

Fruit with short, spreading pubescence, sessile (Brazil).

49. *Ae. paucifolia*

Series 8. *Scoparias*

(Mexican and Central American Species)

Flowers 4–7(–8)mm. long, chiefly in many-flowered, terminal panicles, usually with axillary inflorescences also present.

Leaves about 40–80-foliolate, the leaflets consistently narrow, oblong (México: Sinaloa to Colima) 50. *Ae. amorphoides*

Leaves 5–24-foliolate, the leaflets subelliptic to rhombic.

Fruit appressed-pubescent, the stipe 3–6 mm. long; standard glabrous; leaflets varied in shape and size, sometimes rhombic (México: Michoacán, México, Guerrero) 51. *Ae. paucifoliolata*

Fruit crisp- or patent-pubescent, the stipe 6–7 mm. long; standard pubescent on outer face; leaflets consistently subelliptic (México: Michoacán, Morelos, Guerrero) 59b. *Ae. petraea* var. *madrensis*

Flowers 8–20 mm. long, chiefly in few-flowered, axillary racemes.

Stipe of fruit 3 mm. long or less.

Leaflets subsericeous, elliptic-oblong to obovate (México: Baja California).

52. *Ae. vigil*

Leaflets subglabrous, oblong to subelliptic (México: Sinaloa).

53. *Ae. rosei*

Stipe of fruit 4–15 mm. long.

Articles of fruit glabrous or nearly so, the margins somewhat pubescent in a few cases.

Standard petal glabrous; stipe of fruit 5–6 mm. long (México: Guerrero).

54. *Ae. palmeri*

Standard petal pubescent on the outer face; stipe of fruit 8–12 mm. long.

Fruit 2- or 3-articulate, the stipe 10–12 mm. long (México: Guerrero).

55. *Ae. hintonii*

Fruit commonly 5- or 6-articulate, the stipe 8–10 mm. long (México:

Guerrero) 56. *Ae. langlassei*

Articles of fruit pubescent, sometimes glabrate but the young fruit obviously pubescent.

Fruit appressed-pubescent.

Stipules linear, acuminate, 6–10 mm. long, 1 mm. wide or less; leaflets predominantly oblong-obovate, often as much as 20–35 mm. long (Guatemala to Nicaragua) 57. *Ae. nicaraguensis*

Stipules obliquely ovate, acute, about 5 mm. long, 1.5–3 mm. wide; leaflets orbiculate to oblong, about 15 mm. long or less (México: Sinaloa, Nayarit) 58. *Ae. simulans*

Fruit crisp-pubescent.

Stipe of fruit 8–15 mm. long; flowers 10–15 mm. long (México: Sinaloa, Durango, Nayarit, Jalisco) . . . 59c. *Ae. petraea* var. *grandiflora*

Stipe of fruit 5–7 mm. long; flowers (6–) 8–10 mm. long.

Flowers 6–8 mm. long, the calyx 2–3 mm. long (México: Morelos, Michoacán, Guerrero) 59b. *Ae. petraea* var. *madrensis*

Flowers 8–10 mm. long, the calyx 3–4 mm. long (México: Jalisco, México, Colima) 59a. *Ae. petraea* var. *petraea*

(South American species)

Flowers about 20 mm. long (Perú) 60. *Ae. egena*

Flowers 15 mm. long or less.

Articles of fruit glabrous or nearly so, the margin somewhat pubescent in a few cases.

Leaflets 5 mm. wide or less.

Standard glabrous (British Guiana; Brazil) 61. *Ae. interrupta*

Standard pubescent.

Flowers about 10 mm. long; leaves 4–6 cm. long, the leaflets 5–20 mm. long, 3–5 mm. wide (Ecuador; Perú) 62. *Ae. tumbezensis*

Flowers 11–14 mm. long; leaves 1.5–2.5 cm. long, the leaflets 5–8 mm. long, 1.5–2 mm. wide (Brazil) 63. *Ae. martii*

Leaflets predominantly 6–10 mm. wide, with larger or smaller leaflets also present in some cases (Brazil) 64. *Ae. riedeliana*

Articles of fruit pubescent, sometimes glabrate but the young fruit obviously pubescent.

Leaflets 8 mm. long or less, commonly 5–6 mm. long.

Glandular hairs conspicuously present on blades of leaflets (Perú).

65. *Ae. weberbaueri*

Glandular hairs lacking on blades of leaflets (Ecuador; Perú).

66. *Ae. scoparia*

Leaflets predominantly 8–20 mm. long.

Flowers 11–15 mm. long; bracteoles lanceolate, attenuate; fruits (3–) 4–7-articulate (Colombia; Perú; Brazil; Paraguay).

67a. *Ae. mollicula* var. *mollicula*

Flowers 8–10 mm. long; bracteoles ovate, acute; fruits commonly 3-articulate, rarely more.

Stems densely pilose, exclusive of glandular hairs; fruits crisp-pubescent, scarcely glabrescent (Colombia).

67b. *Ae. mollicula* var. *breviflora*

Stems subglabrous to moderately pubescent, exclusive of glandular hairs; fruits subglabrous at maturity (eastern Brazil).

67c. *Ae. mollicula* var. *benthamii*

Section I. *Aeschynomene*

Aeschynomene section *Eu-aeschynomene* Vog. *Linnaea* 12: 81. 1838.

Herbs and shrubs, predominantly hydrophytes; indument, if present, of glandular hairs; stems erect to prostrate; stipules peltate, appendiculate below the point of attachment; leaves about 10–80-foliolate; leaflets more or less oblong, glabrous except for marginal glandular hairs in some species; inflorescences axillary, racemose; calyx obviously bilabiate, the vexillar lip 2-merous, the carinal lip 3-merous; petals sometimes ciliate, otherwise glabrous; seeds dark brown to black.

Aeschynomene aspera L., as type of the genus, automatically becomes the type of section *Aeschynomene*. It was not included in Vogel's original treatment of his section *Eu-aeschynomene*, which was based wholly on Brazilian material.

The description given above pertains to the American species of the section. Several African species, including *Ae. aspera*, while conforming in most characters, exhibit development of glandular hairs on petal surfaces; and a number of the African species with calyxes bilabiate as in the § *Aeschynomene* have unappendaged stipules similar to those of the section *Ochopodium*.

Vogel's designation for this section, *Eu-aeschynomene*, has been corrected to *Aeschynomene* in accordance with the rule, adopted by the Nomenclature Section of the International Botanical Congress held in Paris in 1954, that names of sections of genera containing the type-species should bear the generic name unaltered and that epithets of subdivisions of genera formed by attaching the prefix *Eu-* to the generic name are to be rejected (Stafleu, *Taxon* 3: 63. 1954).

Léonard, in his treatment of *Aeschynomene* of the Belgian Congo (Bull. Jard. Bot. État. Brux. 24: 63. 1954), has cited this taxon as a subgenus rather than as a section.

Series I. *Americanae* Rudd, ser. nov.

Herbae nonnunquam fruticosae, erectae vel prostratae; stipulae infra insertionem productae, striatae, attenuatae, basi eroso-truncatae vel attenuatae; foliola lineari-oblonga, subfalcata, 2-pluri-costata, saepe serrato-ciliata; bracteae bracteolaeque striatae; calyx bilabiatus, labio inferiore semi-trifido et labio superiore emarginato; legumen subsessile, margine inferiore recto, margine superiore crenato vel raro recto.

Herbs, erect to prostrate, sometimes suffrutescent; stipules appendiculate below the point of attachment, striate, the upper portion attenuate, about twice as long as the erose-truncate, or attenuate, lower portion; leaflets linear-oblong, subfalcate, 2-several-costate, the apex and margins usually serrate-ciliate; bracts and bracteoles striate; calyx with emarginate vexillar lip and tridentate carinal lip; fruit subsessile, the stipe glabrous, about 1-2 mm. long, the upper margin entire, the lower crenate or, rarely, entire.

Aeschynomene americana L. is designated as the type of this series.

The genus *Climacorachis* is here transferred to synonymy under *Aeschynomene* and its members included in the series *Americanae*. The three published species are being retained as three separate taxa, two of specific rank, the third reduced to a variety of *Ae. villosa* Poir. The group is unstable. In some individuals there is complete lack of articulation between the seeds; in others, just a well developed tendency, with indentation occurring, but not complete separation into articles. In a few individuals there is essentially normal articulation. There appears to be intergradation to *Ae. villosa* and *Ae. americana*, and, for that reason, maintaining the genus *Climacorachis* does not seem feasible. Morton (Contr. U. S. Nat. Herb. 29:87-116. 1945) has pointed out that the unjointed fruit character would put "the genus out of the tribe Hedysareae. However, it seems likely that it will be found to be an abnormality of some sort, because in other characters the plants are so near to *Aeschynomene americana* as to be scarcely if at all distinguishable."

Jones' reduction of *Climacorachis* to *Mimosa* (Extr. Contr. West. Bot. 18:20-85. 1933) was because "the body of the pod separates from the rim as in *Mimosa*." He believed that "*Climacorachis* Hemsl. & Rose is not distinct enough from the *pubica-pusilla* section of *Mimosa*," apparently ignoring the fact that *Climacorachis* with its papilionaceous flower was not a member of the Mimosoideae.

The frequently flexuous nature of the flowering branches, basis of the name *Climacorachis*, is not uncommon in *Aeschynomene*, and thus is not sufficient grounds for generic segregation.

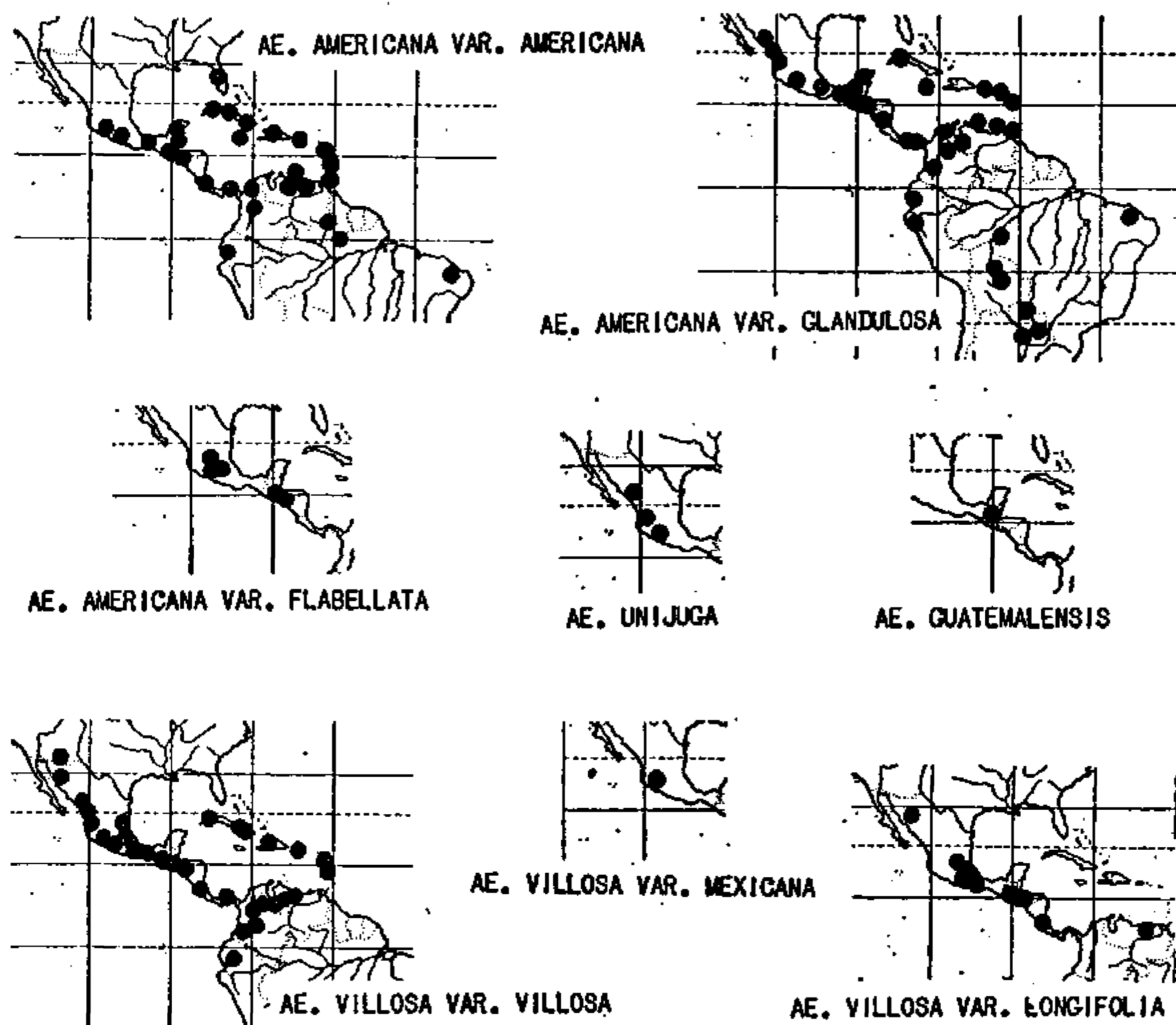


FIGURE 2. Distribution of the *Americanae*.

1. *Aeschynomene americana* L. Sp. Pl. 713. 1753.

Stem to about 2 m. high, usually erect, sometimes weakly so, subglabrous to hispid; stipules glabrous or somewhat hispid at the point of attachment, (5-)10-25 mm. long, 1-4 mm. wide, usually ciliate; leaves 2-7 cm. long, 20-60-foliolate; leaflets 4-15 mm. long, 1-2 mm. wide; inflorescences few-flowered, about as long as the subtending leaves or longer, the axes sometimes flexuous, hispidulous; bracts cordate, acuminate or sometimes truncate-flabelliform, about 2-4 mm. long, 2-3 mm. wide, glabrous, ciliate; bracteoles linear to linear-ovate, 2-4 mm. long, 1-1.5 mm. wide, acute to acuminate, glabrous, serrate-ciliate; flowers 5-10 mm. long; calyx 3-6 mm. long, glabrous to sparsely hispid; petals commonly 5-10 mm. long, clawed, the standard suborbiculate to broadly obcordate, 5-10 mm. wide, often ciliate at the apex, otherwise entire, the wing blades obliquely oblong, 5-8 mm. long, 2 mm. wide, entire or with a few cilia at the apex, the keel blades 4-5 mm. long, 2.5-3.5 mm. wide at the maximum; stamens about 6-8 mm. long; fruit 3-9- (commonly 6-8-) articulate, the articles 2.5-5 mm. wide, 3-6 mm. long, glabrous to puberulent, sometimes with development of glandular hairs on the surface or along the margins,

often verrucose when fully mature, the margins thickened, the venation prominent along the margins; seeds 2-3 mm. long, 1.5-2 mm. wide, dark brown.

1a. *Aeschynomene americana* var. *americana*.

Aeschynomene americana L. Sp. Pl. 713. 1753.

? *Aeschynomene mexicana* Biroli ex Colla, Herb. Pedem. 2: 195. 1834.

Aeschynomene americana var. *depila* Millsp. Field Mus. Publ. Bot. 1: 363. 1898.

Aeschynomene tricholoma Standl. & Steyerl. Field Mus. Publ. Bot. 23: 10. 1943.

The typical variety is characterized by fruits which are glabrous or have only a slight tendency toward development of puberulence or glandular hairs on the surface or along the margins. The stipules are glabrous or nearly so. The bracts are cordate. The flowers commonly are 6-8 mm. long.

TYPE LOCALITY: Jamaica, B. W. I. Type collected by Sloane.

DISTRIBUTION: Predominantly Caribbean and adjacent areas, in wet or moist places at elevations up to about 1,200 m. (fig. 2).

UNITED STATES: FLORIDA: Orange County: Orlando, *Mulvania*, Oct. 1930 (US). Osceola County: St. Cloud, *Mulvania*, Oct. 1930 (NY). Polk County: Loughman, *West*, Nov. 1932 (NY).

MÉXICO: COLIMA: Manzanillo, *Edw. Palmer* 901, in 1890 (Mo, US). GUERRERO: Manchón, *Hinton* 9668 (GH, US). El Calabazal, *Langlassé* 476 (GH, US). OAXACA: Chiltepec, *Martinez-Calderón* 550 (GH, US). CHIAPAS: Between Tuxtla and San Cristóbal, *Nelson* 3116 (GH, US). YUCATÁN: Izamal, *Gaumer* 955 in part (Ch, type of *Ae. americana* var. *depila*, GH, Mo, NY, UC, US). San Anselmo *Gaumer* 2093 (Ch, GH, Mo). Chichankanab, *Gaumer* 2094 (Ch, UC, US).

GUATEMALA: *Heyde* 311 (US). CHIQUIMULA: Between Zacapa and Chiquimula, *Standley* 73714 (Ch, type of *Ae. tricholoma*). Between Ramírez and Cumbre de Chiquimula, *Standley* 74552 (Ch, US). SANTA ROSA: Cerro Redondo, *Heyde & Lux* 6103 in part (Ch, Mo). Guazacapán, *Standley* 79482 (Ch). El Molino, *Standley* 60712 (Ch). La Morenita, *Standley* 78888 (Ch). JUTIAPA: Jutiapa, *Standley* 75481 (Ch). El Tablón, *Standley* 75840 (Ch), 75855 (Ch).

BRITISH HONDURAS: COROZAL: San Antonio, *Semple* 211 (US).

EL SALVADOR: *Renson* 11 (US). AHUACHAPÁN: *Padilla* 539 (US). SONSONATE: Armenia, *Standley* 23494 (GH, US). SAN SALVADOR: *Calderón* 1263 (GH, Mo, NY, US).

COSTA RICA: SAN JOSÉ: El General, *Skutch* 2955 in part (GH, Mo, NY, US). PUNTARENAS: Las Esquinas, *Allen* 6313 (US).

PANAMA: CANAL ZONE: Alajuela, *Killip* 3226 (US).

CUBA: PINAR DEL RÍO: Pinar del Río, *Shafer* 368 (NY). Herradura, *Britton, Britton, Earle, & Gager* 6335 (NY). Coloma, *C. Wright* 1560 in part (US). HABANA: Santiago de las Vegas, *Tracy*, Aug. 12, 1907 (Mo, UC); *van Hermann* 39 (Ch, NY), 39 bis (Ch), 224 (Ch, NY); *Baker*, Aug. 1904 (Ch, GH, US); *Hitchcock*, Mar. 20, 1906 (Ch). Mazorra, *Leon* 457 (NY). Rincón, *Britton & Wilson* 489 (NY). Madruga, *Britton, Britton, & Shafer* 744 (Ch, NY). Rancho Boyeros, *Shafer* 261 (NY). LAS VILLAS: Cieneguito, *Combs* 620 (Ch, GH, Mo, NY). Hanabanilla Falls, *Britton, Earle, & Wilson* 4876 (NY). ORIENTE: *C. Wright* 124 (NY). Cobre, *C. Wright* 124 (Mo). Nouvelle Sophie, *C. Wright* "124 or 125" (GH). Cristo, *Britton, Britton, Cowell, & Shafer* 12891 (NY). Río Canto, *Faris*, Oct. 3, 1925 (NY). Bayate, *Ekman* 2792 (Ch), 6455 (US).

HAITI: NORD-OUEST: Tortue Island, *Leonard & Leonard* 11376 (US), 11587 (NY, US), 14012 (GH, Mo, US). NORD: Bayeux, *Nash* 306 (NY). Pilate, *Leonard* 9606 (US). St. Michel de l'Atalaye, *Leonard* 7040 (Ch, US), 7294 (US), 7364 (UC, US), 7563 (GH, NY, US).

DOMINICAN REPUBLIC: "Sto. Domingo," *von Türckheim* 2561 (Ch, GH, Min, Mo, NY, US). SANTIAGO: Baitoa, *Jiménez* 1813 (US). SANTO DOMINGO: Ciudad Trujillo, *Allard* 13414 (US), 13443 (US), 13837 (US), 14159 (US). PUERTO PLATA: Yasica, *Jiménez* 1705 (US). ESPAILLAT: Moca, *Ekman* H-13178 (US).

JAMAICA: *N. Wilson* 173 (NY). Pleasant Hill to Buff Bay, *Orcutt* 3813 (GH, UC). Port Morant, *Hitchcock*, Dec. 20, 1890 (Mo). Constant Springs, *Hitchcock*, Dec. 10, 1890 (Mo). Lucia, *Hitchcock*, Jan. 3, 1891 (Mo.) Dolphin Head, *Britton* 2295 (NY). Port Antonio, *Hitchcock*, Dec. 1890-Jan. 1891 (Mo).

PUERTO RICO: SAN JUAN: Río Piedras, *Stevenson* 207 in part (Min, US); *Hioram*, Nov. 1912 (NY); *Wetmore* 165 (US). San Antonio, *Goll* 168 (NY, US). Santurce, *Heller* 6365 (Ch, GH, Mo, NY, US), *Heller & Heller* 234 (Ch, NY, US), 598 (Ch, NY, US). Lechería, on Río Piedras, *Goll* 15 (NY, US). Bayamón, *Stevenson* 380 (Min, US). AGUADILLA: Hatillo, *Sintenis* 5560 (Ch, Mo, NY, US). Guajataca, *Sargent* B 5 (US). MAYAGÜEZ: Las Mesas, *Holm*, Apr. 7, 1915 (NY). Quimada, *Goll* 928 (US). PONCE: Between Ponce and Adjuntas, *Heller* 6135 (Ch, GH, NY, Mo, US). Ponce, *Underwood & Griggs* 727 (US). Guaraguao, *Goll* 819 (US). Coamo, *Sintenis* 3064 (US). Between Aibonito and Coamo, *Sintenis* 1990 (UC), 2967 (US). GUAYAMA: Caguas, *Goll* 371 (US). HUMACAO: Vieques Island, *Shafer* 2527 (NY, US).

LESSER ANTILLES: VIRGIN ISLANDS: St. Thomas, *Eggers* 202 (GH), Aug. 1881 (US), July 1883 (NY), in 1887 (NY). GUADELOUPE: *Duss* 1063 in part (Mo, US); *Questel* 4468 (US), 5104 (US). MARTINIQUE: *Sieber (Kohaut)* in 1819-21 (Mo); *Bailey & Bailey* 253 (US), 293 (US); *Stehlé* 2153 (NY). ST. VINCENT: *H. H. & G. W. Smith* 642 (US). BARBADOS: St. John, *Gooding* 82 (NY). GRENADA: Lover's Lane, *Broadway*, Nov. 14, 1908 (GH). Saint Georges, *Broadway*, Jan. 16, 1905 (Ch. GH, NY, US).

CURAÇAO: Santa Cruz, *Britton & Shafer* 3015 (NY, US).

TRINIDAD: Belmont, *McLean*, in 1907 (NY). Manzanilla, *Britton & Britton* 2187 (GH, NY, US). Carapaichaima, *Broadway* 7527 (Mo, US). Las Lomas, *Broadway* 7842 (Mo).

VENEZUELA: MIRANDA: Petare, *Pittier* 11233 (US, Ven); *Ll. Williams* 10566 (Ch). DISTRITO FEDERAL: Sosa, *Tamayo* 766 (Ven). ARAGUA: Maracay, *Cornelio* 10 (US), 13 (NY, Ven); *Lasser* 857 (Ven), 880 (Ven); *Burkart* 16910 (US), 16960 (US). Colonia Tovar, *Fendler* 288 in part (Mo), 1779 (GH, Mo): COJEDES: San Carlos, *Burkart* 16260 (US); *Rudd* 433 (US, Ven). FALCÓN. Pueblo Nuevo, *Tamayo* 898 (US, Ven). LARA: Santa Rosa de Barquisimeto, *Saer* 374 (NY, Ven). Rastrojas, *Aristequieta & Pannier* 1078 (Ven).

COLOMBIA: ATLÁNTICO: Piojó, *Elias* 723 (US). Palmar de Varela, *Dugand* 3131 (US). BOLÍVAR: Turbaco, *Killip & Smith* 14188 (GH, NY, US). Arjona, *Killip & Smith* 14559 in part (Ch, US). Sincé, *Pennell* 3999 (NY). SANTANDER: Puerto Wilches, *Daniel* 1008 (US). ANTIOQUIA: Don Matías, *Barkley* 18.A.231 (US). Medellín, *Archer* 652 (US), 675 (US); *Barkley & Gutiérrez* 1752 (US).

ECUADOR: GUAYAS: Guayaquil, *Haenke* (R); *Asplund* 5692 (R, US).

BRAZIL: RIO BRANCO: Surumú, *Ule* 8156 (K, UC). AMAZONAS: Lago Feio, *Apody*, *Lofgren* 737 (R). CEARÁ: Serra de Baturité, *Eugenio* 686 (US).

LOCAL NAMES: Antejuela (El Salvador); pega pega (Panamá; Puerto Rico); ronté (Haiti); honteuse femelle (Martinique); cujicillo (Venezuela).

There has been some confusion as to the characterization of the typical variety. Sloane's (The Natural History of Jamaica 1:186. 1707) description, which Linnaeus cited, does not state clearly if the fruits are glabrous or pubescent. It refers to "articulated pods, like to those of the precedent," the "precedent" being *Zornia diphylla* (L.) Pers., with more or less hispid fruits. In the illustrative plate, the stem is shown to be hispid, but not the fruits. Willdenow (Sp. Pl. 3:1163. 1802) described the fruits: "lomenti articulis subrotundis distinctis glabris." DeCandolle (Prodr. 2: 320. 1825) stated: "leguminis glabri impunctati." I am indebted to Dr. A. C. Smith, who looked up the type specimen at the British Museum and reported the mature fruits to be glabrous.

Millspaugh, interpreting the typical variety to be setose-hispid, proposed the variety *depila* of *Aeschynomene americana*, based on glabrous-fruited specimens from Yucatán. His variety must revert to synonymy under the present interpretation.

Aeschynomene mexicana Biroli is tentatively placed in synonymy on the basis of its description, particularly "stipulis magnis sulcatis acuminatis denticulatis, foliolis . . . linearibus falcatis . . . , leguminum articulis 5-7 glabris tuberculatis inflatis"

Aeschynomene tricholoma is not considered sufficiently distinct from *Ae. americana* var. *americana* to warrant specific delimitation. Its fruits are slightly larger than average, but almost identical collections have been made in Brazil. The slight development of marginal hairs suggests a tendency toward *Ae. americana* var. *glandulosa*.

There is considerable variation in width of fruits, and there is intergradation throughout the range from the glabrous-fruited typical variety to the puberulent or hispid-fruited variety *glandulosa*. The bracts are uniformly cordate. The flowers commonly are less than 9 mm. long.

1b. *Aeschynomene americana* var. *glandulosa* (Poir.) Rudd, comb. nov.

Aeschynomene glandulosa Poir. in Lam. Encyc. Suppl. 4: 76. 1816.

Aeschynomene guayaquilensis G. Don, Gen. Syst. Gard. Bot. 2: 284. 1832.

This differs from the typical variety in that the fruits are puberulent and/or beset with glandular hairs. The stipules commonly are hispid at the point of attachment. The bracts are cordate. The flowers commonly are 6-8 mm. long.

TYPE LOCALITY: Puerto Rico, "dans les savannes." Type collected by Ledru.

DISTRIBUTION: Predominantly Central American but also widespread in tropical and subtropical America, commonly in wet or moist

places, sometimes on dry hills, at elevations up to about 1,400 m.; in the Old World tropics, apparently introduced (fig. 2).

MÉXICO: *Sessé & Mociño* 1948 in part (Ch). SINALOA: Mazatlán, *Rose, Standley, & Russell* 13655 (NY, US); *Jones* 22504 (Ch, Mo). Culiacán, *Brandege*, Oct. 2, 1904 (GH), Oct. 5, 1904 (UC), Oct. 10, 1904 (US), Oct. 11, 1904 (UC); *Edw. Palmer*, Oct. 25–Nov. 18, 1891 (US). "Culiacan & Copradia," *Brandege*, Sept. 20, 1904 (GH). Los Labrados, *Mexia* 954 (GH, Mo, NY, UC). Imala, *Edw. Palmer* 1740, in 1891, in part (GH, NY). NAYARIT: Ixtlán del Río, *Mexia* 743 (GH, UC). VERA CRUZ: *F. W. Johnson*, Sept 25, 1906 (NY). Zacuapán, *Purpus* 2328 in part (Ch, GH, Mo, NY, UC, US). Misantla, *Purpus* 5885 (UC). Coatzacoalcos, *C. L. Smith* 992 (GH, Mo, NY, US). Camarón, *Purpus* 11088 (NY, US). Orizaba, *Botteri* 664 (NY, US). PUEBLA OR OAXACA: *Liebmann* 4724 (UC). OAXACA: Tuxtepec, *Conzatti* 3743 (US). MICHOACÁN: Hacienda Coahuayula, *Emrick* 93 (Ch). COLIMA: Manzanillo, *Ferris* 6041 (GH). GUERRERO: Atoyac, *Hinton* 10922 (GH, US). Vallecitos, *Hinton* 11604 (GH, US). Between Carrizo and Santo Domingo, *Hinton* 14653 (GH, NY, US). Acapulco, *Edw. Palmer* 102, in 1894–95 (Ch, GH, Mo, NY, UC, US). Taxco, *R. Q. Abbott* 467 (GH). TABASCO: Lomas de San Sebastián, *Roviroso* 384 (NY, US). CHIAPAS: Escuintla, *Matuda* 53 (Mo, US), 2164 (Ch, GH, NY). CAMPECHE: Tuxpeña, *Lundell* 1114 (Ch, GH, Mo, NY, UC, US). YUCATÁN: *Schott* 863 (Ch). Calotmul, *Gaumer* 955 in part (Mo), 2092 (Ch, GH, Mo, UC, US). Chichancanab, *Gaumer* 2095 (Ch).

GUATEMALA: *Skinner* (GH). ALTA VERAPAZ: Between Sachaj and Sacacac, *Steyermark* 45136 (Ch.). Cobán, *von Türckheim* 8196 (US). Cubilquitz, *von Türckheim* 8506 (Ch, GH, NY, US); *Steyermark* 44360 (Ch.) IZABAL: Los Amates, *Deam* 137 (Ch, GH, Mo, NY, US); *Standley* 24359 (GH, US). Quiriguá, *Standley* 24289 (US). Entre Ríos, *Standley* 72677 (Ch, NY). SAN MARCOS: Malacatán, *Grant* 571 (GH, US). ZACAPA: Between Zacapa and Chiquimula, *Standley* 73836 (Ch). Río Hondo, *Steyermark* 29468 (Ch). CHIQUIMULA: Chiquimula, *Steyermark* 30107 (Ch). Ipala, *Steyermark* 30302a (Ch). Between Zacapa and Chiquimula, *Standley* 73717 (Ch). JALAPA: Jalapa, *Standley* 76404 (Ch). GUATEMALA: Concuá Bridge over Río Motagua, *Standley* 59313 (Ch). Between Guatemala and Fiscal, *Standley* 59714 (Ch), 59777 in part (Ch), 59807 (Ch). Fiscal, *Standley* 59614 (Ch). CHIMALTENANGO: "Antapa," *J. R. Johnston* 1059 (Ch). RETALHULEU: Río Samalá, *Shannon* 561 (US). SUCHITEPÉQUEZ: Finca Mocá, *Skutch* 1499 (Ch, GH, US). Mazatenango, *Bernoulli* 1181 (NY). ESCUINTLA: Escuintla, *J. D. Smith* 2283 (GH, US). AMATITLÁN: Amatitlán, *Morales* 1148 (Ch). SANTA ROSA: Barberena, *Standley* 77790 (Ch). Chupadero, *Heyde & Lux* 4160 (GH, NY, US). Cerro Redondo, *Heyde & Lux* 6103 (Ch). Laguna Los Pinos, below Cerro Redondo, *Steyermark* 52167 (Ch). JUTIAPA: Jutiapa, *Standley* 75271 (Ch), 75394 (Ch), 75642 (Ch). Between Jutiapa and Las Tunas, *Standley* 76285 (Ch).

HONDURAS: ATLÁNTIDA: Tela, *Standley* 53583 (Ch, US), 53639 (Ch, US), 54020 (Ch, US), 55227 (Ch, US). MORAZÁN: El Zamorano, *J. Valerio* 1256 (Ch), 1412 (Ch), 1441 (Ch), 1442 (Ch), 3526 (Ch, US); *Cockrell*, Oct. 14, 1946 (Ch); *Molina* 2663 (Mo); *Swallen* 10983A (US).

BRITISH HONDURAS: STANN CREEK: Stann Creek, *Robertson* (US). All Pines, *Schipp* 666 (Ch, GH, Mo, NY, UC). BELIZE: Near "Manatee lagoon," *Peck* 232 (GH).

EL SALVADOR: AHUACHAPÁN: *Padilla* 472 (US). SONSONATE: Santa Emilia, *Standley* 22033 (GH, US), 22075 (GH, US). LA LIBERTAD: La Libertad, *Standley* 23251 (GH, US). SAN SALVADOR: San Salvador, *Calderón* 56 (Ch, GH, Mo,

NY, US). Tonacatepeque, *Standley* 19526 (GH, US). SAN VICENTE: San Vicente, *Standley* 21165 in part (GH, US). Laguna de Apastepeque, *Fassett* 28335 (US). LA UNIÓN: Laguna de Maquigüe, *Standley* 20967 (US).

NICARAGUA: *Garnier* 3073 (GH). BLUEFIELDS: "Mosquito Coast," *Schramm*, in 1924 (US). CHINANDEGA: Realejo, *Hinds*, probably in 1837, in part (Mo). MANAGUA: Managua, *Chaves* 250 (US). Sierra de Managua, *Garnier* A249 (US). RIVAS: Isla Ometépe, *C. L. Smith*, Jan. 1893 (Mo); *Shimek & C. L. Smith* 42 (US).

COSTA RICA: "Tacares," *M. Valerio* 261 (Ch). GUANACASTE: Nicoya, *Tonduz* 13573 (GH, US). PUNTARENAS: Boruca, *Tonduz* 4708 (US). ALAJUELA: La Palma de San Ramón, *Brenes* 5856 (Ch), 5856a (Ch), 5856b (Ch). "Colline de San Pedro de San Ramón," *Brenes* (432) 4647 (Ch), (473) 4688 (Ch), 5960 (Ch). "Carrillos de Poas," *Brenes* 14336 (Ch), 14611 (Ch), 17236 (Ch). SAN JOSÉ: San José, *Tonduz* 3075 (US); *Standley* 33280 (US). "Route de San José à Guadalupe," *Tonduz* 7284 (Ch, GH, NY, US), 7323 (Ch, GH, NY, US). El General, *Skutch* 2955 in part (US). La Verbena, *Standley* 32206 (US). San Sebastián, *Standley* 32686 (US). CARTAGO: Cartago, *J. J. Cooper* 5756 (Ch, GH, Mo, NY, US). Dulce Nombre, *Standley* 35851 (US).

PANAMÁ: *Seemann* (NY), 486 (GH); *Hayes* 488 (NY), 767 (NY). El Polvorín, *Heriberto* 255 (NY, US). BOCAS DEL TORO: Chiriquí Lagoon, *von Wedel* 1531 (GH, Mo, US), 1616 (GH, Mo). Isla Colón, *von Wedel* 2973 (GH, Mo, NY, US). COCLÉ: Penonomé, *R. S. Williams* 359 (NY, US). Olá, *Pittier* 5092 (NY, US). CANAL ZONE: *Harvey* 5197 (Ch). Darién, *Standley* 31560 (US). Obispo, *Standley* 31780 (US). Gamboa, *Standley* 28325 (US). Between Fort Clayton and Corozal, *Standley* 29059 (US), 29182 (US). Frijoles, *Standley* 27643 (US). Gatún, *Standley* 27268 (US). East Paraíso, *Standley* 30046 (US). Red Tank to Pueblo Nuevo, *Piper* 5190 (US). Island Potrero, Changuinola Valley, *Dunlap* 343 (US). Culebra, *Pittier* 2112 (NY, US). Mt. Hope Cemetery, *Standley* 28847 (US). Summitt, *Standley* 25768 (US), 25776 (US), 26921 (US). Along Las Cruces Trail, *Hunter & Allen* 737 (GH, Mo). Balboa, *Standley* 25518 (US), 25540 (US). Ancón, *Greenman & Greenman* 5048 (Mo). Colón, *Rose* 23997 (GH, NY, US). Fort Randolph, *Standley* 28735 (US). PANAMÁ: Isla Taboga, *Allen* 1283 (GH, Mo, US), 1295 (GH, Mo, US); *Standley* 27110 (US). Cayos Icacos, *I. M. Johnston* 937 (Mo, US). San José Island, *I. M. Johnston* 832 (US), 1201 (US). "Sabanas north of Panama City," *Paul* 593 (US). Panamá, *Standley* 26787 (US), 26865 (US). Matías Hernández, *Pittier* 6871 (NY, US). Between Capira and Potrero, *Dodge & Hunter* 8604 (GH, Mo). Río Indio, *Dodge & Allen* 17378 (GH, Mo). Río Tapia, *Standley* 28066 (US). Río Tocumen, *Standley* 26579 (US), 29477 (US). HERRERA: Chitré, *Allen* 1104 (GH, US). Ocu, *Allen* 4087 (Mo).

CUBA: PINAR DEL RÍO: Guane, *Shafer* 10388 (Mo, NY, US). Los Palacios, *Shafer* 12046 (Ch, Mo, NY, US). HABANA: Santiago de las Vegas, *P. Wilson* 1285 (Ch, GH, US). ORIENTE: "Valle Yumury," *Rugel* 129b (NY).

JAMAICA: Schwallenburgh, *Orcutt* 3951 (Mo, UC). Portland, *Maxon & Killip* 62a (GH, US). Hope, *Harris* 6625 (Ch, NY), 6957 (Ch, NY). Tichfield Peninsula, *Millsbaugh* 1887 (Ch, GH). Porus, *Lloyd* 1050 (Ch, Mo). Ewarton, *Alexander Prior*, Dec. 2, 1849 (NY). Pleasant Hill to Buff Bay, *Orcutt* 3815 (GH).

PUERTO RICO: Aguadilla: Maricao, *Sintensis* 374b (GH, US). Mayagüez: Mayagüez, *Sintensis* 374 (GH, US).

LESSER ANTILLES: U. S. VIRGIN ISLANDS: St. Croix, *Mrs. J. J. Ricksecker* 44 (Ch, Min, Mo, US); *A. E. Ricksecker* 133 (Ch, GH, Min, Mo, NY, UC, US); *Rose, Fitch & Russell* 3522 (US). St. Thomas, *Kuntze*, Feb. 1874 (NY). St. John, *Britton & Shafer* 313 (NY, US); *Britton & Shafer* 613 (Ch, NY, US).

BRITISH VIRGIN ISLANDS: Tortola, *Britton & Shafer* 778 (NY, US). Antigua: North Sound, *Boz* 1245 (Ch, US). GUADELOUPE: *Duss* 2645 in part (Mo). Montebello, *Questel* 489 (US). Ste. Marguerite, *Questel* 4245 (US). Carbet, *Questel* 2481 (US). Grande Terre, *Stehlé* 1491 (US). Trois-Rivières, *Stehlé* 203 (NY). Baie-Mahault, *Stehlé* 271 (NY). St. Claude, *Stehlé* 1639 (NY).

CURAÇAO: Julianadorp, *Arnoldo* 1820 (US).

TOBAGO: *Eggers* 5940 (NY).

VENEZUELA: Nueva Esparta: Salamanca, *Ginés* 2877 (US). Mérida: Lagunillas, *Jahn* 673 (GH, US, Ven).

COLOMBIA: MAGDALENA: Masinga, *H. H. Smith* 713 (Ch, GH, Mo, NY, UC, US). Luruaco? [as "Luru"], *André* 260 (NY). BOLÍVAR: Cartagena, *Apolinar Ángel* 753 (US). Arjona, *Killip & Smith* 14559 in part (GH, NY). NORTE DE SANTANDER: Santiago, *Araque & Barkley* 18 N. S. 144 (US). Cúcuta, *Garganta* 1077 (Ch). SANTANDER: Barranca Bermeja, *Haught* 1403 (NY, US). CUNDINAMARCA: Jerusalem, *Pérez* 590 (US). Girardot, *Rusby & Pennell* 83 (NY, US). TOLIMA: Espinal, *Apolinar Maria*, July 1928 (US). Armero, *Cuatrecasas* 10506 (Ch, US). HUILA: Natagaima, *Rusby & Pennell* 1166 (NY, US). Villavieja, *S. G. Smith* 1200 (US). ANTIOQUIA: Puerto Berrio, *Pennell* 3759 (GH, NY, US). CALDAS: Chinchiná, *Cuatrecasas* 23085 (US). EL VALLE: Alcalá, *Cuatrecasas* 22856 (US).

ECUADOR: GUAYAS: Guayaquil, *Hitchcock* 19942 (GH, NY, US); *Anthony & Tate* 52 (US); *Asplund* 5718 (US); *Mille* 42 (Ch), in 1929 (Ch). Durán, *Schimpff* 1063 (Mo, US).

PERÚ: PIURA: Las Lomas del Nato, *Ferreya* 5922 (US).

BOLIVIA: BENI: Río Chaparé-Mamoré, *Werdermann* 2259 (Mo). SANTA CRUZ: Buena Vista, *Steinbach* 5521 (Ch, Mo, NY). 5589 (GH).

BRAZIL: CEARÁ: Aracaty, *Gardner* 1542 (K). GUAPORÉ: Porto Velho, *Black & Cordeiro* 52-14584 A (US).

PARAGUAY: "Gran Chaco," Santa Elisa, lat. S. 23°10', *Hassler (T. Rojas)* 2815 (GH, Mo). CONCEPCIÓN: Centurión, *Fiebrig* 4121 (GH). CORDILLERA: San Bernardino, *Hassler* 86 (NY). GUAIRÁ: Villartica, *Jørgensen* 4619 (Ch, Mo, NY, US).

ARGENTINA: FORMOSA: Guayculec, *Jørgensen* 3220 in part (GH, Mo).

LOCAL NAMES: Pega ropa (Guatemala); golondrina regada (El Salvador); plumón (El Salvador); huevos de rana (Nicaragua); dormilona (Nicaragua); pega pega (Costa Rica, Colombia).

Although I have not seen the type of *Ae. glandulosa* Poir., the description, as well as specimens so determined, indicate fairly clearly the identity of this taxon.

Poiret, in the original description, suggested that this might be a variety of *Ae. americana*, and it is so treated in this paper. It is distinguished from the typical variety by the indument on its fruits. There may be a sparse development of glandular hairs on the fruits or there may be puberulence, which I believe to be incipient glandular development. Occasionally there is intergradation from puberulent to hispid fruits, or to the eglandular condition of typical *Ae. americana*. There is also considerable variation in the size of mature fruits, but it seems impracticable to make any satisfactory delimitations on that basis.

It has not been possible, thus far, to locate the type of *Ae. guayaquilensis*. The description, particularly "leaflets, which are serrated at the apex," indicates the series *Americanae*. The fruits are described as "smooth," which would suggest typical *Ae. americana*. Most specimens of *Ae. americana*, sens. lat., which I have seen from the vicinity of Guayaquil exhibit puberulent fruits but appear smooth to the naked eye. Truly glabrous fruited specimens are the rarities. Don preceded his description of *Ae. guayaquilensis* with a description of *Ae. americana* L., presumably considering the two entities to be different. In the present paper, *Ae. guayaquilensis* is being interpreted as *Ae. americana* var. *glandulosa*.

1c. *Aeschynomene americana* var. *flabellata* Rudd, var. nov.

A varietate typica bracteis flabelliformis et floribus plerumque majusculis differt.

This differs from the typical variety in having truncate, flabelliform bracts and flowers which commonly are 8–10 mm. long. The stipules are glabrous or nearly so. The fruits are glabrous or hispid.

TYPE: In the U. S. National Herbarium, No. 1205701, collected at Tlaxmalac ("bei Taxmalac an Bachrande"), Guerrero, México, Oct. 17, 1904, by C. and E. Seler (No. 4240). Duplicate at GH.

DISTRIBUTION: Central México south to Honduras, in wet or moist places along streams, at edges of fields, and in llanos, at about 800–2,800 m. elevation (fig. 2).

MÉXICO: *Sessé & Mociño* 1947 (Ch). GUANAJUATO: Pénjamo, *Pringle* 2515 (GH). MÉXICO: Naranjo, *Hinton* 1984 (GH, US). Temascaltepec, *Hinton* 2057 (US). Ixtapán, *Hinton* 2234 (NY, US). Rincón del Carmen, *Hinton* 1619 (NY, US). MICHOACÁN: Morelia, *Arsène* 3114 (Mo, NY, US), 6837 (Mo, US). Aguillilla, *Hinton* 15243 (GH, NY, US). Between Zitácuaro and Santa Ana, *Hinton* 13287 (GH, US). GUERRERO: Pungarabato, *Hinton* 6654 (US). Parotas, *Hinton* 9503 (Min, US). Quirio, *Hinton* 5992 (GH, Mo). Taxco Viejo, *R. Q. Abbott* 407 (GH).

GUATEMALA: JUTIAPA: Between Agua Blanca and Amatillo, *Steyermark* 30442 (Ch, US).

EL SALVADOR: SAN SALVADOR: *Calderón* 1291 (GH, Mo, NY, US).

HONDURAS: CHOLUTECA: Choluteca, *Standley* 24569 (Ch).

This variety is readily distinguished by its truncate-flabelliform bracts, although, in a few specimens, some gradation toward the typical cordiform shape may be noted. The flowers often are slightly larger than average for the species as a whole. Glandular development varies; vegetative parts as well as the fruits may be glabrous to hispid. Dry specimens mostly exhibit considerable purplish coloration of the bracts, petals, bases of glandular hairs, etc.

2. *Aeschynomene unijuga* (M. E. Jones) Rudd, comb. nov.

Climacorachis fruticosa Hemsl. & Rose, Contr. U. S. Nat. Herb. 8: 44. 1903, non *Ae. fruticosa* Sessé & Moc., 1889, nec *Ae. fruticosa* Rose, 1899.

Mimosa unijuga M. E. Jones, Extracts from Contr. West. Bot. 18: 39. 1933.

Stems to about 2 m. high, erect or occasionally prostrate, hispid to subglabrous; stipules glabrous to hispid, 7–15 mm. long, 1–1.5 mm. wide at maximum; leaves 2–5 cm. long, 20–45-foliolate; leaflets 5–6 mm. long, 1–2 mm. wide, commonly 3-costate; inflorescences few-flowered, the peduncles and pedicels hispid or hispidulous, sometimes flexuose, the bracts lanceolate-ovate to subcordate, about 2–4 mm. long, 1–1.5 mm. wide, acute to acuminate, glabrous to hispidulous, the more glabrous bracts elongate, the more glandular cordate, the bracteoles lanceolate to ovate, about 2–3 mm. long and 1 mm. wide, indued like the bracts; flowers 10–15 mm. long; calyx 6–8 mm. long; standard 10–15 mm. long, the claw 1–4 mm. long, the blade subelliptical, 9–11 mm. long, 8–10 mm. wide, entire; wings about as long as the standard, the blades about 3 mm. wide; keel petals slightly shorter and wider than the others, about 8–10 mm. long, the claws 1–2 mm. long, the blades 7–8 mm. long, 3.5–4 mm. wide; stamens 7–10 mm. long; fruit 6–20 mm. long, 4–5 mm. wide, 3–7-seeded, usually lacking articulations between the seeds, the one edge entire, the other entire or crenate, the margin usually breaking away from the body of the fruit, hispid, the bases of the glandular hairs usually dark, the stipe about 2 mm. long; mature seeds not seen.

TYPE LOCALITY: Oak woods, mountains near Talpa, Jalisco, México, altitude about 1,320–1,500 m. Type collected by Nelson (No. 4038), cited below.

DISTRIBUTION: México, Sinaloa to Guerrero, in pine and oak forests, in mountains, at elevations of about 1,000 to about 1,800 m. (fig. 2).

MÉXICO: SINALOA: Sierra Tacuichamona, *Gentry* 5590 (Mo, NY, UC), 5687 (GH, Mo, NY). "Sierra de Chabarría," *Ortega* 4056 (NY, US). JALISCO: San Sebastián, *Mexia* 1375 (Ch, GH, Mo, NY, UC, US). Talpa de Allende, *Nelson* 4038 (US TYPE); *McVaugh* 14252 (Mich). GUERRERO: "San Antonio Buenos Aires," Montes de Oca, *Hinton* 11670 (GH, US).

In all characteristics *Aeschynomene unijuga* shows relationship with the other members of the series *Americanae*. The frequent flexuose nature of the flowering axes and the lack of articulation of the fruit are not considered sufficient reason for segregation into another genus, *Climacorachis*. Placing this taxon in *Mimosa* was obviously done without consideration of the flower structure.

The largest flowers of the *Americanae* are found in this species. The fruit characters are somewhat unstable; on the same plant, or even the same fruit, there may be both presence and absence of sutures between seeds. In general, this group shows closest kinship to *Ae. villosa*, especially var. *mexicana*.

3. *Aeschynomene guatemalensis* (Standl. & Steyerm.) Rudd, comb. nov.
Climacorachis guatemalensis Standl. & Steyerm. Field Mus. Publ. Bot. 23:
 11. 1943.

Stem about 8 dm. high, erect; stipules about 10–12 mm. long and 1 mm. wide; leaves about 4 cm. long, 30–40-foliolate; leaflets 6–8 mm. long, about 1.5 mm. wide, 3-costate; inflorescences few-flowered, about as long as the leaves or longer, the peduncles and pedicels hispid or hispidulous, the bracts and bracteoles ovate, acuminate, hispid, ciliate, about 3 mm. long and 1 mm. wide; flowers not seen; calyx persistent, 3–4 mm. long, hispid; legume oval-oblong, about 15–20 mm. long, 5–7 mm. wide, 5–7-ovulate, hispid, not articulated, or rarely with an occasional suture forming between the seeds, the margins essentially entire, breaking away from the body of the fruit; seeds 2 mm. long and wide, olivaceous-black (apparently immature).

TYPE LOCALITY: Pine-oak forest, Río Pucal, about 14 km. south of Huehuetenango, Guatemala, at about 1,800 m. altitude. Type collected by Standley (No. 82330).

DISTRIBUTION: Guatemala; known only from the type locality (fig. 2).

GUATEMALA: Huehuetenango: Río Pucal, *Standley* 82370 (Ch).

This species closely resembles *Ae. villosa*, but the fruits are broader and more consistently unjointed. Due to the paucity of material available no change in rank is being made, but the species is being transferred to *Aeschynomene* as are the other species of *Climacorachis*.

4. *Aeschynomene villosa* Poir. in Lam. Encyc. Suppl. 4: 76. 1816.

Stem to about 1 m. long, prostrate to weakly erect, hispid; stipules (5–)10–15 mm. long, 1–1.5 mm. wide, subglabrous, ciliate, usually somewhat hispid at the point of attachment; leaves about 2–7 cm. long, 20–50-foliolate; leaflets 3–15 mm. long, 1–3 mm. wide; inflorescences 3–10-flowered, the peduncles and pedicels hispid like the stem, the bracts cordate, acuminate, 1.5–6 mm. long, 1–2 mm. wide, ciliate, the bracteoles ovate-lanceolate, acute to acuminate, 1–4 mm. long, 0.5–1 mm. wide, ciliate; flowers 3–9 mm. long; calyx 2–4 mm. long, hispid; standard commonly 5–7 mm. long, the claw 1–2 mm. long, the blade suborbiculate, 4–5 mm. in diameter, emarginate, entire; wings about as long as the standard, the blade 1–2 mm. wide; keel about 4–5 mm. long, the claws 1–1.5 mm. long, the blades 3–4 mm. long, 1–2 mm. wide, sometimes ciliate along the free margin; stamens 4–5 mm. long; fruit 3–7- (commonly 4–6-) seeded, the articulations distinct or sometimes lacking, the articles 2.5–3(–4) mm. in diameter, villous-hispid, the tuberculate bases of the hairs often dark, in contrast to the otherwise straw-colored or light brown fruits, the venation inconspicuous, the margins often breaking away from the body of the articles; seeds 2–2.5 mm. long, 1.5–2 mm. wide, blackish.

4a. *Aeschynomene villosa* var. *villosa*.

Aeschynomene villosa Poir. in Lam. Encyc. Suppl. 4: 76. 1816.

? *Aeschynomene hirta* Lag. Nov. Gen. et Spec. 22.1816, non Lam. 1797.

? *Aeschynomene hirsuta* DC. Prodr. 2: 322. 1825.

Aeschynomene glandulosa Bello, Ap. 1: 259. 1881, non Poir. 1816.

Aeschynomene americana var. *villosa* (Poir.) Urb. Symb. Ant. 4: 288. 1905.

Cassia tenuicaulis M. E. Jones, Extracts from Contr. West. Bot. 18: 40. 1933.

Aeschynomene meridana Pittier, Bol. Técn. Minist. Agric. & Cría Serv. Bot. Caracas 5: 40. 1944, without Latin diagnosis.

The typical variety has stems about 2–6 dm. high, usually decumbent; leaflets 4–5 mm. long, 1–1.5 mm. wide, mostly 3-costate; inflorescences open, sometimes paniculate, usually few-flowered, longer than the leaves; flowers 3–5(–7) mm. long; fruits with distinct articulations, or rarely lacking an occasional septum.

TYPE LOCALITY: Savannas, Puerto Rico. Type collected by Ledru.

DISTRIBUTION: Southern Arizona to South America; Antilles; at elevations up to about 2,250 m., usually in dry areas, pine and oak forests, pastures, and sometimes in wet places; also in the Old World tropics, apparently as an introduction (fig. 2).

UNITED STATES: ARIZONA: Santa Cruz County: Ruby, *Kearney & Peebles* 14462 (GH, NY, UC, US); *Darrow & Haskell* 2063 (GH, Mo).

MÉXICO: *Sessé & Mociño* 1943 (Ch), 1944 (Ch), 1948 in part (Ch). SONORA: Sierra Charuco, Río Mayo, *Gentry* 1737 (Ch, GH, Mo). Quiricoba, *Gentry*, Nov. 13, 1933 (Ch). SINALOA: Mazatlán, *Rose, Standley & Russell* 13655a (US); *Ortega* 5091 (US). "Cofradia & Culiacan," *Brandege*, Oct. 21, 1904 (US). Cofradia, *Brandege*, Oct. 21, 1904 (Mo), Oct. 25, 1904 (UC). Cerro Colorado, *Brandege*, Nov. 3, 1904 (UC). Imala, *Edw. Palmer* 1740, in 1891, in part (UC, US). NAYARIT: Acaponeta, *Rose, Standley & Russell* 14287 (GH, NY, US). Ixtlán del Río, *Mexia* 738 (Mo, NY). NAYARIT?: "Vicinity of Jalisco," *Ferris* 5817 (US). JALISCO: Guadalajara, *Edw. Palmer* 491, in 1886 (GH, Mo, NY, US); *Rose & Painter* 7402 (Ch, GH, Mo, NY, US); *Jones* 27219 (Mo, NY, UC, US). Etzatlán, *Barnes & Land* 293a (Ch). VERA CRUZ: Zacuapán, *Purpus*, Oct. 1907 (UC), 2328 in part (Ch, GH, NY). Mirador, *Purpus* 10813 (US). Orizaba, *Müller*, in 1853 (NY); *Bourgeau* 3169 (GH, US); *Botteri* "363, 572" (GH, US). Jalapa, *F. W. Johnson*, Sept. 22, 1906 (US). Papantla, *Schiede & Deppe* 633 (Mo). Tantoyuca, *Ervendberg* 16 (GH). Vera Cruz?: "Enroute from San Luis Potosí to Tampico," *Edw. Palmer* 1050, in 1878–79 (GH, US). PUEBLA: Metlatoyuca, *Goldman* 59 (NY, US). MORELOS: Cuernavaca, *Lemmon & Lemmon* 30 (UC). MÉXICO: Pantoja, *Hinton* 8608 (Ch, GH, NY, US). COLIMA: *Edw. Palmer* 1102, in 1891 (GH, NY, UC, US); *Orcutt* 4546 (Ch). GUERRERO: Acapulco, *Edw. Palmer* 264, in 1894–95 (Ch, GH, Mo, NY, UC, US). El Calabazal, *Langlassé* 455 (GH, US). OAXACA: Huitza, *L. C. Smith* 223, in part (GH, US). CHIAPAS: Sierra de Tonalá, *Purpus* 6634 (Ch, GH, Mo, NY, UC, US). Barranca Honda, *Matuda* 4101 (NY).

GUATEMALA: HUEHUETENANGO: Río Pucal, *Standley* 82367 (Ch). Chiantla, *Standley* 82530 (Ch). IZABAL: "Between Milla 49.5 and Cristina," *Steyermark* 38440 (Ch). EL PROGRESO: Sierra de las Minas, *Steyermark* 43729 (Ch). CHIQUIMULA: Concepción de las Minas, *Steyermark* 30860 (Ch), 30861 (Ch). JALAPA: Cerro Alcoba, *Steyermark* 32501 (Ch). GUATEMALA: Between Guatemala and Fiscal, *Standley* 59777 in part (Ch). CHIMALTENANGO: Chimaltenango,

Standley 59099 (Ch), 79863 (Ch); *J. R. Johnston* 149 (Ch). Along road from Chimaltenango to San Martín Jilotepeque, *Standley* 57942 (Ch). JUTIAPA: Jutiapa, *Standley* 75333 (Ch).

HONDURAS: COMAYAGUA: Siguatepeque, *Standley* 56005 (Ch, US); *Standley & Chacón* 6815a (Ch). MORAZÁN: El Zamorano, *Standley* 14665 (US), 27456 (US). Río El Quebracho, *Standley* 27721 (US). EL PARAÍSO: Güinope, *Valerio* 1728 (Ch). Las Casitas, *Swallen* 11067 (US).

EL SALVADOR: SAN SALVADOR: San Salvador, *Standley* 22434 (GH, US), 22686 (US), 23602 (GH, US); *Calderón* 69 (GH, Mo. NY, US). SAN VICENTE, San Vicente, *Standley* 21165 in part (GH, US).

NICARAGUA: CHINANDEGA: Realejo, *Sinclair*, in 1836-39 (GH); *Sinclair* or *Hinds*, in 1836-39 (Mo). SEGOVIA: *Oersted* 4715 (Ch). Volcán El Viejo, *Oersted* 4716 (Ch).

COSTA RICA: *Brenes* (317a) 5163 (Ch). GUANACASTE: Nicoya, *Tonduz* 13591 (US). SAN JOSÉ: La Uruca, *Biolley* 3214 (US). ALAJUELA: "Colline de San Pedro de San Ramon," *Brenes* (363) 4578 (Ch).

PANAMA: CANAL ZONE: Balboa, *Standley* 25267 (US). Between Fort Clayton and Corozal, *Standley* 29163 (US). PANAMÁ: Río Tocumen, *Standley* 26619 (US), 29399 (US). Matías Hernández, *Standley* 28893 (US). Abalaba, *Killip* 3367 (US).

CUBA: PINAR DEL RÍO: Coloma, *C. Wright* 1590 in part (GH, Mo, NY, US). Bahía Honda, *P. Wilson* 9272 (NY). HABANA: Guanabacoa, *Léon & Hioram* 4713 (NY). Castillo de Atarés, *Ekman* 13296 (GH). CAMAGUEY: Camaguey, *Britton, Britton & Cowell* 13175 (NY). La Gloria, *Shafer* 259 (NY, US). ORIENTE: Sierra de Nipe, *Ekman* 9799 (US). Baracoa, *Shafer* 7690 (NY).

HAITI: NORD: Plaisance, *Leonard* 9262 (GH, NY, UC, US). Marmelade, *Leonard* 8138 (Ch, Mo, US). Dondon, *Leonard* 8732 (US). St. Michel de l'Atalaye, *Leonard* 8503 (US). NORD-OUEST: Port de Paix, *Leonard & Leonard* 12182 (US). OUEST: Petionville, *Ekman* H-2328 (US).

DOMINICAN REPUBLIC: DUARTE: Pimentel, *W. L. Abbott* 651 (US). SANTIAGO: Santiago, *Allard* 14602 (US). San José de las Matas, *Jiménez* 946 (US). Pico del Rubio, *Jiménez* 1071 (US). LA VEGA: Constanza, *Ekman* H-13938 (US). Jarabacoa, *Fuertes* 1667 (GH); *Allard* 14930 (US). Río Yaque, *Fuertes* 1688 (GH, NY, US).

PUERTO RICO: "Inter Aybonito et Algarroba," *Sintenis* 2957 (US). "Sabana llana," *Stevenson* 1263 (Min, US). ARECIBO: Utuado, *Sargent* 3278 (US). MAYAGÜEZ: Mayagüez, *Holm* 63 (Ch, GH, Mo); *Sintenis* 79 (GH, NY, US). Guanica, *Sintenis* 3883 (Ch). Sabana Grande, *Britton & Britton* 9050 (NY). SAN JUAN: Río Piedras, *Heller & Heller* 185 (Ch, NY, US); *J. R. Johnston* 59 (NY). GUAYAMA: Matón-Arriba, *Goll* 455 (NY, US). Cayey, *Kuntze* 410 (NY). Guayama-Cayey road, *Britton, Britton & Earle* 6436 (NY). AGUADILLA: Rincón, *Sintenis* 5525 (US). Aguada, *Sintenis* 5720 (Mo, US). PONCE: Adjuntas, *Britton & Cowell* 1248 (NY); *Britton & Shafer* 2051 (NY). Coama, *Britton, Britton & Brown* 6164 (NY).

LESSER ANTILLES: ST. KITTS: *Britton & Cowell* 650 (NY). MONTSERRAT: *Shafer* 20 (Ch, NY, US). GUADELOUPE: *Duss* 2645 in part (Ch, NY, US), 4163 (NY). MARTINIQUE: *Duss* 1063 in part (NY, US); *Hahn* 828 (UC).

VENEZUELA: ARAGUA: Colonia Tovar, *Fendler* 289 (GH, Mo), 1780 (GH, Mo). COJEDES: "Sabana pantanosa," *Burkart* 16262 (US). TRUJILLO: Cacute, *Burkart* 16837 (US). MÉRIDA: Mérida, *Pittier* 12866 (Ch, Mo, NY, US, Ven); *Lasser* 633 (US, Ven); *Badillo* 642 (Ven), 600 (Ven).

COLOMBIA: NORTE DE SANTANDER: Ocaña, *Schlim* 205 (NY). CUNDINAMARCA: Between Santandercito and El Colegio, *García* 145 (US). Albán, *Pérez*

2396 (US). HUILA: Neiva, *Marulanda-Caicedo* 47A (US). ANTIOQUIA: Titiribí, *Toro* 415 (US). Medellín, *Archer* 26 (US), 676 (NY, US), 1006 (US). Amagá, *Daniel* 4264 (US). EL VALLE: Buenaventura, *Cuatrecasas* 19758 (Ch, US). La Paila, *Holton* 991 (NY). Jamundí, *Bermúdez* 29 (US). Río Bolo, *Dryander* 326 (US). Palmira, *García* 6367 (US). Zarzal, *Pennell, Killip, & Hazen* 8569 (GH, NY, US). Cali, *Lehmann* 3408 (US). CAUCA: Popayán, *Lehmann* 5548 (Ch, GH, US).

COLOMBIA OR ECUADOR?: "Central And.," *Barclay*, in 1836–39 (GH).

ECUADOR: CHIMBORAZO: Huigra, *Camp* E-2962 (NY).

LOCAL NAMES: Mesquitito (México); pega-pega (Panamá); hon-teuse femelle (Guadeloupe); zarza dormidera (Colombia).

I have not seen the type of *Ae. villosa* Poir., but from the description, and from specimens so determined, including those cited by Urban as *Ae. americana* var. *villosa*, there seems to be little doubt as to the identity of this taxon. Although Urban placed it in varietal position under *Ae. americana*, I believe this taxon warrants specific status on the basis of the characters indicated in the key and in the description.

Urban cited *Ae. glandulosa* Bello as a synonym of his *Ae. americana* var. *villosa*, which was based on *Ae. villosa* Poir. On his authority, with no evidence to the contrary, it is so treated in this paper.

From the brief and inadequate descriptions, and from old specimens so determined, it is believed that *Ae. hirsuta* DC. and its synonym, *Ae. hirta* Lag., may be equivalents of *Ae. villosa*.

Cassia tenuicaulis also is referable to this taxon. Dr. Lyman Benson of Pomona College has very kindly checked the type and verified the fact that its fruits correspond with those of other specimens from the same locality which I have identified as *Ae. villosa* var. *villosa*.

Material cited by Pittier as *Ae. meridana* is also identified with this taxon.

4b. *Aeschynomene villosa* var. *longifolia* (Micheli) Rudd, comb. nov.

Aeschynomene floribunda Mart. & Gal. Bull. Acad. Brux. 10 (2): 180. 1843.

Aeschynomene americana var. *longifolia* Micheli in Donn. Sm. Bot. Gaz. 20: 284. 1895.

This differs from the typical variety in that the plant tends to be larger and more robust; leaves mostly larger, the leaflets larger, 6–15 mm. long, 2–4 mm. wide, usually 4- or 5-costate; inflorescences shorter than the leaves, fasciculate, 10–15-flowered; flowers mostly 6–9 mm. long.

TYPE LOCALITY: Casillas, Santa Rosa, Guatemala. Lectotype collected by Heyde and Lux (No. 4172), cited below.

DISTRIBUTION: Moist or wet places, in México, Guatemala, Costa Rica, and Venezuela, at about 1,000–2,000 m. elevation (fig. 2).

MÉXICO: CHIHUAHUA: Mápula Mountains, *Pringle* 725 (Ch, GH, Mo, NY, UC, US). Arroyo Hondo, Sierra Charuco, *Gentry* 1799 (Ch, GH, UC, US).

JALISCO?: Cuautla, *Holway* 5220 (US). VERA CRUZ: Orizaba, *Bourgeau* 3277 (GH); *Botteri* 665 (US). MORELOS: Cuernavaca, *Seler & Seler* 4208 (GH, US). MICHOACÁN: Morelia, *Arsène* 3131 (Mo, NY, US), 8579 (Ch, Mo, US, US). Patzcuaro, *Seler & Seler* 1180 (GH, NY). GUERRERO: "Sierra Madre," *Langlassé* 758 (GH, US). Between Pilas and Filo Mayor, *Mina, Hinton* 10747 (UC, US). Manchon, *Mina, Hinton* 9669 (US). OAXACA: "Aux borde des ruisseaux de Juquila et de Yotopeque," *Galeotti* 3158 (F. M. neg. 27927, photo of isotype of *Ae. floribunda* ex G). Huitza, *L. C. Smith* 223 in part (GH).

GUATEMALA: *Heyde* 391 (US). HUEHUETENANGO: Huehuetenango, *Skutch* 1598 (Ch, GH); *Steyermark* 48153 (Ch). ALTA VERAPAZ: Cobán, *von Türckheim* 376 (GH, NY, US). Between Cobán and Carchá, *Standley* 89766 (Ch). Santa Cruz, *Standley* 71035 (Ch). EL PROGRESO: Sierra de las Minas, *Steyermark* 42983 (Ch). JALAPA: Jalapa, *Standley* 76391 (Ch), 77166 (Ch). SACATEPÉQUEZ: Antigua, *Standley* 64668 (Ch). CHIMALTENANGO: "Antapa," *J. R. Johnston* 1058 (Ch). Chimaltenango, *Standley* 59053 (Ch). Between Chimaltenango and San Martín Jilotepeque, *Standley* 64442 (Ch). SANTA ROSA: Casillas, *Heyde & Lux* 4172 (GH, NY, US, LECTOTYPE of *Ae. americana* var. *longifolia*). San Juan Utapa, *Heyde & Lux* 6099 (GH, US). JUTIAPA: Jutiapa, *Standley* 75409 (Ch).

HONDURAS: Morazán: Hoya Grande, *Williams & Merrill* 15723 (Ch).

COSTA RICA: ALAJUELA: San Pedro de San Ramón, *Brenes* 21883 (Ch). SAN JOSÉ: San José, *Standley* 34760 (US).

VENEZUELA: DISTRITO FEDERAL: Caracas, *Pittier* 7392 (US); *Kuntze* 14556 (NY). Between Caracas and La Guaira, *Rose & Rose* 21657 (GH, US). Sosa, *Tamayo* 261 (Ven). ARAGUA: Colonia Tovar, *Fendler* 288 in part (GH, Mo).

As indicated by the characters mentioned in the key, this taxon resembles *Ae. villosa* more than it does *Ae. americana*, and it is believed to be only varietally distinct from that. There is some intergradation to the typical variety but, generally, the shortened inflorescence is quite obvious.

A photograph of an isotype of *Ae. floribunda* shows that species to be indistinguishable from *Ae. villosa* var. *longifolia*, and is therefore placed in synonymy.

Two collections were cited in the original description of *Ae. americana* var. *longifolia* Micheli on which *Ae. villosa* var. *longifolia* is based. In "Flora of Guatemala" (*Standley & Steyermark*, 1946), one collection (*Heyde & Lux* 4172) is referred to as the type, which is apparently the first designation of a lectotype of this variety.

4c. *Aeschynomene villosa* var. *mexicana* (Hemsl. & Rose) Rudd, comb. nov.

Climacorachis mexicana Hemsl. & Rose, Contr. U. S. Nat. Herb. 8: 43. 1903, non *Ae. mexicana* Biroli ex Colla, 1834.

Mimosa mexicana M. E. Jones, Extracts from Contr. West. Bot. 18: 39. 1933, non *Ae. mexicana* Biroli ex Colla, 1834.

This differs from the typical variety in that the fruits lack articulations, or only rarely develop sutures between the seeds; the flowers are mostly 5–7 mm. long.

TYPE LOCALITY: Sierra Madre west of Bolaños, Jalisco, México. Type collected by Rose (No. 2972), cited below.

DISTRIBUTION: México; Jalisco and Michoacán, in dry soil of mountains (fig. 2).

MÉXICO: JALISCO: Bolaños, *Rose* 2972 (US TYPE). Etzatlán, *Pringle* 8861 (GH, US), 8862 (Ch, US), 11891 (US); *Rose & Painter* 7542 (US). MICHOACÁN: Coalcomán, *Hinton* 12915 (GH, NY, US).

Since the above cited specimens so closely resemble typical *Ae. villosa*, it seems desirable to consider this taxon another variety of that species, and not to place it in a separate genus, certainly not in *Mimosa*.

Series 2. *Fluminenses* Rudd, ser. nov.

Herbae suffruticosae; stipulae infra insertionem productae, acuminatae, basi acutae vel obtusae; foliola oblonga, 1-costata, costa excentrica; inflorescentiae fasciculatae plerumque foliis breviores; calyx bilabiatus, labio superiore integro vel bifido et labio inferiore trilobato; legumen sessile, altero margine recto, altero crenato.

Suffrutescent herbs; stipules appendiculate below the point of attachment; leaflets more or less oblong, with one excentric costa; inflorescences fasciculate, mostly shorter than the leaves; calyx deeply bilabiate, the vexillar lip entire to bifid, the carinal lip trilobate; fruit

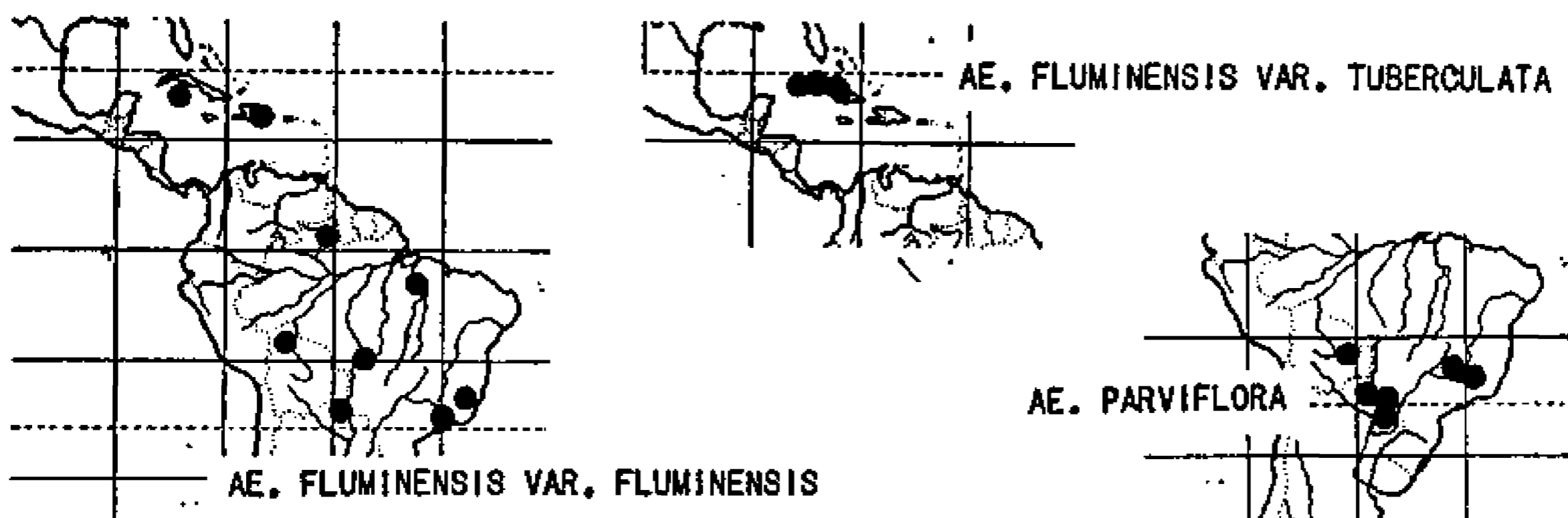


FIGURE 3. Distribution of the *Fluminenses*.

with one margin entire, the other crenate, sessile, the stipe about 1 mm. long.

Aeschynomene fluminensis Vell. is selected as the type of the series.

The *Fluminenses*, with only two known species, appear to be most closely related to the *Americanae*. The fruits of *Ae. fluminensis* are similar to those of *Ae. americana*, and those of *Ae. parviflora* resemble the fruits of *Ae. villosa*. The excentric-veined leaflets suggest the *Americanae*, but differ in having one rather than several costae.

There is also some relationship with the series *Montevidenses* in the distinctly trilobate nature of the carinal lip of the calyx.

5. *Aeschynomene parviflora* Micheli, Vid. Medd. Nat. Foren. Kjøbenh. 66. 1875.

Stem about 1 m. high, glandular-hispidulous to glabrate; stipules about 7 mm. long, subglabrous or moderately hispid, entire, the portion above the point of attachment acuminate, about 5 mm. long, the lower portion about 2 mm. long, acute or truncate; leaves 1–3 cm. long, 12–30-foliolate, the petiole hispidulous, the rachis subglabrous; leaflets oblong, about 5–8 mm. long, 1.5–2 mm. wide; inflorescences few-flowered, the pedicels and peduncles hispidulous, the bracts deltoid-ovate, scarcely 1 mm. long, acuminate to acute, ciliate; flowers 3–4 mm. long; calyx 1.5–2 mm. long; standard about 4 mm. long, spatulate, 2 mm. wide at maximum, glandular-ciliolate along the upper margin; wings about 3.5 mm. long, the claw 1 mm. long, the blade obovate, about 2.5 mm. long and 1.5 mm. wide; keel petals about as long as the wings, slightly arcuate; stamens about 3 mm. long; fruit about 6–9 mm. long, commonly 2- or rarely 3-articulate, the articles about 2 mm. wide, 2.5–3 mm. long, hispidulous, sometimes minutely verrucose; seeds about 1 mm. long and 0.7 mm. wide.

TYPE LOCALITY: Lagôa Santa, Minas Gerais, Brazil. Type collected by Warming (No. 3011), cited below.

DISTRIBUTION: Central and east-central South America, in wet places, at elevations of about 400 m. (fig. 3).

BOLIVIA: SANTA CRUZ: Río Palometilla, *Steinbach* 7995 (Ch, GH, K, Mo, NY).

BRAZIL: MINAS GERAIS: Lagôa Santa, *Warming* 3011 (F. M. neg. 21795 of TYPE ex C). Casa Branca, *Riedel* 769 (NY, US). Carandahy, *Glaziou* 12573 (K, R). Bento Rodrigues, *Ule* 2477 (R).

PARAGUAY: CONCEPCIÓN: Villa Sana, *Fiebrig* 5010 (US). BOQUERÓN?: Gran Chaco, Santa Elisa, *Hassler* 2758 (GH, Mo). CENTRAL?: Lake Ypacaray, *Hassler* 3947 (GH).

As indicated in the key, this species is readily distinguished within the series by its smaller flowers and fruits.

6. *Aeschynomene fluminensis* Vell. Fl. Flum. 310. 1825; Icon. 7: pl. 119. 1835.

Stem up to 4 m. high, glabrous to glandular-hispidulous; stipules 5–10 mm. long, glabrous, ciliolate, often hyaline-margined, striate, the portion above the point of attachment about 4–9 mm. long, acuminate, the lower portion about 1 mm. long, rounded; leaves 6–15 cm. long, 35–50-foliolate, the petiole and rachis glabrous or beset with subglandular hairs; leaflets linear-oblong, about 5–10 mm. long and 1.5–2 mm. wide, entire, sometimes ciliolate, mucronate; inflorescences 1–several-flowered, the pedicels and peduncles glabrous or glandular-

pubescent; bracts caducous, mostly stipule-like, the pair of bracteoles subtending the calyx narrowly ovate, subacute, 2–3 mm. long; flowers 7–10 mm. long; calyx 6–8 mm. long; standard about 7 mm. long, broadly spatulate, the base subcuneate, sparsely clawed, the blade elliptical-ovate, about 6 mm. long, 5 mm. wide at maximum; wings about 8 mm. long, the claw 1 mm. long, the blade oblong, 6–6.5 mm. long, 2–2.5 mm. wide, rounded; keel petals about as long and wide as the wings; stamens about 7 mm. long; fruits commonly 6–8-articulate, the stipe about 1 mm. long, the articles about 5 mm. long and 4 mm. wide, tuberculate, ventricose, glabrous to hispid; seeds about 3 mm. long and 2 mm. wide.

6a. *Aeschynomene fluminensis* var. *fluminensis*.

Aeschynomene fluminensis Vell. Fl. Flum. 310. 1825; Icon. 7, pl. 119. 1835.

Aeschynomene scoparia Splitgerb. Tijdschr. Nat. Gesch. Phys. 9: 109. 1842, non H. B. K. 1824.

The typical variety is characterized by hispid fruits and commonly by considerable pubescence on the stems.

TYPE LOCALITY: "Habitat maritimis ad loca humentia," Rio de Janeiro, Brazil. The type, presumably, is illustrated in table 119, volume 7, of Vellozo's "Icones, Flora Fluminensis."

DISTRIBUTION: Isla de Pinos, Cuba; Hispaniola; and South America, east of the Andes; in wet places at elevations up to about 300 m. (fig. 3).

CUBA: HABANA: Isla de Pinos, *Ekman* 12437 (NY).

DOMINICAN REPUBLIC: SAMANÁ: Sanchez, *Ekman* 14705 (US).

BOLIVIA: BENI: Lake Rogagua, *Rusby* (*Mulford Biol. Expl.*) 826A (US), 1786A in part (NY).

BRAZIL: *Riedel* 924 (Ch, fragment). ESPÍRITU SANTO: Linhares, *Kuhlmann* 205 (US). RIO BRANCO: São Marcos, *Ule* 7787 (NY, US). PARÁ: Jatobá, Rio Tocantins, *Fróes* 27212 (US). MATO GROSSO: Cuyabá, *Malme* 1820 (R). RIO DE JANEIRO: *Riedel* 123 (F. M. neg. 32120 ex W; US).

PARAGUAY: "Chaco, 21° lat.," *Fiebrig* 1457 (K).

LOCAL NAMES: Cortiça (Brazil).

Aeschynomene fluminensis exhibits a more robust growth and distinctly larger flowers and fruits than *Ae. parviflora*, the other species of the series.

The fruits of the typical variety vary from hispid to nearly glabrous, sometimes on the same plant. At least incipient glandular development is apparent. In some cases hairs are present but the basal secretory cells have not developed. *Ekman's* collection No. 12437, from the Isle of Pines, shows considerable reduction of pubescence.

According to *Amshoff* (*Flora of Surinam* 2. 1939), *Ae. scoparia* Splitgerb. is a synonym of *Ae. fluminensis*, presumably of the typical variety.

6b. *Aeschynomene fluminensis* var. *tuberculata* (Griseb.) Rudd, comb. nov.
Aeschynomene tuberculata Griseb. Cat. Pl. Cub. 72. 1866.

This differs from the typical variety in the consistently glabrous nature of the fruits and stems.

TYPE LOCALITY: "Cuba occ.," presumably Pinar del Río. Type collected by C. Wright (No. 2305), cited below.

DISTRIBUTION: Known only from the main island of Cuba, in lagoons (fig. 3).

CUBA: PINAR DEL RÍO: C. Wright 2305 (GH, Mo, NY, US, ISOTYPES). Laguna Jovero, Shafer 10842 (NY). Pinar del Río, Ekman 17879 (US).

LAS VILLAS: Mordozo, León & Cazañas 5947 (NY).

Aeschynomene tuberculata appears to differ from typical *Ae. fluminensis* only in the lack of pubescence on fruits and stems. In view of the instability of indument on the latter, it seems more reasonable to consider *Ae. tuberculata* as a glabrous variant of *Ae. fluminensis* rather than to maintain it as a separate species.

Series 3. *Montevidenses* Rudd, ser. nov.

Herbae erectae vel frutices; stipulae frequenter caducae, infra insertionem productae, acuminatae vel acutae, basi acutae vel obtusae; foliola oblonga, obtusa, 1-costata, costa centrali vel fere centrali; calyx bilabiatus, labio superiore emarginato vel bifido et labio inferiore profunde trilobato; legumen stipitatum.

Erect herbs or shrubs; stems glabrous to sparsely glandular-hispid; stipules appendiculate below the point of attachment, usually caducous, glabrous; leaflets oblong-elliptic, obtuse, entire, the base obliquely rounded, the costa essentially central; inflorescences usually 2-4-flowered, the peduncles and pedicels usually glandular-hispidulous, sometimes glabrous, the bracts decreasingly stipule-like toward the apex of the rachis, glabrous; calyx glabrous, deeply bilabiate, the vexillar lip emarginate or 2-lobed, the carinal lip deeply 3-lobed; fruit relatively long-stipitate.

Aeschynomene montevidensis Vog. is designated as the type of the series.

The *Montevidenses* series is readily separable from the preceding two series by its leaflets, which have a single costa, centrally placed. From the two other series of § *Aeschynomene*, the *Sensitivae* and the *Indicae*, it is best recognized by the calyx with its deeply 3-lobed carinal lip.

Turczaninow proposed the genus *Macromiscus*, which he distinguished from *Aeschynomene* on the basis of the stamen tube—with

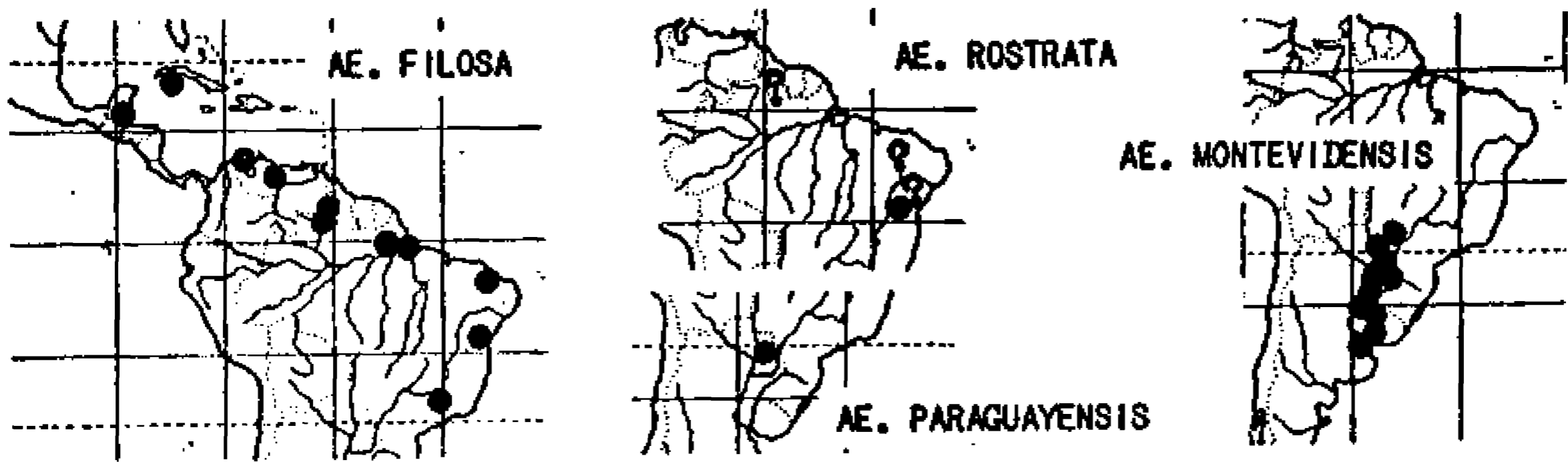


FIGURE 4. Distribution of the *Montevidenses*.

the filaments more or less united, not forming two groups of five stamens each, and the lower lip of the calyx (vexillar lip) undivided: "nec adelphiis duabus pentandris, atque calycis labio inferiore indiviso."

Apparently his acquaintance with the genus *Aeschynomene* was limited since those two conditions are not uncommon and are not usually considered sufficient grounds for generic segregation. The two species ascribed to *Macromiscus* are here included in *Aeschynomene*, in the series *Montevidenses*, one under *Ae. rostrata*, the other as a synonym of *Ae. montevidensis*.

7. *Aeschynomene filosa* Mart. ex Benth. in Mart. Fl. Bras. 15 (pt. 1): 61. 1859.
Aeschynomene tenerrima Robins. Proc. Am. Acad. 49: 503. 1913.
Aeschynomene laxa Gleason, Bull. Torr. Bot. Club 56: 395. 1929.

Stem to about 1 m. high; stipules linear, 8–15 mm. long, entire, the margin usually somewhat hyaline, the portion above the point of attachment 5–10 mm. long, acute to acuminate, the lower portion 3–5 mm. long, acute to erose-truncate; leaves about 4–7 cm. long, mostly 40–65-foliolate, the petiole and rachis glabrous to sparsely glandular-hispidulous; leaflets 3–5 mm. long, 1–1.5 mm. wide; bracts stipule-like but smaller, the bracteoles linear-ovate, acute, about 2 mm. long; flowers 4–6 mm. long; calyx 2–3 mm. long; standard commonly 5 mm. long, spatulate, the narrowed base about 2 mm. long, the blade about 3 mm. in diameter, the apex rounded or emarginate; wings about 5 mm. long, the claw 1 mm. long, the blade about 4 mm. long and 1 mm. wide at maximum; keel petals about the same size as the wings; stamens about 3.5 mm. long; fruit 1–4- (commonly 2-) articulate, moniliform, the stipe 7–10 mm. long, sparsely glandular-hispidulous to glabrous, the articles orbiculate or nearly so, 2.5–3 mm. wide, 3–4 mm. long, subglabrous, somewhat veiny, smooth or slightly verrucose, the margins thickened; seeds 2–2.5 mm. long, 1.5–2 mm. wide, smooth, black.

TYPE LOCALITY: Cachoeira (as "Caxoeira"), Bahia, Brazil. Type collected by Martius, cited below.

DISTRIBUTION: Chiefly in northern and eastern South America; also in Cuba and British Honduras, in swamps (fig. 4).

BRITISH HONDURAS: TOLEDO: Yaccos Lagoon, Peck 900 (GH, TYPE of *Ae. tenerrima*).

CUBA: HABANA: Isla de Pinos, Ekman 12032 (NY).

VENEZUELA: GUÁRICO: El Socorro, Burkart 17203 (US).

COLOMBIA: GOAJIRA: Dawe 556 (US).

BRAZIL: AMAPÁ: Macapá, Fröes & Black 27304 (IAN). RIO BRANCO: Frechal, south of Mount Roraima, Tate 10 (NY, TYPE of *Ae. laxa*). São Marcos, Ule 7783 (K). "Lagoa de Maruay," Luetzelburg 21115 (R). PARÁ: Soure, Black & Camargo 50-8841 (US), Black, & Lobato 50-9138 (IAN). Ilha do Marajó, Black & Engelhard 50-8933 (IAN), Black, Ledoux & Stegemann 52-14429 (US). PIAUÍ: Lagôa Grande, Luetzelburg 1404 (R). CEARÁ: Fortaleza, Drouet 2290 (CH, GH, NY, R, US), 2497 (CH, GH). PARAÍBA: Serra da Borborema, Luetzelburg 12526 (R). BAHIA: Cachoeira, Martius (F. M. neg. 6270, presumably of TYPE ex M). MINAS GERAIS: Santa Terezinha, Macedo 1638 (Mo.) Caraça, Glaziou 12571 (K).

LOCAL NAMES: Catinga de Bode (Brazil).

Aeschynomene filosa is readily distinguished from the other species of the series by its small flowers, fruits, and leaflets. In most specimens the fruits, with their two orbiculate articles, are distinctive. A suture below the first article suggests that one or more basal ovules have aborted and their articles fused to become a part of the stipe.

The type specimens of *Ae. tenerrima* and of *Ae. laxa* are in no way distinct from material of *Ae. filosa*, both of those species being placed in synonymy in this paper. The petal measurements of *Ae. tenerrima* as stated in the original description, "ca. 2-2.5 mm. longis," were obviously based on immature flowers. Mature, persistent calyces on the type specimen are about 3 mm. long, indicating that the mature flowers were 4-6 mm. long.

8. *Aeschynomene rostrata* Benth. in Mart. Fl. Bras. 15 (1): 60. 1859.

Macromiscus glandulosus Turcz. Bull. Soc. Nat. Mosc. 20 (1): 174. 1847, non *Aeschynomene glandulosa* Poir. 1816, nec *Ae. glandulosa* Bello, 1881.

Stem suffrutescent, 1-3 meters high; stipules 4-18 mm. long, the upper portion lanceolate, acuminate, 3-13 mm. long, 1-2 mm. wide, the lower portion rounded or truncate, 1-5 mm. long; leaves 2-4 cm. long, 20-60-foliolate, the petiole and rachis glabrous or sparsely glandular-hispid; leaflets 3-10 mm. long, 1-2 mm. wide, somewhat glaucous; bracts stipule-like to oblong-ovate, the pair subtending the calyx 2-3 mm. long, about 1 mm. wide, obtuse to acute, minutely crenulate; flowers (6?-) 8-12 mm. long (8 lin. fide Bentham); calyx (3.5?-) 5-6 mm. long; standard (6?-) 8-12 mm. long, the claw 1-2 mm. long, the blade suborbiculate, 5-13 mm. in diameter, repand, entire; wings about as long as the standard, the claw 1 mm. long or less,

the blade (3?-) 5 mm. wide; keel slightly shorter than the other petals, arcuate, the blades (2?-) 3-4 mm. wide, the apex somewhat rostrate; stamens 6-12 mm. long; fruit 1-5-articulate, the stipe 10-12 mm. long, glabrous or hispidulous, the articles membranous, 3-4 mm. wide, 4-6 mm. long, glabrous; seeds about 2 mm. wide and 3 mm. long, black (on smaller specimens but not seen on others).

TYPE LOCALITY: Serra da Jacobina, Bahia, Brazil. Type collected by Blanchet (No. 2646), cited below.

DISTRIBUTION: British Guiana ? and eastern Brazil (fig. 4).

?BRITISH GUIANA: Kurasabai savanna, Pakaraima Mountains, *Myers* 2924 (US).

BRAZIL: ? CEARÁ: *Allemão* 353 in part (R). BAHIA: Serra da Jacobina, *Blanchet* 2646 (Ch?; F. M. neg. 2148 of ISOTYPE ex B). ? Joazeiro, *Zehntner* 140 (R).

Originally described as *Macromiscus glandulosus*, Bentham, in reducing that genus to *Aeschynomene*, proposed the species name *rostrata* to avoid homonymy.

There is some doubt in my mind as to the identity of this taxon. I do not know the specimen of the Blanchet collection No. 2646 on which Turczaninow based his original description, nor have I seen the material which Bentham used for his description in "Flora Brasiliensis." I am relying on a photograph of a Blanchet No. 2646 specimen ex Berlin. Another sheet, almost sterile, of the same collection number from Chicago, and originally from the British Museum, appears to be different, possibly *Ae. sensitiva*. The three additional collections which I have tentatively cited agree with the material of the Berlin photograph, except that the flowers are much smaller and the fruits slightly so. They resemble *Ae. filosa* except that the fruit stipes are slightly longer and the elliptical articles lack the thickened margins. I have seen no other material which agrees exactly with the dimensions of the Berlin specimen.

9. *Aeschynomene paraguayensis* Rudd, nom. et stat. nov.

Aeschynomene selloi Vog. forma *scabra* Chod. & Hass. Bull. Herb. Boiss. II. 4: 883. 1904.

Shrub 2-4 m. high; stipules about 20 mm. long, the upper portion ovate, acuminate, about 15 mm. long and 7 mm. wide, the lower portion rounded, about 5 mm. long and 4 mm. wide; leaves 5-6 cm. long, 12-20-foliolate, the petioles and rachises somewhat glandular-hispidulous; leaflets about 10-15 mm. long, 4-5 mm. wide, the principal nerves dark reddish, conspicuous on the lower surface; bracts showy, broadly ovate, about 10-15 mm. long, 8-10 mm. wide, acute, entire to crenate, ciliate; bracteoles elliptic-obovate, obtuse, about 10 mm. long and 5 mm. wide, shallowly crenate, ciliate; flowers about 20-25 mm. long; calyx 8-10 mm. long; standard about 20-25

mm. long, the claw 4–5 mm. long, the blade broadly ovate, rounded, entire, 18–20 mm. long, 20–25 mm. wide at maximum; wings about as long as the standard, the claw 3 mm. long, the blade 18–20 mm. long, 10–12 mm. wide, crenulate, glandular-ciliate; keel about 20 mm. long, the claws 5 mm. long, the blades about 15 mm. long and 6 mm. wide; stamens about 15 mm. long; fruit 6–8-articulate, the stipe about 15 mm. long, sparsely hispidulous, the articles subglabrous, glandular-hispidulous along the margins, about 6 mm. long and 4.5 mm. wide; seeds dark brown, about 3 mm. long and 2 mm. wide.

TYPE LOCALITY: Cordillera de Piribebuy, Paraguay, "in palude." Type collected by Hassler (No. 6694).

DISTRIBUTION: Known only from the type collection (GH, Mo) (fig. 4).

With its large flowers, the largest in this series, *Ae. paraguayensis* is one of the showiest of the American species of *Aeschynomene*. Unfortunately, it is known only from the type collection. The bracts and stipules are conspicuously larger than those of any other species of *Aeschynomene* native to America.

This taxon is believed to warrant specific recognition rather than to remain as a form of *Ae. selloi*. In fact, in this paper the two taxa are placed in different series and are not considered to be closely related.

10. *Aeschynomene montevidensis* Vog. *Linnaea* 12: 83. 1838.

Macromiscus brasiliensis Turcz. *Bull. Soc. Nat. Mosc.* 19(2): 507. 1846.

Aeschynomene montevidensis var. *microphylla* Chod. & Hass. *Bull. Herb. Boiss.* II, 4: 883. 1904.

Shrub 1–3 m. high; stipules 5–15 mm. long, the upper portion lanceolate, acuminate, about 4–12 mm. long, 1–2 mm. wide, the lower portion rounded, subentire, 1–3 mm. long; leaves usually 3–8 cm. long, about 25–70-foliolate, the petiole and rachis glabrous or sparsely glandular-hispid; leaflets 1.5–10 mm. long, 1–3 mm. wide, sometimes lightly glaucous, the principal veins dark reddish, conspicuous on the lower surface; bracts ovate, about 5–7 mm. long, 3–4 mm. wide, acute, entire to subcrenate, sometimes ciliate; bracteoles ovate-oblong, acute, 5–7 mm. long, 2–3 mm. wide, subacute, somewhat crenate and ciliate; flowers 13–18 mm. long; calyx 6–10 mm. long; standard commonly about 17 mm. long, the claw 2 mm. long, the blade ovate-orbiculate, about 15 mm. in diameter, emarginate, repand, entire; wings about 17 mm. long, the claw 3 mm. long, the blade about 14 mm. long and 7 mm. wide, obtuse, the base attenuate, the upper margin crenulate, usually glandular-ciliate; keel petals about 18 mm. long, the claw 3 mm. long, the blade about 15 mm. long and 6 mm. wide at maximum; stamens about 17 mm. long; fruit 3–7-articulate, the upper edge straight or slightly curved, the lower edge crenate, the stipe about 10

mm. long, hispid, the articles about 7 mm. long and 5 mm. wide, glabrous, verrucose; seeds about 4 mm. long and 2 mm. wide, dark brown.

TYPE LOCALITY: Montevideo, Uruguay (as "Brazil"). Type collected by Sellow, cited below.

DISTRIBUTION: Brazil, Paraguay, Uruguay, and Argentina in the region of the Río Paraná, in wet areas (fig. 4).

BRAZIL: Mato Grosso: Campo Grande, *Archer & Gehrt* 30 (US).

URUGUAY: SALTO: Rincón del Dayman, *Osten* 5370 (US). RÍO NEGRO: San Javier, *Herter* 82859 (US). SORIANO: Mercedes, *Osten* 251 (GH). COLONIA: Río San Juan, *Cabrera* 3217 (NY). SAN JOSÉ: Rincón de Arazati, *Legrand* 494 (Ch). MONTEVIDEO: Montevideo, *Sellow* (F. M. neg. 2150 of TYPE ex B; Ch fragment, GH, Mo).

PARAGUAY: "Sud-Paraguay," *Kuntze*, Sept. 1892 (NY). CONCEPCIÓN: Río Apa, *Hassler* 8125 (GH, Mo). Estrella, *Fiebrig* 4270 (GH). ALTO PARANÁ: Río Paraná, *Fiebrig* 5646 (GH, K, US), 6136 (GH, US). CENTRAL: *Morong* 400 in part (US). LUGUE, *Morong* 310 (Ch, GH, Mo, NY, US). Ypacaray, *Hassler* 12314 (GH, Mo, US). CORDILLERA: Cordillera de Altos, *Hassler* 400 (NY); *Fiebrig* 210 (Ch, GH, US). GUAIRÁ: Villarrica, *Jørgensen* 3631 (Ch, Mo, NY, US). CAAGUAZU: Igatimí, *Hassler* 4816 (GH). Curuguaty, *Hassler* 4587 (NY ISOTYPE of *Ae. montevidensis* var. *microphylla*).

ARGENTINA: CORRIENTES: La Cruz, *Burkart* 8191 (GH). Mercedes, *Rodrigo* 746 (NY). Goya, *Curran* 218 (US). Near Arroyo Ibicuy, *Pedersen* 829 (US). MISIONES: Santa Ana, *Rodríguez* 768 (Ch). Posadas, *Ekman* 1724 (NY, US), 1725 (Mo). San Javier, *Clos* 2133 (GH). ENTRE RÍOS: Concepción del Uruguay, *Lorentz* 89a (GH). BUENOS AIRES: *Tweedie* (GH). Belgrano, *Barros* 767 (US). Eva Perón [La Plata], *Krapovickas* 2704 (GH, Mo, US); *Dawson* 343 (NY). Punta Lara, *Cabrera* 730 (NY); *Atkinson*, Jan. 1947 (US). Arroyo Tuyuparé, *Scala* 172 (NY), 178 (NY). Isla Santiago, *Cabrera* 1999 (NY). Tigre, *Bartlett* 19271 (US).

This seems to be the most abundantly collected species of the series. As indicated in the key, the dimensions of the fruits and flowers separate *Ae. montevidensis* from *Ae. filosa* and *Ae. rostrata*, and the size of the flowers, bracts, and leaflets separate it from *Ae. paraguayensis*.

The variety *microphylla* does not seem worthy of retention. Although there are microphyllous specimens, there also are specimens which show considerable gradation in size of leaflets. The flowers and fruits of var. *microphylla* appear to be the same as those of typical *Ae. montevidensis*.

Manganaro (Anal. Soc. Cient. Arg. 87:142. 1919) believed that *Ae. bonariensis* represented robust secondary growth of *Ae. montevidensis*. However, a fragment of the type of *Ae. bonariensis*, kindly sent me by Dr. Burkart of San Isidro, Argentina, is referable, I believe, to *Ae. rudis*.

I do not know the type specimen of *Macromiscus brasiliensis*, and its exact source is in doubt. The original description states: "In

Brasilia e collectione mihi ignota." Bentham placed it in synonymy under *Ae. montevidensis*, which, on the basis of the description, appears to be correct.

Series 4. *Sensitivae* Rudd, ser. nov.

Herbae, nonnunquam suffruticosae, erectae, nigrescentes; stipulae saepe caducae, infra insertionem productae, acuminatae vel acutae, basi acutae vel eroso-truncatae; foliola oblonga, obtusa vel subacuta, basi obliqua, supra puncticulata, 1-costata, costa centrali vel fere centrali; calyx bilabiatus, labiis fere integris vel subdenticulatis; legumen stipitatum, fuscum.

Erect herbs, sometimes suffrutescent, blackening on drying; stipules appendiculate below the point of attachment, mostly caducous, the

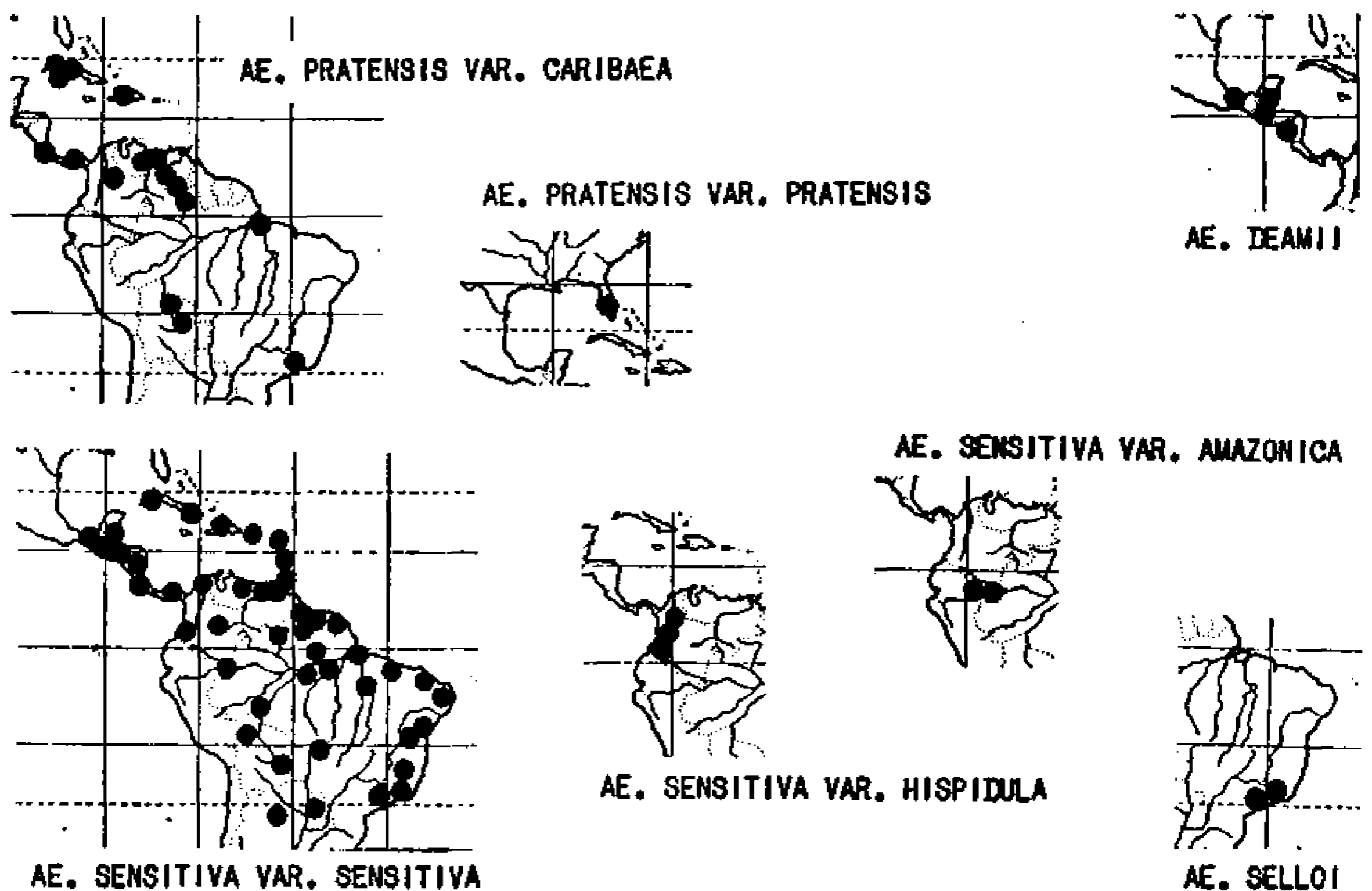


FIGURE 5. Distribution of the *Sensitivae*.

upper portion acute to acuminate, the lower portion acute or erose-truncate; leaflets oblong, obtuse to subacute, the base obliquely rounded, the upper surface minutely punctate, the costa essentially central; inflorescences few-flowered, racemose, axillary; calyx bilabiate, the lips entire or subdenticulate; fruit dark brown or blackish when mature.

Aeschynomene sensitiva Sw. is selected as the type of the series.

11. *Aeschynomene pratensis* Small, Bull. N. Y. Bot. Gard. 3: 423. 1905.

Stem 1-2 meters tall, herbaceous or suffrutescent, glabrous or sparsely hispid; stipules entire, 5-15 mm. long, 1.5-2 mm. wide, at-

tached slightly below the midpoint, the upper portion acuminate, the lower usually truncate, erose; leaves 4–7 cm. long, commonly 20–25-foliolate, the petioles and rachises glabrous or sparingly beset with glandular hairs; leaflets about 5–10 mm. long, 1.5–2.5 mm. wide, the secondary veins inconspicuous; peduncles and pedicels glabrous to hispid; bracts 4–5 mm. long, 1–2 mm. wide, stipule-like, attached slightly below the midpoint, the margin sometimes hyaline, entire, sometimes sparsely ciliate; bracteoles ovate, subacute, 3–4 mm. long, 1.5–2 mm. wide, usually hyaline-margined; flowers 7–12 mm. long; calyx 4–6 mm. long, the vexillar lip subentire to 2-denticulate, the carinal lip 3-denticulate; standard 7–12 mm. long, the claw 2–3 mm. long, the blade suborbiculate, about 6–9 mm. long, 5–9 mm. wide, sparsely ciliate; wings about as long as the standard, the claw 1 mm. long, the blade 6–10 mm. long, 3–4 mm. wide, sometimes ciliate; keel falcate, the claws about 1 mm. long, the blades 6–9 mm. long, 3 mm. wide at maximum; stamens 7–10 mm. long; fruit commonly 5–9-articulate, the stipe 8–15 mm. long, glabrous or sparingly hispid, separated from the basal article by a suture, the articles 5–8 mm. long, 4–6 mm. wide, glabrous or nearly so, reticulate-veiny, verrucose at maturity; margins of fruit usually both crenate, sometimes one margin subentire; seeds 4–5 mm. long, 2.5–3 mm. wide, dark brown.

11a. *Aeschynomene pratensis* var. *pratensis*.

Aeschynomene pratensis Small, Bull. N. Y. Bot. Gard. 3: 423. 1905.

Flowers 10–12 mm. long, the calyx 5–6 mm. long; fruit with stipe 10–15 mm. long, the articles 7–8 mm. long, 5–6 mm. wide.

TYPE LOCALITY: Florida, in Everglades west of Camp Jackson, Dade County. Type collected by Small and Wilson (No. 1960), cited below.

DISTRIBUTION: Known only from the Everglades of Florida (fig. 5).

UNITED STATES: FLORIDA: Dade County: Camp Jackson, *Small & Wilson* 1960 (Ch, NY TYPE). Between Camp Jackson and Long Key, *Small & Carter* 3024 (NY). Long Key, *Small & Carter* 3023 (NY), 3091 (NY). Long Prairie, *Small & Carter* 2564 (NY). Paradise Key, *Britton* 233 (Ch, NY); *Killip* 41210 (US). Monroe County: Flamingo, *Small, Small & DeWinkeler* 11534 (NY).

11b. *Aeschynomene pratensis* var. *caribaea* Rudd, var. nov.

A varietate typica floribus fructibusque minoribus differt.

The flowers and fruit are consistently smaller than those of the typical variety, the flowers 7–10 mm. long, the calyx 4–5 mm. long; the fruit with stipe about 8–10 mm. long, the articles 5–6 mm. long, 4–5 mm. wide.

TYPE: In the U. S. National Herbarium, No. 521919, collected near Nueva Gerona, Isla de Pinos, Cuba, Jan. 19, 1904, by A. H. Curtiss (No. 300). Duplicates at Ch, GH, Mo, NY.

DISTRIBUTION: Chiefly in the Caribbean area and southward to central South America, in wet places; also in the Old World tropics, apparently introduced (fig. 5).

COSTA RICA: PUNTARENAS: Buenos Aires, *M. Valerio* 859 (Ch), 922 (Ch). SAN JOSÉ: El General, *Skutch* 2464 (Mo, NY, US).

PANAMÁ: *Seeman* 203 (GH). COCLÉ: Aguadulce, *Pittier* 4918 (US). Penonomé, *R. S. Williams* 130 (NY, US). Between Las Margaritas and El Valle, *Woodson, Allen, & Seibert* 1768 (NY, US). CANAL ZONE: Between Fort Clayton and Corozal, *Standley* 29092 (US). PANAMÁ: Panamá, *Paul* 568 (US); *Standley* 27818 (US). Los Sabanas, *Standley* 25938 (US), 40770 (US); *Heriberto* 296 (US). Chepo, *Pittier* 4549 (US). Nuevo San Francisco, *Standley* 30753 (US). Between Matías Hernández and Juan Díaz, *Standley* 31964 (US). Juan Díaz, *Standley* 30514 (US).

CUBA: *C. Wright* 2304 in part (GH, Mo, US). PINAR DEL RÍO: Laguna Jovero, *Shafer* 10839 (Ch, Mo, NY, US); *Killip* 32341 (US). Mantua to Arroyas, *Shafer* 11231 (Mo, NY, US). Herradura, *Britton & Gager* 6933 (NY, US). HABANA: Isla de Pinos, *Ekman* 11877 (Ch); *Killip* 42561 (US), 43167 (US); *Alain & Killip* 2096 (US). MATANZAS: Itabo, *León, Edmund, & Roca* 9640 (NY). LAS VILLAS: Cieneguita, *Combs* 409 (Ch, GH, Mo, NY). Manacas, *León & Cazañas* 5891 (NY).

HAITI: NORD: Dondon, *Ekman* H-8280 (US).

DOMINICAN REPUBLIC: DUARTE: Villa Riva, Almacén, *W. L. Abbott* 539 (US). LA VEGA: Bonaio, *Valeur* 384 (Ch, Mo, UC, US). Sierra Prieta, *Jiménez* 1150 (US). Piedra Blanca, *Allard* 14816 (US). SEIBO: Higüey, *Taylor* 394 (NY).

VENEZUELA: "Llanos de Venezuela," *Elias* 624 (Ch). COJEDES: San Carlos, *Rudd* 366 (US). BOLÍVAR: La Paragua, *Killip* 37605 (US). Santa Elena, *Tamayo* 2779 (US). ANZOÁTEGUI: Santamé, *Pittier* 15160 (Ven).

COLOMBIA: Boyacá: La Poyata, *Cuatrecasas* 4472 in part (US).

BOLIVIA: BENI: Mamoré, *Werdermann* 2214 (Mo). SANTA CRUZ: Buena Vista, *Steinbach* 5334 (GH), 5505 (GH, NY).

BRAZIL: RIO BRANCO: Rio Cantá, *Black* 51-13847½ (US). Boa Vista, *Black* 51-14095 (US). RIO DE JANEIRO: Belém, *Glaziou* 8631 (K).

This is distinguished from the typical variety by its smaller flowers and fruits. It is distinguished from *Ae. sensitiva* var. *sensitiva*, to which it is apparently closely related, by its slightly larger flowers and by the suture between the stipe and first article. This suture appears to be due to abortion of basal ovules, which have been absorbed by the stipe. The flowers are about the same size as those of *Ae. sensitiva* var. *hispidula*, but the fruit and stem indument are quite different.

12. *Aeschynomene selloi* Vog. Linnaea 12: 82. 1838.

Stem to about 4 m. high, somewhat hispid above, glabrous or glabrate below; stipules 8-15 mm. long, 2-4 mm. wide, the margin subentire, the portion above the point of attachment 6-12 mm. long, acute, the lower portion 2-3 mm. long, acute or erose-truncate; leaves about 3-5 cm. long, 18-30-foliolate, the petiole and rachis subglabrous to glandular-hispidulous; leaflets about 8-12 mm. long, 2-3 mm. wide, the secondary veins inconspicuous or dark reddish; peduncles and

pedicles glabrous to hispidulous; bracts stipule-like, diminishing in length toward the flowers, the uppermost about 5 mm. long, sometimes hispid near the point of attachment; bracteoles ovate, acute, about 4 mm. long and 2 mm. wide; flowers 14–20 mm. long; calyx 8 mm. long, the vexillar lobe entire or obscurely 2-denticulate, the carinal lobe entire or obscurely 3-denticulate; standard commonly about 15 mm long, the claw 2 mm. long, the blade suborbiculate, about 13 mm. long and 10 mm. wide, usually ciliate; wings about 11 mm. long, the claw 1 mm. long, the blade about 10 mm. long and 5 mm. wide, usually ciliate; keel petals falcate, the claw 1–1.5 mm. long, the blade 12–13 mm. long, about 4 mm. wide; stamens about 15 mm. long; fruit almost black when mature, commonly 8–10-articulate, the stipe about 12–15 mm. long, glabrous or sparsely hispid, the articles about 10 mm. long and 6 mm. wide, glabrous or sparsely hispid, the upper margin of fruit nearly straight, the lower margin crenate; seeds 4–5 mm. long, 2–3 mm. wide.

TYPE LOCALITY: Rio de Janeiro, Brazil. Type collected by Sellow, cited below.

DISTRIBUTION: Brazil, Rio de Janeiro and eastern São Paulo (fig. 5).

BRAZIL: RIO DE JANEIRO; *Sellow* (Ch fragment, presumably of TYPE ex B). São Gonçalo, *Glaziou* 8632 (NY, R). Campos, Fazenda Cacomanga, *Sampaio* 8535 (R). SÃO PAULO: Campinas, *Novae* 247 (US).

LOCAL NAMES: Rolha de garrafa (Brazil).

This species is distinguished from others of the series by its large flowers and its fruits with their relatively long articles.

In "Flora Brasiliensis," Bentham, in citing *Ae. selloi*, included a Martius collection from the Upper Amazon and, apparently, used that as the model for his illustrative plate. However, I believe that to be a separate entity which in this paper is treated as *Ae. sensitiva* var. *amazonica*.

13. *Aeschynomene deamii* Robins. & Bartl. Proc. Amer. Acad. 43: 52. 1907.

Stem about 2–4 m. high, glabrous; stipules about 15 mm. long and 2.5 mm. wide, usually hyaline-margined, the portion above the point of attachment 12 mm. long, acuminate, the lower portion 3 mm. long, truncate-erose; leaves 5–7 cm. long, about 12–20-foliolate, the petiole and rachis glabrous to hispidulous; leaflets commonly 15 mm. long and 3 mm. wide, the largest about 20 mm. long and 4 mm. wide, the lower surface somewhat lighter than the upper, the veins conspicuously dark reddish; bracts stipule-like, decreasing in size toward the flowers, the uppermost about 5 mm. long; bracteoles ovate, acute, about 4 mm. long and 2 mm. wide; peduncles and pedicels glabrous; flowers 8–14 mm. long; calyx about 8 mm. long, the vexillar lip obtuse, entire, the carinal lip acute, entire; standard obovate, not distinctly

clawed, about 10–12 mm. long, 8–10 mm. wide at maximum, entire, rounded or retuse; wings 10–12 mm. long, the claw 3–4 mm. long, the blade 7–8 mm. long, 4–5 mm. wide, entire; keel petals slightly shorter than the other petals, the claw 2–3 mm. long, the blade 6–7 mm. long, 3–4 mm. wide; stamens 10–12 mm. long; fruit commonly 12–14-articulate, the stipe about 5–8 mm. long, glabrous, the articles 5–7 mm. long and wide, glabrous, the upper edge of fruit entire, the lower edge entire or slightly crenate; seeds 4–5 mm. long, about 3 mm. wide, brown.

TYPE LOCALITY: In marsh at base of old fort at outlet of Lake Izabal, San Felipe, Guatemala. Type collected by C. C. Deam (No. 26), cited below.

DISTRIBUTION: Southern México to Nicaragua, in marshes (fig. 5).

MÉXICO: VERA CRUZ: Fortuño, *Ll. Williams* 8489 (Ch), 8943 (Ch). TABASCO: Between Mayito and San Rafael, *Rovirosa* 766 (NY).

GUATEMALA: PETÉN: Uxactún, *Bartlett* 12351 (Ch, NY, UC). IZABAL: San Felipe, *Deam* 26 (Ch, GH TYPE, Mo, NY, US); *Steyermark* 39599 (Ch). Entre Ríos, *Kuylen*, Feb. 23, 1927 (US).

BRITISH HONDURAS: BELIZE: Northern River, *Gentle* 1365 in part (CH, US). TOLEDO: Río Grande, *Peck* 760 (GH, K).

NICARAGUA: *C. Wright*, in 1853–56 (GH, NY, US). Isla de Ometepe, *Shimek & Smith* 135 (US).

LOCAL NAMES: Chipili, añilillo (México).

The large flowers distinguish *Ae. deamii* from all other species of the series, with the exception of *Ae. selloi*. From that, the fruits with 12–14 quadrate articles are sufficiently different to avoid confusion.

14. *Aeschynomene sensitiva* Sw. Prodr. Veg. Ind. Occ. 107. 1788.

Stem up to about 4 m. high, glabrous or glabrate below, the upper, fruiting branches glabrous to densely hispidulous; stipules 5–20 mm. long, 1.5–5 mm. wide, the margin subentire, the portion above the point of attachment 3–15 mm. long, acute to acuminate, the lower portion 2–6 mm. long, truncate, erose; leaves 2–10 cm. long, 10–40-foliolate, the petiole and rachis hispidulous; leaflets 4–15 mm. long, 1.5–3 mm. wide, rarely with a few marginal hairs, the veins often dark reddish; peduncles and pedicels subglabrous to densely hispidulous; bracts stipule like, entire to ciliate-laciniate, decreasing in size toward the flowers, the smallest about 3–4 mm. long and 1.5 mm. wide; bracteoles ovate, subacute, 1.5–5 mm. long, 1–2 mm. wide, entire, sometimes ciliate; flowers 5–9 mm. long; calyx 4–8 mm. long, usually ciliate, the vexillar lobe emarginate or subdenticulate, the carinal lobe obscurely 3-dentate; standard commonly 6–8 mm. long, the claw 1.5–2 mm. long, the blade suborbiculate, 4.5–6 mm. in diameter, ciliate, sometimes retuse; wings and keel about as long as the standard, the claws 0.5–1 mm. long, the blades 3.5–7 mm. long, 2.5–3.5 mm. wide;

stamens about 5–7 mm. long; fruit 4–12-articulate, the stipe 4–8 mm. long, glabrous or nearly so, the articles 5–7 mm. long, 4–7 mm. wide, glabrous to sparingly hispid, smooth to verrucose, the upper margin of fruit essentially entire, the lower crenate or nearly entire; seeds 3–4 mm. long, 2.5–3 mm. wide, brown.

14a. *Aeschynomene sensitiva* var. *sensitiva*.

Aeschynomene sensitiva Sw. Prodr. Veg. Ind. Occ. 107. 1788.

Aeschynomene sensitiva Beauv. Fl. Owar. 1: 89, t. 53. 1806.

Aeschynomene sulcata H. B. K. Nov. Gen. & Sp. 6: 530. 1824.

Aeschynomene macropoda var. *belvesii* DC. Prodr. 2: 320. 1825.

Aeschynomene honesta Nees & Mart. Nov. Act. Nat. Cur. 12: 32. 1826.

Aeschynomene belvesii attributed to DC. by Kosteletzky in Allg. Med.-pharm. Flora 4: 1285. 1835.

Cassia paramariboensis Miq. Ann. & Mag. Nat. Hist. 11: 15. 1843.

Aeschynomene fistulosa Bello, Anal. Soc. Esp. Hist. Nat. 10: 259. 1881.

Aeschynomene sensitiva forma *paucifoliolata* Chod. & Hass. Bull. Herb. Boiss. II. 4: 883. 1904.

The typical variety is characterized by plants which are glabrous to moderately hispidulous, the upper fruiting portion having the greatest development of glandular hairs; the flowers are 4–8, commonly 5–6, mm. long; the fruits are glabrous to sparsely hispid, usually 5–8- (rarely 10-) articulate.

TYPE LOCALITY: West Indies, no exact locality or collection specified. Figure 2 of plate 149 in Plumier's "Icones" (1693) presumably is based on the type specimen.

DISTRIBUTION: Wet places in the West Indies, southern México, Central and South America, chiefly at low elevations; also in the Old World tropics, apparently as an introduction (fig. 5).

MÉXICO: TABASCO: "Sancti Joannis Baptistoe," *Rovirosa* 466 (NY, US). CHIAPAS: Tapachula, *Fisher* 35266 (Ch, Mo, NY, US).

GUATEMALA: "Eastern portions of Vera Paz and Chiquimula," *Watson* 18 (GH). BAJA VERAPAZ: Salamá, *Kellerman* 6409 (Ch). IZABAL: Jocoló, *Johnson* 1302 (US). Livingston, *von Türckheim* (II 1127) 8665 (US). Río Dulce, *J. D. Smith* 1774 (GH, US). San Felipe, *Steyermark* 39697 (Ch). Puerto Barrios, *Standley* 72136 (Ch), 72191 (Ch). SAN MARCOS: Ayutlá, *Steyermark* 38027 (Ch). ESCUINTLA: Escuintla, *J. R. Johnston* 966 (Ch, NY); *Standley* 89295 (Ch), 89616 (Ch).

HONDURAS: SANTA BÁRBARA: San Pedro Sula, *Thieme* 5213 (Ch, GH, NY, US). COMAYAGUA: Comayagua, *Standley & Chacón* 5976 (Ch). Pito Solo, *J. Valerio* 2938 (Ch, UC). ATLÁNTIDA: Tela, *Standley* 53528 (Ch, US), 53593 (Ch, US), 53707 (Ch, US), 56632 (Ch, US); *van Severén* 28 (US).

BRITISH HONDURAS: STANN CREEK: Stann Creek, *Schipp* 64 (Ch, GH, Mo, NY, UC, US). Sittee River, *Peck* 851 (GH). BELIZE: Jones Lagoon, *Gentle* 1479 (Ch, Mo).

NICARAGUA: JINOTEGA: Jinotega, *Standley* 10589 (Ch). CHONTALES: La Libertad, *Standley* 8883 (Ch), 9125 (Ch).

COSTA RICA: PUNTARENAS: Boca Zacate, *Pittier* 6814 (US). CARTAGO: Río Turrialba, *Stork* 3223 (Ch).

PANAMÁ: CANAL ZONE: Gamboa, *Allen* 1976 (GH, Mo, US). Frijoles, *Piper* 5182 (US). Barro Colorado Island, *Banham* 505 (Ch); *Kenoyer* 386 (US); *Starry* 256 (Ch); *Shattuck* 624 (Ch); *Bailey & Bailey* 300 (Ch); *Wetmore & Abbe* 215 (Ch, GH); *Woodworth & Vestal* 401 (Ch). Between Corozal and Ancón, *Pittier* 2647 (GH, NY, US). Darien, *Macbride* 2706 (Ch, Mo, US). COLÓN: Chagres, *Fendler* 100 (Mo, US).

CUBA: C. *Wright* 2304 in part (Mo, NY, US). PINAR DEL RÍO: Pinar del Río, *Ekman* 18246 (GH, NY, US). Between Pinar del Río and Coloma, *Britton, Britton, & Cowell* 10077 (NY). Bramales, *Ekman* 10573 (Mo). Mantua to Arroyos, *Shafer* 11231 (Mo). HABANA: *Van Hermann* 224a (Ch). San Pedro, *León* 7202 (NY). ORIENTE: Yara to Manzanillo, *Shafer* 12362 (Ch, Mo, NY, US).

HAITI: NORD: Bayeux, *Ekman* H-2682 (US).

DOMINICAN REPUBLIC: *Jiménez* 1286 (US). SAMANÁ: *Sanchez, W. L. Abbott* 517 (US), 2945 (Ch, GH, US).

PUERTO RICO: SAN JUAN: Río Piedras, *J. R. Johnston* 175 (NY); *Stevenson* 207 in part (US). Bayamon, *Sintenis* 1103 (US). Catano, *Heller* 6414 (Ch, GH, Mo, NY, US). Santurce, *Heller & Heller* 441 (Ch, NY, US); *Otero* 219 (Mo). San Juan, *Heller* 665 (Ch, NY, US). HUMACAO: Naguabo, *Shafer* 3441 (Ch, NY, US). Between Fajardo and Ceibay, *Britton & Shafer* 1516 (NY). GUAYAMA: Between Caguas and Cayey, *Kuntze* 332 (NY). Aybonita, *Sintenis* 2006 (Mo, US). ARECIBO: Between Manatí and Vega Baja, *Underwood & Griggs* 935 (NY, US). Dorado, *Britton, Britton, & Brown* 6672 (NY). AGUADILLA: Lares, *Sintenis* 5897 (US); *Underwood & Griggs* 66 (NY, US). San Sebastian, *Sargent* 243 (US). MAYAGÜEZ: Mayagüez, *Sintenis* 94 (GH, US); *Holm* 208 (Ch, GH, Mo); *Britton* 2374 (Ch, Mo, NY, US); *Heller* 4589 (Ch, GH, Mo, NY, US). Cabo Rojo, *Sintenis* 94b (GH, US).

LESSER ANTILLES: BRITISH VIRGIN ISLANDS: Tortola, *Fishlock* 126 (GH, NY). GUADELOUPE: *Duss* 2655 (Ch, NY, US); *Stehlé* 497 (US); *Questel* 641 (US). DOMINICA: *G. P. Cooper* 67 (Ch, GH, NY, UC, US); *Hodge* 588 (Mo, NY, US), 589 (NY). ST. LUCIA: *Velez* 3314 (US). ST. VINCENT: *Smith & Smith* 217 (GH, NY); *Eggers* 6728 (US); *Morton* 5646 (US). MARTINIQUE: *Duss* 1062 (Ch, Mo, NY, US); *Stehlé* 3526 (NY). GRENADA: *Broadway*, June 16, 1905 (GH, NY), Oct. 6, 1905 (Ch, GH).

TRINIDAD: *Broadway* 2862 (Ch), 2862 bis (Ch). Valencia, *Britton, Britton, & Hazen* 1024 (GH, NY, US). Pitch Lake, *Britton & Freeman* 1056 (GH, NY, US).

TOBAGO: *Broadway* 3667 (Ch).

FRENCH GUIANA: Cayenne, *Leprieur*, in 1835 (R); *Broadway* 156 (GH, NY, US).

SURINAM: *Focke* (GH). *Hostmann* (NY), 705 (Mo). "Poelebautje," *Kegel* 184 (*Martius* 1144) (NY).

BRITISH GUIANA: *Schomburgk* 603 (Ch, US). Vreed-en-Hoop, *Hitchcock* 16728 (GH, NY, US). Georgetown, *Hitchcock* 16640 (GH, NY, US). Bel Air, *Persaud* 319 (Ch). Pomeroon District, *De la Cruz* 3213 (NY, US). Mazaruni River, *Mell & Mell* 219 (NY, US). Karenambo, basin of Rupununi River, *A. C. Smith* 2247 (Ch, NY, US). Demerara, *Parker* (GH).

VENEZUELA: *Stevens*, in 1868 (NY). MIRANDA: Dos Caminos, *Eggers* 13076 (US). Los Chorros, *Pittier* 7044 (GH, US, Ven). Petare, *Pittier* 11220 (GH, NY, US, Ven). DISTRITO FEDERAL: Turmerito, *Pittier* 13540 (Ch, Mo, US, Ven). Caracas, *Pittier* 9441 (GH, NY, US, Ven). ARAGUA: Colonia Tovar, *Fendler* 2212 (GH, Mo). Maracay, *Burkart* 16931 (US). CARABOBO: Puerto Cabello, *Burkart* 16325 (US). SUCRE: Bordones, Bonpland, in 1797 (P TYPE of

Ae. sulcata). AMACURO: Sacupana, *Rusby & Squires* 196 (NY). BOLÍVAR: Tumeremo, *Steyermark* 60967 (Ch, Ven). Ciudad Bolívar, *Bailey & Bailey* 1254 (NY).

COLOMBIA: BOLÍVAR: Montería, *Araque & Barkley* 19.Bo.200 (US). Mangangué, *Pennell* 3953 (GH, Mo, NY, US). Soplaviento, *Killip & Smith* 14574 (Ch, GH, NY, US). Frasquillo, *Pennell* 4592 (NY, US). Cañabetal, *Pennell* 3867 (NY, US). Tierra Alta, *Pennell* 4679 (NY, US). META: Villavicencio. *Killip* 34373 (US), 34501 (US); *Sprague* 122 (US); *Pennell* 1581 (NY, US). EL VALLE: Isla del Guayabal, *Cuatrecasas* 16192 (Ch, US).

PERÚ: LORETO: Iquitos, *Klug* 329 (Ch, NY, US); *L. Williams* 1398 (Ch), 7961 (Ch).

BOLIVIA: BENI: Lake Rogagua, *Cárdenas (Mulford Biol. Expl.)* 1391 (GH, NY); *Rusby (Mulford Biol. Expl.)* 1447 (NY), 1604 (NY), 1786A in part (NY). SANTA CRUZ: Río Palometillas, *Steinbach* 6803 (Ch, Mo, UC). Bañada Surutu, *Steinbach* 7375 (Ch, Mo, UC).

BRAZIL: *Martius* 1146 (NY). RIO BRANCO: Ilha do Frio, *Kuhlmann*, May 1912 (US). AMAZONAS: Uará, *Traill* 133 (GH, NY). PARÁ: "Aramanahy," *Monteiro da Costa* 256 (Ch, US). São João do Araguaia, *Burchell* 8801 (Ch, NY). Santarém, *Spruce*, Nov.—Mar. 1849–50 (GH). Belém, *Burchell* 9487 (NY). Rio Cuminá, *Sampaio* 4964 (R). MARANHÃO: Cândido Mendes, *Froes* 1793 (NY). CEARÁ: Allemão 352 in part (R). Forteleza, *Drouet* 2557 (Ch, GH, Mo, NY, R, US). PARAÍBA: Areia, *Vasconcellos* 218 (US). PERNAMBUCO: *Gardner* 976 (GH, NY). Pombos, *Pickel* 338 (GH). BAHIA: *Blanchet* 1041 (US); *Luetzelburg* 2558 (Ch, R, US). "Rio Grongogy Basin," *Curran* 208 (GH, US). *Salzmann* (Mo, R). Ilheos, *Riedel* 2160 (GH, NY). MINAS GERAIS: Viçosa, *Mexia* 4348 (Ch, GH, Mo, NY, UC, US). Manga, *Macedo* 240 (Mo). Lagôa Santa, *Sampaio* 7535 (R); *L. B. Smith* 6700 (US). MATO GROSSO: *Moore* 1005 (NY). Cuyabá, *Malme* 1548 (Ch, R, US), 1819 (R). RIO DE JANEIRO: *Sellow* (GH); *Riedel* 124 (US); *Glaziou* 4210 (R); *Wilkes Exped.* (GH, NY, US). Mons Corcovado, *Burchell* 1614 (GH, NY). Santana, *Emygdio* 393 (R). Jacarepaguá, *Dusen* 1965 (US). Petrópolis, *Glaziou* 8629 (NY, US). Araruama, *L. B. Smith* 7100 (US). Barra do Pirahy, *Hoehne & Gehrt* (GH). DISTRITO FEDERAL: Guaratyba, *Lutz*, May 1926 (R). GUAPORÉ: Falls of Madeira, *Rusby* 1037 (Ch, GH, Mo, NY, US). RIO GRANDE DO SUL: "Serras-E. de R. G. do Sul," *Vidal*, Jan. 1939 (R), Feb. 1939 (R).

PARAGUAY: Sierra de Amambay, *Hassler (Rojas)* 10753 (Mo). CENTRAL: Asunción, *Morong* 191 (GH, Mo, NY, R, UC, US). Areguá, *Hassler* 911 (NY). Lake Ypacaray, *Hassler* 11764 (GH, Mo, US); *Fiebrig* 52 (Ch). GUAIRA: Villarrica, *Jørgensen* 4205 in part (Ch, US), 4206 (Ch, GH, NY, US). PARAGUARÍ: *Balansa* 3090 (GH).

ARGENTINA: CHACO: Colonia Benítez, *A. G. Schulz* 3265 (US).

LOCAL NAMES: Honteuse mâle (Martinique); sole (British Guiana); corcho lagunero (Venezuela); corticeira, paricasinho, paricazinho (Brazil).

Although *Ae. sensitiva* was not typified in the original description, the Plumier illustration referred to may, presumably, be considered an authentic representation of the species.

The description and illustration of Palisot de Beauvoir's *Ae. sensitiva* indicates that species to be the same as the *Ae. sensitiva* of Swartz, but it is my impression that proposal of a new species was not intended.

Examination of the type of *Ae. sulcata* shows it to be equivalent to typical *Ae. sensitiva*. There are a few glandular hairs along the margins of the fruits, but that is not believed to warrant specific segregation.

Aeschynomene macropoda var. *belvesii* and *Ae. belvesii* were based on *Ae. sensitiva* Beauv. and, therefore, in my opinion are synonyms of *Ae. sensitiva* Sw.

The "Index Kewensis" cites *Ae. honesta* as a synonym of *Ae. sensitiva*, and, on that basis, it is so listed in this paper.

According to Amshoff (Flora of Surinam, 2. 1939), *Cassia paramariboensis* is *Ae. sensitiva* Sw.

The type of *Ae. fistulosa* presumably is not extant, Bello having stated, "mis herbarios reducidos á polilla." However, the epithet *fistulosa* and the description in general suggest *Ae. sensitiva* to me. Excluded as possibilities are *Ae. americana* L. and *Ae. glandulosa* Poir., which Bello lists as also occurring in Puerto Rico.

It does not seem reasonable to segregate forma *paucifoliolata*, characterized by "foliolis 6-13 jugis," since Swartz described typical *Ae. sensitiva* as having "pinnae utrinque 16-20 alternae". I have not seen the type of the form (Hassler 6162) but the two additional collections cited in the original description (Hassler 792 and 911) are identified as typical *Ae. sensitiva*.

14b. *Aeschynomene sensitiva* var. *hispidula* (H. B. K.) Rudd, comb. nov.

Aeschynomene hispidula H. B. K. Nov. Gen. & Sp. 6: 530. 1824.

This differs from the typical variety in having stems densely hispidulous, the tuberculate-based hairs so closely placed on the upper stems that the epidermis is about half to completely obscured; the flowers tend to be larger, 7-9 mm. long; the young fruits are hispid, the older ones usually glabrate.

TYPE LOCALITY: Río Magdalena, near Badillo (as "Badillas"), Santander, Colombia. Type collected by Bonpland (No. 1563), cited below.

DISTRIBUTION: Wet places, Colombia, along the Cauca and Magdalena valleys, at 1,000-1,800 m. elevation (fig. 5).

COLOMBIA: Antioquia: Medellín, Archer 462 (NY, US), 681 (US), 745 (US); Toro 316 (NY); Ramírez 5 (US). **CALDAS:** Armenia, Pennell, Killip, & Hazen 8689 (GH, NY, US). **CAUCA:** Popayán, Yepes 281 (Ch, US); Lehmann 5549 (Ch, GH, US); Langlassé 84 (GH, US). **EL VALLE:** Timba, von Sneidern 1163 (US). Buga, Triana 4219 (NY). **SANTANDER:** Badillo, Bonpland 1563 (P TYPE).

LOCAL NAME: Arrejo (Colombia).

These few specimens represent the extreme of glandular development within the species. The tendency can be observed occasionally northward in Central America as far as Guatemala and British Honduras, and eastward into Venezuela. In these regions, however,

the flowers are about the same as those of the typical variety. The condition does not seem to merit specific status and it is doubtful if even varietal recognition is warranted.

Bentham reduced his *Ae. rudis* to *Ae. hispidula*. However, after examining the type specimen of *Ae. hispidula* and a photograph of the type of *Ae. rudis*, I am convinced that they are quite dissimilar.

14c. *Aeschynomene sensitiva* var. *amazonica* Rudd, var. nov.

A varietate typica fructibus longioribus 10–14-articulatis differt.

This differs from the typical variety principally in the 10–14-articulate fruits. The flowers tend to be larger, 7–9 mm. long. The plant as a whole is more robust.

TYPE: In the U. S. National Herbarium, No. 1999025, collected at Nauta, Province of Loreto, Perú, Sept. 24, 1948, by Ramon Ferreyra (No. 5126). Duplicate at USM.

DISTRIBUTION: River banks of Upper Amazon and its tributaries (fig. 5).

COLOMBIA: AMAZONAS: Leticia, *Schultes* 6168 (US), 8205 (US). Solimões, *Jobert & Schwacke* 612 (R).

PERÚ: LORETO: Iquitos, *Ll. Williams* 1343 (Ch).

The Martius collection cited as *Ae. selloi* by Bentham in "Flora Brasiliensis" is probably the same as *Ae. sensitiva* var. *amazonica*. Bentham's plate 12, illustrating *Ae. selloi*, resembles var. *amazonica* as to fruit, character of the stem and petiole, etc., and very likely the Martius collection was used as model for the plate.

Series 5. *Indicae* Rudd, ser. nov.

Herbae nonnunquam suffruticosae, saepe erectae; stipulae infra insertionem productae, acutae vel acuminatae, basi obtusae vel acutae; foliola oblonga, obtusa, margine recto vel nonnunquam ciliato et denticulato vel serrato; costa centralis; venae secundariae inconspicuae; calyx bilabiatus, labio inferiore bifido, labio superiore trifido; legumen stipitatum, altero margine fere recto, altero eadem vel subcrenato.

Herbs, usually erect, rarely decumbent, sometimes suffrutescent; stems glabrous to densely hispid; stipules appendiculate below the point of attachment, the upper portion acute to acuminate, 3–4 times as long as the rounded to acute, auriculate lower portion; leaflets oblong, obtuse, entire or, in a few species, ciliate and minutely dentate or serrate, the base subobliquely rounded, the upper surface minutely punctate, the lower surface often glaucous, the costa central, the secondary veins inconspicuous; inflorescences few-flowered; calyx with the vexillar lip 2-dentate, the carinal lip subequally 3-dentate, the indentations about 1 mm. deep; fruits stipitate, the margins subentire or shallowly indented between the articles.

Aeschynomene indica L. is selected as the type of the series.

15. *Aeschynomene virginica* (L.) B. S. P. Prelim. Cat. N. Y. Pl. 13. 1888.

Hedysarum virginicum L. Sp. Pl. 750. 1753.

Aeschynomene hispida Willd. Sp. Pl. 3: 1163. 1802.

Aeschynomene aspera Muhl. ex Willd. Sp. Pl. 3: 1163. 1802, syn. in lit., non
Ae. aspera L. 1753.

Stem up to nearly 3 m. high, glabrous to hispid; stipules about 10 mm. long, acute at apex and base, entire, sometimes ciliate, often hyaline-margined; leaves about 5–12 cm. long, 30–55-foliolate, the petiole and rachis sparsely hispid; leaflets 10–25 mm. long, about 2–3 mm. wide, entire or rarely with a few tuberculate marginal hairs; peduncles and pedicels hispid; bracts ovate-cordate, about 6 mm. long, 2–3 mm. wide, acuminate, denticulate, sometimes laciniate, ciliate; bracteoles lanceolate-ovate, about 4 mm. long, 2–3 mm. wide, acute, denticulate-ciliate; flowers 10–15 mm. long; calyx 5–7 mm. long; standard commonly 12 mm. long, the claw 2 mm. long, the blade orbiculate, about 10 mm. in diameter, ciliate, emarginate; wings about 10 mm. long, the claw 3 mm. long, the blade about 7 mm. long and 4 mm. wide, sparsely ciliate; keel petals about 10 mm. long, the claw 2 mm. long, the blade about 8 mm. long and 3 mm. wide, entire; stamens about 10–15 mm. long; fruit 3–10- (commonly 6–9-) articulate, the upper edge entire, the lower somewhat crenate, the stipe about 12–25 mm. long, glabrous or somewhat hispid, the articles 4.5–7 mm. in diameter, sparsely hispid, glabrate, usually verrucose; seeds 4.5–6 mm. long, about 3 mm. wide, brown.

TYPE LOCALITY: Wet stream bank of the Rappahannock River, Middlesex County, Va. Syntypes collected by Clayton, Nos. 564 and 614, the latter cited below.

DISTRIBUTION: Tidal marshes, muddy and brackish shores, the middle Atlantic coast of the United States, from New Jersey to Virginia (fig. 6).

UNITED STATES: "America boreali," *Muhlenberg* (photos of two specimens, presumably SYNTYPES of *Ae. hispida*, ex B). NEW JERSEY: Burlington County: Wading River, *Long* 10818 (GH). Camden County: Camden, *Parker*, Sept. 27, 1865 (Ch). Salem County: Pennsville, *Long* 44943 (GH). Atlantic County: Great Egg Harbor River, *Long* 51232 (GH). Cape May County: Cape May River Landing, *Mohr*, Sept. 20, 1894 (US). PENNSYLVANIA: Nortonville, on Delaware River, 6 miles south of Philadelphia, *Crawford*, Sept. 17, 1891 (Ch). Delaware County: Tinicum, *Porter, A. H. Smith, & Leidy*, Sept. 1865 (NY). DELAWARE: New Castle County: *Commons*, Aug. 1865 (NY). Hollyoak, *Brinton*, Aug. 22, 1888 (UC), Aug. 23, 1888 (NY); *Canby* 1516 (GH), Sept. 1867 (US). Wilmington, *Commons*, Aug. 1873 (NY); *Canby*, July 3, 1878 (Ch, US), Aug. 1878 (Mo, NY); *Tatnall*, Sept. 16, 1887 (GH). MARYLAND: Anne Arundel County: Patuxent marshes, *C. P. Smith* 3196 (GH). Prince Georges County: Nottingham, *Hotchkiss* 7187 (US); McGruder's Landing, *Rudd* 736 (US), 775 (US). Wicomico County: Nanticoke River, *Shreve* 1297 (Min). VIRGINIA: Stafford County:

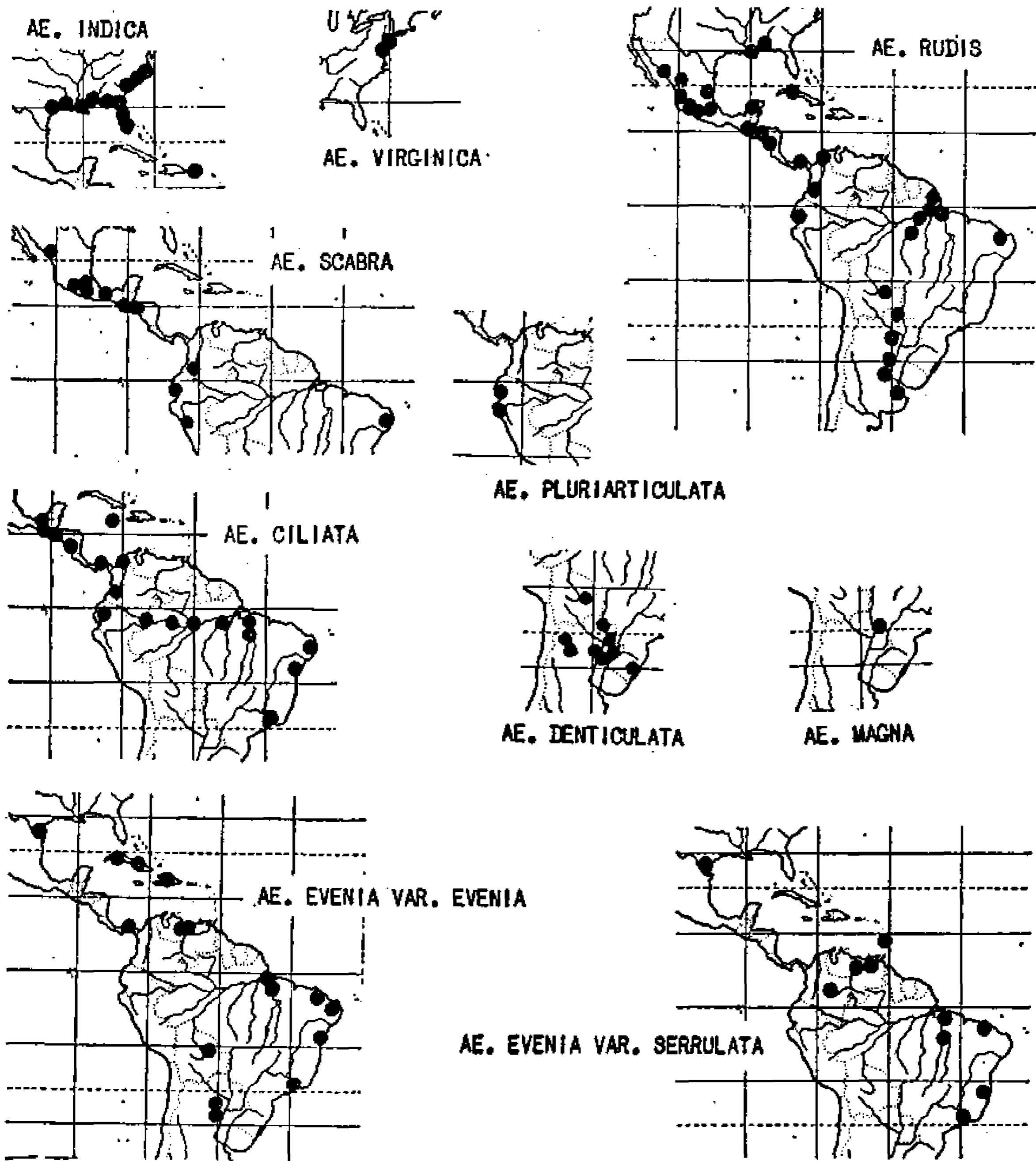


FIGURE 6. Distribution of the *Indicae*.

Brooke, *Hermann* 10412 (GH, NY, US). Essex County?: "Blandfield Wharf," *Tidestrom* 7686 (US). Essex County: Dunnsville, *Fernald & Long* 13358 (GH); Loretto, *Fernald & Long* 13957 (GH). Middlesex County: Rappahannock River, *Clayton* 614 (photo of SYNTYPE ex BM). King William County: King William Courthouse, *Fernald & Long* 11580 (GH), 11581 (GH), 13058 (GH). New Kent County: White House, *Fernald & Long* 11579 (Ch, GH, Mo); Lanexa, *Fernald & Long* 11597 (GH). Charles City County: "Four Oaks," below Harrison Point, *Fernald & Long* 11354 (GH, NY, UC); Chickahominy River, Ferry Point, *Fernald & Long* 11053 (GH); Morris Creek, below Adams Bridge, *Fernald & Long* 11578 (GH, US). James City County: Gordon Creek, *Fernald & Long* 11355 (GH); Back River, opposite Jamestown Island, *Fernald & Long* 11052 (GH, US). Prince George County: Jordan Point, *Fernald & Long* 9343 (GH). Surrey County: Chippokes, *Fernald & Long* 12672 (GH); Hog Island, *Fernald & Long* 12673 (GH). Scotland, *Fernald & Long* 8724 (GH), 9344 (GH), 9580 (GH).

LOCAL NAMES: Sensitive joint-vetch; bastard sensitive plant.

The large, long-stiped fruit, the fairly large flowers, and the essentially entire leaflets enable one to distinguish this rather localized species from its near relatives in the series.

The photograph of Clayton's No. 614, one of the syntypes of *Hedysarum virginicum*, on which *Ae. virginica* is based, readily identifies that species with the collections cited above. Likewise, photographs of two specimens from the Willdenow Herbarium, presumably syntypes of *Ae. hispida*, furnished through the courtesy of the late Dr. R. Pilger of the Botanische Museum, Berlin-Dahlem, indicate that that species is synonymous with *Ae. virginica*.

Collections from almost all parts of the American tropics have been identified and distributed as *Ae. virginica* or *Ae. hispida*. Most consistent has been the inclusion of the specimens from the southern United States ascribed, in this paper, to *Ae. indica*.

Fernald (*Rhodora* 41: 466. 1939) recognized and stated the outstanding differences between "true *Aeschynomene virginica*" and "the plant growing from Texas to southeastern North Carolina and there erroneously passing as *Ae. virginica*." He suggested that the southern species might be *Ae. hispida*, but at that time he was unable to secure type material for comparison.

16. *Aeschynomene indica* L. Sp. Pl. 713. 1753.

Aeschynomene glaberrima Poir. in Lam. Encyc. Suppl. 4: 76. 1816.

Stem to about 2.5 m. high, glabrous to moderately hispid; stipules 10-15 mm. long, 2-3 mm. wide, entire, sometimes ciliate, often hyaline-margined, the upper portion acuminate, the base obtuse, usually notched or erose; leaves about 5-10 cm. long, 50-70-foliolate, the petiole and rachis sparsely hispidulous; leaflets 5-10 mm. long, 1.5-2.5 mm. wide, entire; peduncles and pedicels glabrous to hispidulous; bracts about 5 mm. long, 1-2 mm. wide, ovate, acuminate, subentire to serrate-laciniate; bracteoles lanceolate-ovate, acute, about 2-4 mm. long and 1 mm. wide, subentire; flowers about 8-10, commonly 8-9 mm. long; calyx 4-6 mm. long; standard 8-10 mm. long, the claw 1-2 mm. long, the blade elliptic, about 7-9 mm. long, 4-7 mm. wide, entire or sparsely ciliate, emarginate; wings 6-8 mm. long, the claw 1-2 mm. long, the blade 4-6 mm. long, 1.2-3 mm. wide, rarely ciliate; keel petals about 7-9 mm. long, the claw 1-2 mm. long, the blade 6-7 mm. long, 2-3 mm. wide, entire; stamens about 6-8 mm. long; fruit 5-10-(-12-)articulate, the upper edge essentially straight, the lower edge crenate, the stipe 4-10 mm. long, glabrous, or sparsely hispid, glabrate, sometimes muricate, dark brown when fully mature; seeds 3-4 mm. long, 2-3 mm. wide.

TYPE LOCALITY: Malabar, India. Type specimen unknown but table 18, volume 9, of Rheede's "Hortus Malabaricus" was cited by Linnaeus in the original description and, presumably, represents the type.

DISTRIBUTION: Coastal United States, from North Carolina to Texas, and also, apparently introduced, in Puerto Rico, coastal Asia, Pacific Islands, Australia, and Africa, in wet meadows, marshes, rice fields, etc. (fig. 6).

UNITED STATES: NORTH CAROLINA: Craven County: Bridgeton, *Fox* 3200 (US). New Hanover County: Wilmington, *Uhler* 73 (US). Hyde County: Ocracoke Island, *Kearney* 2250 (US). Brunswick County: West of Wilmington, *Godfrey* 50161 (US). Columbus County: Lake Waccamaw, *Godfrey* 6321 (GH, US). SOUTH CAROLINA: Berkeley County: St. Stephens, *Godfrey* 8207 (Ch, GH, Mo, NY, US). Charleston County: Charleston, *Curtiss*, in 1876 (US); *Moldenke* 136 (Mo, NY). Dorchester County: Summerville, *Gibbes*, Oct. 7-8, 1889 (NY). Jasper County: Coosawhatchie, *Rhoades*, Aug. 1929 (GH). GEORGIA: Sumter County: Americus, *Harper* 518 (Ch, GH, Mo, NY, US). Charlton County: Folkston, *Biltmore Herb.* 218f (US). ALABAMA: Mobile County: Mobile, *Mohr*, Aug. 1878, in part (US). Florida: *Chapman* (Mo, US). "East Florida," *Edw. Palmer* 129, in 1874 (Ch, GH, Mo, US). Duval County: Jacksonville, *Curtiss* 606 (Ch, GH, Mo, NY, UC, US), 4237 (Mo, NY, UC), 5155 (GH, NY, UC, US); *Lighthipe* 499 (Mo, NY); *Hitchcock*, in 1900 (Ch). Suwanee County: *Hitchcock* 344 (Ch). Columbia County: Lake City, *Hitchcock* 345 (Ch). Alachua County: Gainesville, *Garber*, June 1876 (US). Lake County: Eustis, *Nash* 1054 (Ch, GH, Mo, NY, UC, US); *Hitchcock* 346 (Ch), 347 (Ch). Seminole County: Sanford, *Rapp*, Aug. 25, 1926 (NY). Hillsborough County: *Fredholm* 6340 (GH, Mo, US); Tampa, *Godfrey* 50879 (US). Franklin County: Apalachicola, *Chapman* (*Biltmore Herb.* No. 218a) (GH, Mo, NY, US). Dade County: Coconut Grove, *Small* 8818 (GH, NY, US). MISSISSIPPI: *Joor*, Sept. 23, 1891 (Mo). Hinds County: Utica, *Holt* 70 (US). Jackson County: Ocean Springs, *Pollard* 1165 (Ch, GH, Mo, NY, US); Petit Bois Island, *Demaree* 33521 (US); Fontainebleau, *Demaree* 34099 (US). Harrison County: Biloxi, *Tracy* 4338 (US), 4438 (Ch, GH, Mo, NY, US); Gulfport, *Demaree* 33887 (US); Cat Island, *Lloyd & Tracy* 180 (NY). LOUISIANA: Tangipahoa Parish: Robert, *Correll & Correll* 10527 (GH). Plaquemines Parish: South Pass, *Tracy & Lloyd* 193 (Ch, GH, Mo, US). Terrebonne Parish: Houma, *Wurzlów*, Sept. 20, 1913 (NY). Orleans Parish: New Orleans, *Joor*, Oct. 9, 1885 (Mo). Lafayette Parish: Youngsville, *Claycomb*, July 23, 1942 (GH). Calcasieu Parish: Lake Charles, *Mackenzie* 410 (Mo); *Daves*, in 1888 (Ch). TEXAS: Orange County: Mauriceville, *Cory* 50911 (GH). Jefferson County: Beaumont, *Tharp*, Sept. 9, 1937 (GH, UC), 3137 (US); *Cory* 11069 (GH); Sabine Pass, *Cory* 19863 (GH). Harris County: Houston, *Letterman*, in 1880 (Mo). Matagorda County: Bay City, *Fisher*, Aug. 6, 1918 (NY, UC), 147 (US). Nueces County: Flour Bluff, *Cory* 20515 (GH).

PUERTO RICO: AGUADILLA: Añasco, *Sintenis* 5605 (UC, US). MAYAGÜEZ: Guánica, *Sintenis* 3818 (Ch); *Sargent* 529 (US).

Examination of specimens of *Ae. indica* from India and other parts of Asia, of the illustration cited by Linnaeus in his original description

of *Ae. indica*, and of the American specimens listed above reveals no essential differences among that material. Therefore, it is believed that the above cited American collections, mostly distributed as *Ae. virginica* or *Ae. hispida*, are correctly ascribed to *Ae. indica*.

As indicated in the key, the size of the fruit and flowers, the length of the stipe, the entire leaflets, and the moderate indument of the plant are characters by which *Ae. indica* is distinguished from other species of the series. The collections from Puerto Rico are unusually robust. The flowers are 10–11 mm. long, the fruit commonly 10–12-articulate.

As stated in the preface, no attempt is being made to include Old World synonymy in this paper. *Aeschynomene indica* probably has more synonyms, valid and invalid, than any other species of the genus. However, only one, *Ae. glaberrima*, is known to have been based on American material. I have not seen the type of *Ae. glaberrima*, but its collection by Bosc "dans la Caroline" and the description indicate that it is equivalent to *Ae. indica*, as here interpreted.

17. *Aeschynomene evenia* Wright in Sauv. Anal. Acad. Ci. Habana 5: 334. 1868.

Stem to about 1 m. high, sparsely hispidulous, often glabrate; stipules 5–15 mm. long, about 1.5–3 mm. wide, subentire to serrate-ciliate, the upper portion attenuate, 2–3 times as long as the acute to rounded, auriculate lower portion; leaves about 2–4 cm. long, 16–50-foliolate, the petioles and rachises hispidulous; leaflets 2–9 mm. long, 1–2 mm. wide, entire to serrate-ciliate; peduncles and pedicels glabrous to hispidulous; bracts graduating from stipule-like to subcordate, acuminate, laciniate, about 3–5 mm. long, 1.5–2 mm. wide; bracteoles oblong-ovate, acute, 2–3 mm. long, about 1 mm. wide, subentire to denticulate or serrulate; flowers 5–7 (–9) mm. long; calyx 4–5 mm. long; standard averaging about 6 mm. long, the claw scarcely 1 mm. long, the blade about 5 mm. long, 3–4 mm. wide, obovate, somewhat ciliate; wings 5–6 mm. long, the claw 0.5–1 mm. long, the blade 4.5–5 mm. long, about 2 mm. wide; keel petals 6–7 mm. long, the claw 0.5 mm. long, the blade 5.5–6.5 mm. long, about 2 mm. wide; stamens about 6 mm. long; fruit 5–14-articulate, the stipe 3–4 (–6) mm. long, subglabrous to hispidulous, the articles about 2.5–3.5 mm. in diameter, hispidulous, usually glabrate, one margin of the fruit subentire, the other subcrenate; seeds about 2 mm. long and 1.5 mm. wide, brown.

17a. *Aeschynomene evenia* var. *evenia*.

Aeschynomene evenia Wright in Sauv. Anal. Acad. Ci. Habana 5: 334. 1868.

The typical variety includes the more robust specimens of the species, the plants being taller and with 20–50-foliolate leaves. The leaflets are predominantly entire, occasionally with cilia developing on a few leaflets. The base of the stipules is usually acute. The

flowers are mostly 6–7, rarely 8–9, mm. long. The fruits are commonly 10–14-articulate.

TYPE LOCALITY: Chirigota, Pinar del Río, Cuba. Type collected by C. Wright (No. 3531), cited below.

DISTRIBUTION: Chiefly northern and eastern South America, also Cuba and Hispaniola, and scattered from southern Texas to Panamá, in wet or moist places, at low elevations (fig. 6).

UNITED STATES: TEXAS: Nueces County: Corpus Christi, *Nealley*, in 1894 (Ch, Mo). Kleberg County: Riviera, *Tharp*, Sept. 7, 1929 (UC). Kenedy County: Armstrong, *Runyon* 1956 (US). Cameron County: Brownsville, *Runyon* 2859 (US).

PANAMÁ: PANAMÁ: Chepo, *Pittier* 4548 (US).

CUBA: PINAR DEL RÍO: Chirigota, *C. Wright* 3531 (GH, US, ISOTYPES).

HABANA: "Mazorra," *Baker & Abarca* 4213 (NY). Guatao, *León* 8975 (NY).

CAMAGUEY: La Gloria, *Shafer* 107 (NY, US).

HAITI: NORD: Bayeux, *Ekman* H-2616 (US).

DOMINICAN REPUBLIC: "St. Domingo," *Bertero* (Mo). MONTE CRISTI: Guayubín, *W. L. Abbott* 875a (US), 975 (NY, US).

VENEZUELA: GUÁRICO: El Sombrero, *Burkart* 17185 (US). ARAGUA:

Maracay, *Burkart* 16903 (US), 16961 (US). CARABOBO: San Joaquín, *Burkart* 16971 (US).

BOLIVIA: "Salinas," *Pearce* (K).

BRAZIL: PARÁ: Magoary, *Huber* 286 (US). Curralinho, *Pires* 1256 (NY, US).

Rio Arari, Ilha do Marajó, *Black, Ledoux, & Stegemann* 52-14360 (IAN).

Soure, *Black & Lobato* 50-9269 (IAN). CEARA: Allemão 352 in part (R).

Quixada, *Löfgren* 856 (R). RIO GRANDE DO NORTE: Rio Diamante, *Löfgren*

397 (R). PERNAMBUCO: Tapera, *Pickel* 43 (Ch), Aug. 1930 (Ch, GH, US), Aug.

1931 (Ch, GH, US). BAHIA: Bahia, *Blanchet* 946 (NY). Zoazeiro, *Zehntner*

141 (R). RIO DE JANEIRO: Atafona, *Sampaio* 8908 (R). Araruama, *L. B.*

Smith 7103 (US). Cabo Frio, *L. B. Smith* 6613 (US).

ARGENTINA: SALTA: Orán, *Schreiter* 5365 (US). TUCUMÁN: Chieligasta, "Cochuna," *O'Donell* 7 (GH).

LOCAL NAMES: Cortiça do campo, corticeira (Brazil).

This taxon is distinguished within the series by its slender, usually short-stipitate fruits, its relatively small flowers, and its essentially entire leaflets. The occasional development of cilia on a few leaflets suggests intergradation from the typical variety to var. *serrulata*.

The Texas specimens approach *Ae. indica* in size of plants and in general appearance. However, on the basis of fruit width and number and shape of articles, they are here cited as *Ae. evenia* var. *evenia*.

17b. *Aeschynomene evenia* var. *serrulata* Rudd, var. nov.

A varietate typica plantis utrinque minoribus, foliolis serrato-ciliatis differt.

This variety differs from the typical in that the leaflets are rather consistently serrulate-ciliate and mostly smaller. The plants tend to be shorter, frequently less than 5 dm. high, and are generally more

glandular in all parts than the typical variety. The stipules usually are more rounded at the base. The flowers are about 5–6, rarely 7–8, mm. long. The fruits are commonly 5–8-articulate.

TYPE: In the U. S. National Herbarium, No. 1193123, collected in a pond, San Juan de los Morros, Aragua, Venezuela, Dec. 28, 1923, by H. Pittier (No. 11321). Isotypes at GH, NY, and Ven.

DISTRIBUTION: Chiefly in northern South America, in wet or moist places, at elevations below 500 m. (fig. 6).

UNITED STATES: TEXAS: Dimmit County: Winter Haven, *Reed*, July 17, 1939 (GH).

LESSER ANTILLES: ST. LUCIA: *Bray* (NY); *Walsh*, Sept. 1889 (NY).

VENEZUELA: MONAGAS: San Antonio, *Bond, Gillin, & Brown* 120 (US). BOLÍVAR: Ciudad Bolívar, *Holt & Gehriger* 197 (NY, US).

COLOMBIA: META: La Poyata, *Cuatrecasas* 4472 in part (Ch).

BRAZIL: PARÁ: Belém, *Archer* 7682 (Ch, US); *Silva* 106 (US); *Pires & Black* 623 (US). Marabá, *Fróes & Black* 24710 (US). CEARÁ: Fortaleza, *Drouet* 2293 (Ch, GH, Mo, NY, R, US). Pacatuba, *Allemão* 352 in part (R). BAHIA: Ilheos, *Martius Herb.* 1145 (GH, Mo, NY); *Riedel* 742 in part (NY). RIO DE JANEIRO: São Christovão, *Glaziou* 8628 (K), 8634 in part (R); *Wilkes Exped.* (NY, US). Nietheroy, *Smith & Brade* 2321 (GH, US).

As indicated above, this variety is mostly found in northern and eastern South America, at low elevations. The serrulate-ciliate leaflets, the narrow, short-stipitate fruits, and the small flowers are the most distinctive characters. There apparently is intergradation between this and the typical variety; leaves with entire leaflets sometimes occur on plants with predominantly serrulate leaflets.

18. *Aeschynomene pluriarticulata* G. Don, Gen. Syst. Gard. Bot. 2: 284. 1832.

Stem up to about 1 m. high, glabrous or nearly so; stipules about 10–20 mm. long, entire to serrate-ciliate, the portion above the point of attachment attenuate, more than twice the length of the acute to rounded, auriculate base; petiole glabrous to hispidulous, the hairs diminishing along the rachis; leaves 4–6 cm. long, 20–50-foliolate; leaflets entire, 1.5–2 mm. wide, 5–8 mm. long; peduncles and pedicels hispidulous; bracts graduating from stipule-like to subcordate, acuminate, lacinate, 3–5 mm. long, 2–3 mm. wide; bracteoles lanceolate, acute to acuminate, subentire, about 5 mm. long, 1–1.5 mm. wide; flowers about 8–10 mm. long; calyx 5–7 mm. long; standard commonly 8–9 mm. long, the claw 1 mm. long, the blade 7–8 mm. long, about 5 mm. wide, obovate, entire, retuse; wings about 8 mm. long, the claw 2 mm. long, the blade 6–7 mm. long, 2–3 mm. wide; keel about 8 mm. long, the claws 2 mm. long, the blades 6–7 mm. long, about 2 mm. wide; stamens 8 mm. long; fruit 12–18-articulate, with both margins subentire, the stipe 6–10 mm. long, the articles subquadrate, 3–4 mm. in diameter, sparsely hispidulous, glabrate, sometimes muricate; seeds about 2 mm. long and wide.

TYPE LOCALITY: Guayaquil, Ecuador. Type probably collected by Tafalla, attributed to Ruiz and Pavón.

DISTRIBUTION: Guayas, Ecuador, and Piura, Perú, in swamps and fields at low elevations (fig. 6).

ECUADOR: GUAYAS: Guayaquil, *Haenke* (R). Between Guayaquil and Salinas, *Hitchcock* 20073 (GH, NY, US). Salinas, *Asplund* 5646 (R, US); *Svenson* 11329 (GH, NY, US). Insula de Puná, *Eggers* 14775 (US).

PERÚ: PIURA: Pariñas Valley, *Haught* 158 (Ch, NY, US). Cabo Blanco, *Haught* 261 (NY, US). Nigritos, *Haught* F-163 (Ch). Talara, *Haught* F-62 (Ch).

This species, apparently restricted to the low lands surrounding the Gulf of Guayaquil, is closely related to *Ae. indica* and *Ae. evenia*. It differs from the former in that the fruits are slightly narrower and longer, with both margins essentially entire. It differs from *Ae. evenia* in having larger flowers, and fruits that average slightly wider and longer. The stipules are somewhat larger than those of either *Ae. indica* or *Ae. evenia*.

Svenson (*Amer. Journ. Bot.* 33: 447. 1946) believes *Ae. pluriarticulata* and *Ae. scabra* to be the same, but I am of the opinion that the two names are referable to two different taxa, as treated in this paper.

19. *Aeschynomene rudis* Benth. *Pl. Hartw.* 116. 1843.

? *Aeschynomene bonariensis* Spegg. *Florul. La Plata* in *Bol. Ofic. Agr. Ganad.* 2: 491. 1902.

Aeschynomene natans Hassler, *Bull. Herb. Boiss.* II, 7: 7. 1907.

Stem to about 2 m. high, hispid to glabrous; stipules about 7–15 mm. long, 2–3 mm. wide, ciliate, the upper portion acute, 5–12 mm. long, the lower 2–3 mm. long, rounded; leaves 4–10 cm. long, 30–40-foliolate, the petiole and rachis hispidulous; leaflets 6–15 mm., commonly 8–10 mm., long, 2–3 mm. wide, entire or with some tendency toward marginal hairs; bracts subovate, acute, 3–4 mm. long, 1.5–2 mm. wide, ciliate; bracteoles ovate-oblong, acute, 2–3 mm. long, about 1 mm. wide, ciliate; flowers (8–) 10–15 mm. long; calyx 5–8 mm. long; standard commonly about 14 mm. long, the claw 2 mm. long, the blade orbiculate, about 12 mm. in diameter, retuse, ciliate; wings about 10 mm. long, the claw scarcely 1 mm. long, the blade about 9 mm. long, 5–6 mm. wide; keel petals about as long as the wings and 3 mm. wide; stamens about 12 mm. long; fruit 7–12-articulate, the upper edge essentially entire, the lower edge crenate, sometimes subentire, the stipe glabrous, or nearly so, 3–6 (–10) mm. long, the articles 4–6 mm. in diameter, moderately hispid to subglabrous, usually muricate or verrucose at the center; seeds about 3 mm. long and 2 mm. wide.

TYPE LOCALITY: Guayaquil, Ecuador. Type collected by Hartweg (No. 649), cited below.

DISTRIBUTION: In moist or wet places, tropical and warm temperate America, at elevations up to about 1,800 m. (fig. 6).

UNITED STATES: ALABAMA: Mobile, *Mohr*, Aug. 1878 in part (US). LOUISIANA: Catahoula Lake, *Hale*, in 1842 (GH, NY).

MÉXICO: SONORA: Agiobampo, *Edw. Palmer* 775a, in 1890 (US). TAMAUlipas: Altamira, *Le Sueur* 205 (Ch, GH). DURANGO: Durango, *Edw. Palmer* 575, in 1896 (Ch, GH, Mo, NY, UC, US). NAYARIT: Between Mexcaltitlán and Tuxpán, *Mexia* 1018 (Ch, GH, Mo, NY, UC, US). JALISCO: Guadalajara, *Pringle* 5181 (GH). VERA CRUZ: Córdoba, *Bourgeau* 2210 (GH, US). MICHOACÁN: Morelia, *Arsène* 53 (Ch), 3167 (GH, Mo, US). Aquila, Coalcomán, *Hinton* 16106 (US). OAXACA: Between Niltepic and Zanatepec, *Nelson* 2802 (US). CAMPECHE: Tuxpeña, *Lundell* 1266 (Ch, GH, Mo, NY, UC US). Apazote, *Goldman* 497 (US).

GUATEMALA: HUEHUETENANGO: Between Santa Ana Huista and Nentón, *Steyermark* 51388 (Ch). JUTIAPA: Jutiapa, *Stanley* 76339 (Ch). Lago Atescatempa, *Steyermark* 31878 (Ch). Lago Guija, *Steyermark* 31823 (Ch).

HONDURAS: VALLE: San Lorenzo, *J. Valerio* 3434 (Ch). MOROZÁN: El Zamorano, *Stanley* 12348 (Ch).

BRITISH HONDURAS: BELIZE: Northern River, *Gentle* 1365 in part (Mo).

NICARAGUA: GRANADA: Granada, *Grant* 895 (Ch, GH).

PANAMÁ PANAMÁ: Hacienda La Joya, *Dodge, Hunter, Steyermark & Allen* 16913 (GH, Mo, UC). Chepo, *Pittier* 4611 (US).

CUBA: HABANA: Lake Ariquanabo, *León & Bosque* 4202 (NY). Santiago de las Vegas, *Hitchcock*, Mar. 15–20, 1906 (Ch).

COLOMBIA: MAGDALENA: Ciénaga, *H. H. Smith* 273 (Ch, GH, Mo, NY, US). BOLÍVAR: Cartagena, *Heriberto* 292 (US). EL VALLE: Buenaventura, *Killip* 33048 (US). Palmira, *García-Barriga* 6313 (US). Cartago, *Cuatrecasas* 23040 (US).

ECUADOR: GUAYAS: Guayaquil, *Hartweg* 649 (Killip neg. 841 of TYPE ex K); *Spruce* 6334 (K); *Asplund* 5167 (R, US).

BOLIVIA: SANTA CRUZ: Between Roboré and Santiago de Chiquitos, *Cárdenas* 4453 (US).

BRAZIL: AMAPÁ: Lago Bom Nome, *Black & Lobato* 50–9372 (US). Macapá, *Black & Fróes* 51–12269 (IAN); *Fróes & Black* 27191 (IAN), 27198 (IAN). PARÁ: Santarém, *Spruce*, July 1850 (GH, NY). Maicourú, Lago Uruxiacá, *Pires & Silva* 4310 (IAN). Boa Vista on Tapajós River, *Dahlgren & Sella* 187 (Ch, US). Cachoeira, *S. Wright*, July 17, 1935 (Ch, GH). Marajó, Ilha do Pacoval, *Schwacke* 80 (R). Marajó, Rio Ararí, *Black, Ledoux, & Stegemann* 52–14265 (IAN), 52–14322 (IAN). CEARÁ: Fortaleza, *Drouet* 2702 (Ch, GH). Bahú, *Allemão* 351 in part (R). Tabúa, *Allemão* 351 in part (R).

PARAGUAY: "Chaco, 21° lat," *Fiebrig* 1321 (K). "Santa Elisa, Chaco," *T. Rojas* 2893 (SI); *Hassler (Rojas)* 2773 (GH, Mo, US, ISOTYPES of *Ae. natans*; F. M. neg. 27931 of TYPE ex G).

ARGENTINA: CHACO: Colonia Benítez, *Schulz* 1166 (SI). Las Palmas, *P. Jörgensen* 2696 in part (GH). SANTA FÉ: Rosario, *Morello* 410 (SI). Between San Juan and Adelaida Vieja, *Ragonese* 3299 (SI). BUENOS AIRES: Nuñez, *Burkart* 3630 (SI), 4887 (GH, SI). Tigre, *Hicken*, Apr. 9, 1898 (SI). Barracas, *Venturi* 72 (SI), 75 (UC). Eva Perón [as La Plata], *Spegazzini* Herb. No. 21797 (US, fragment of TYPE of *Ae. bonariensis*). Belgrano, *Parodi* 9892 (GH); *Hicken*, Jan. 15, 1901 (SI).

LOCAL NAMES: Frisolillo (Colombia); cortiça (Brazil).

As indicated in the key, the fairly large flowers and the relatively short-stipitate fruits, glabrous to moderately hispid, serve to distinguish *Ae. rudis* from other species of the series.

There is considerable variation in size of fruit. Perhaps there should be some subspecific categories, but it is difficult to make any convincing delimitations. The northernmost specimens, and a few from Brazil, are the largest, both vegetatively and as to fruit. A few of these large specimens have fruits without murications, and, instead, have margins which are thicker than usual. Most of the collections from the central part of the range have relatively narrow fruit. The Argentine collections have smaller flowers, medium sized fruits, and more than average ciliation of the leaflets. The amount of glandular development varies slightly throughout the range. Least glandular is the type collection of *Ae. natans*, which in all other respects appears to be conspecific with *Ae. rudis*.

The name *Ae. rudis* has frequently been misapplied. Specimens so named have been found chiefly among material classified in this paper as *Ae. scabra* and *Ae. denticulata*. Many collections cited as *Ae. rudis* in this paper have previously been identified as *Ae. hispida* and *Ae. virginica*.

Bentham reduced *Ae. rudis* to synonymy under *Ae. hispidula*. Comparison of the type of *Ae. hispidula* with a photograph of the type of *Ae. rudis*, supplemented by certain observations kindly made for me by Mr. N. Y. Sandwith at Kew, indicates that the two taxa are distinct, the former being treated in this paper as a variety of *Ae. sensitiva*.

Dr. A. Burkart, of San Isidro, Argentina, has graciously sent information concerning *Ae. bonariensis*, including a fragment of the type. He places this species in synonymy with *Ae. sensitiva*, but I have been unable to find a specimen of *Ae. sensitiva* with leaflets as large as those of *Ae. bonariensis*. It appears to me that *Ae. bonariensis* more closely conforms to *Ae. rudis*, as does the Venturi collection No. 75, which was originally distributed as *Ae. bonariensis*.

20. *Aeschynomene ciliata* Vog. Linnaea 12: 84. 1838.

Stem 1–2.5 meters high, hispid with yellow, glandular hairs about 2–4 mm. long; stipules 10–20 mm. long, 3–6 mm. wide, serrulate-ciliate, the upper portion acute, 3–4 times as long as the rounded lower portion; leaves about 5–20, commonly 10–15, cm. long, about 30–40-foliolate, the petiole and rachis hispid; leaflets 10–30 mm. long, 3–8 mm. wide, serrulate-ciliate to subentire; peduncles and pedicels hispid; bracts ovate-subcordate, subacuminate, serrate-ciliate, 4–6 mm. long, 2–3 mm. wide; bracteoles lanceolate-ovate, subacuminate, ciliate,

about 3–4 mm. long, 1–2 mm. wide; flowers about 8–10 mm. long; calyx 5–7 mm. long; standard 8–10 mm. long, reflexed, the claw 2 mm. long, the blade orbiculate, about 5–8 mm. in diameter, serrulate-ciliate, emarginate; wings about 8 mm. long, the claw 3 mm. long, the blade about 5 mm. long and 4 mm. wide, ciliate along the outer margin; keel petals with claws 1.5 mm. long, the blades 5–8 mm. long, about 3 mm. wide, entire; stamens about 8 mm. long; fruit 6–12-, commonly 8–10-, articulate, the margins at maturity entire or nearly so, the stipe 5–10 mm. long, hispid, the articles 3–5 mm. long, 5–7 mm. wide, smooth, not muricate, hispid; seeds 3–4 mm. long, about 2 mm. wide.

TYPE LOCALITY: "Between Rio de Janeiro and Cabo Frio" and "Para" (Belém), Brazil. Syntypes collected by Sellow and by Sieber (No. 13736), the latter cited below.

DISTRIBUTION: Southern México to Ecuador and Brazil, in wet places (fig. 6).

MÉXICO: CHIAPAS: Escuintla, *Matuda* 44 (NY, US), 2121 (Ch, Mo, NY). Acapetahua, *Matuda* 16755 (Ch). TABASCO: Laguna de Curahueso, *Rovirosa* 443 (NY, US). "YUCATAN & TABASCO": *E. P. Johnson* 28 (US).

GUATEMALA: SAN MARCOS: Ayutla, *Steyermark* 38028 (Ch). CHIMALTENANGO?: "L. Pino," *J. R. Johnston* 1846 (Ch). RETALHULEU: Retalhuleu, *Standley* 66706 (Ch). ESCUINTLA: *Aguilar* 1670 (Ch). SANTA ROSA: Sabanetas, *Standley* 60431a (Ch). Cerro Redondo, *Steyermark* 52172 (Ch).

NICARAGUA: GRANADA: Granada, *Baker* (143) 2278 (GH, Mo, NY).

PANAMÁ: CANAL ZONE: Gatún, *Hayes* 184 (NY). Mindi, *Cowell* 173 (NY). Barro Colorado Island, *Bailey & Bailey* 763 (Ch). CANAL ZONE OF COLÓN: Between France Field and Cativál, *Standley* 30270 (US). COLÓN: Chagres, *Fendler* 99 (Ch, GH, Mo, US). PANAMÁ: Matías Hernandez, *Pittier* 6946 (GH, NY, US). Juan Díaz, *Standley* 30516 (US).

JAMAICA: CORNWALL: Lacovia, *Britton* 1498 (NY). Westmoreland, *Purdie* (GH).

COLOMBIA: ATLÁNTICO: Barranquilla, *Elias* 529 (US). BOLÍVAR: Cañabetal, *Pennell* 3868 (Ch, GH, Mo, NY, US). Magangué, *Pennell* 3949 (GH, NY, US). Montería, *Araque & Barkley* 19. Bol. 98 (US). CHOCÓ: Playa de Togo-ramá, *Killip & Cuatrecasas* 39070 (Ch, US). Palmira, *García-Barriga* 6413 (US). EL VALLE: Buenaventura, *Cuatrecasas* 19754 (Ch, US); *Killip* 5513 (GH, US), 5513a (NY), 33017 (Ch, GH, US), 33229 (US). Santa Rosa, Dagua Valley, *Killip* 11560 (GH, NY, US). Córdoba, *Pittier* 576 (US). La Paila, *Holton* 985 (NY), 986 (GH, NY). AMAZONAS: Loretayacu River, *Schultes & Black* 8276 (US), 8480 (US).

ECUADOR: Los Ríos: Río Pita, *Asplund* 5510 (US).

BRAZIL: AMAZONAS: Manaus, *Kuhlmann (Comm. Rondón)* 2021 (R). Tefé, *Pires* 1324 (US). PARÁ: Belém, *Sieber* 13736 (photo of SYNTYPE ex B). Rio Tocantins, Jacundá, *Fróes* 27105 (US). Santarém, *Black & Ledoux* 50–10311 (IAN). PERNAMBUCO: Tapera, *Pickel* (905), Feb. 1931 (Ch, GH, Mo, R, US), 3728 (Ch, GH, NY). BAHIA: *Salzmann* (Mo). RIO DE JANEIRO: Rio de Janeiro, *Riedel* 126 (GH, US); *Wilkes Exped.* (US). Mons Corcovado, *Burchell* 1546

(GH, NY). São Christavão, *Glaziou* 8634 in part (NY). Santana, *Emygdio* 394 (R). Rio Itabapoana, *Sampaio* 1031 (R). DISTRITO FEDERAL: Jacarepaguá, *Vidal*, Mar. 15, 1933 (R).

LOCAL NAMES: Dormiderfa (Brazil).

This species is conspicuous because of the abundance of long, yellow, glandular hairs on its stems and flowering axes. Most specimens exhibit unusually large leaflets for the series, and for the section; the largest leaflets are about 30 mm. long and 8 mm. wide, usually ciliate.

The fruits are rather distinctive, dark brown when mature, the surface smooth but beset with glandular hairs, the margins essentially entire, the articles slightly wider than long, and the stipe about 5–10 mm. long.

Bentham treated *Ae. ciliata* as a synonym of *Ae. hispida*. However, examination of photographs of types of the two species shows the latter to be the same as *Ae. virginica*, and distinct from *Ae. ciliata*.

Although two collections were cited in the original description, and a lectotype should be designated, I hesitate to do so without seeing the original specimens.

21. *Aeschynomene scabra* G. Don, Gen. Syst. Gard. Bot. 2: 284. 1832.

Stem up to about 3m. high, erect, hispidulous; stipules about 7–15 mm. long, 2–3 mm. wide, serrulate-ciliate, or rarely subentire, the portion above the point of attachment acuminate, about 3 times as long as the subacuminate lower portion; leaves 5–12 cm. long, about 30–55-foliolate, the petiole and rachis hispidulous; leaflets 5–15 mm. long, 1.5–3 mm. wide, entire or rarely denticulate with a few marginal hairs; peduncles and pedicels hispidulous; bracts narrowly ovate to subcordate, about 3–4 mm. long, 1.5–2 mm. wide, acute, ciliate-denticulate or sometimes lacinate; bracteoles ovate-oblong, about 3 mm. long, 2 mm. wide, subacuminate, ciliate-denticulate; flowers 8–11 mm. long; calyx 6–7 mm. long; standard commonly 10 mm. long, the claw 2 mm. long, the blade ovate-elliptic, about 8 mm. long and 5 mm. wide, retuse, ciliate; wings about 9 mm. long, the claw scarcely 1 mm. long, the blade about 8 mm. long, 2–3 mm. wide, somewhat ciliate; keel petals about as long as the wings, curved, the blade about 2 mm. wide; stamens about 10 mm. long; fruit commonly 10–14-articulate, the upper edge essentially entire, the lower edge crenate or subentire, the stipe (5–)10–15 mm. long, often curved, glabrous toward the base, hispidulous toward the first article, the articles 3–4 mm. wide, 3–3.5 mm. long, hispidulous, rarely subglabrous, verrucose or muricate at the center; seed about 2.5 mm. long and 2 mm. wide.

TYPE LOCALITY: "Native of Guayaquil," the collection attributed to Ruiz and Pavón, but probably actually made by Tafalla, cited below.

DISTRIBUTION: México southward to Perú, in wet or moist places up to about 1,300 m.; also in eastern Brazil and Tahiti, probably introduced (fig. 6).

MÉXICO: *Sessé & Mocifio* 1945 (Ch), 1946 (Ch), 1948 bis (Ch). *Haenke* (R). SINALOA: Culiacán, *Brandege*, Oct. 12, 1904 (Ch, UC, US), Nov. 10, 1904 (UC). JALISCO: Magdalena, *Pringle* 4556 (Ch, GH, Min, Mo, NY, UC, US). VERA CRUZ: Córdoba, *Kerber* 67 (US); *Bourgeau* 1860 (GH, K); *Purpus* 426 (Mo, UC, US). *Botteri* 663 (US); *Muller* 145 (Mo, NY); *Bourgeau* 3185 (Ch, GH). MORELOS: Cuernavaca, *Pringle* 9093 (Ch, GH, Mo, US). México: Tejupilco, *Hinton* 1930 (Mo, US), 4957 (Ch, GH, US). GUERRERO: Tlaxmalac (as "Taxmalac"), *Seler & Seler* 4237 (GH, US). Manchón, *Hinton* 9667 (GH, NY, US). Vallecitos, *Hinton* 11662 (GH, NY, US). GUERRERO or MICHOACÁN: "Baqueta," *Langlassé* 492 (GH, US). Coyuca, *Hinton* 6679 (NY). OAXACA or CHIAPAS: Between Tapaná and Tonalá, *Nelson* 2864 (GH, US).

GUATEMALA: ZACAPA: Zacapa, *Standley* 72079 (Ch). JALAPA: Jalapa, *Standley* 76387 (Ch). AMATITLÁN: Laguna Amatitlán, *J. D. Smith* 2308 (GH, NY, US). SANTA ROSA: Estanzuela, *Heyde & Lux* 3710 (GH, US). San Juan Utapa, *Heyde & Lux* 6097 (GH, US). JUTIAPA: Jutiapa, *Standley* 76004 (Ch).

HONDURAS: MORAZÁN: Monte Redondo, *Molina* 723 (US). Casa Blanca, *Glassman* 2051 (Ch). Jicarito Marsh, *Glassman* 2185 (Ch). Zamorano, *Standley* 1467 (Ch), 1822 (Ch), 2245 (Ch), 4002 (Ch), 4038 (Ch), 4990 (Ch), 12185 (Ch), 12348 (Ch); *Standley & Molina* 4633 (Ch); *Molina* 1412 (US); *J. Valerio* 52 (Ch), 1060 (Ch), 1067 (Ch), 1255 (Ch); *Swallen* 11158 (US). Yeguaré, *J. Valerio* 297 (Ch). Río de la Orilla, *Morton* 7128 (US). COMAYAGUA: El Banco, *J. Valerio* 2502 (Ch), 2642 (Ch).

EL SALVADOR: AHUACHAPÁN: Ahuachapán, *Standley* 19829 (US).

COLOMBIA: HUILA: La Plata ("Tolima"), *Lehmann B. T.* 1056 (Ch, GH, NY).

ECUADOR: GUAYAS: Guayaquil, *Ruiz & Pavon* (Ch, probably TYPE COLLECTION).

PERÚ: La Libertad: Río Moche, *López-Miranda* 883 (US).

⁶ BRAZIL: CEARÁ: *Allemão* 351 in part (R). PERNAMBUCO: Tapera, *Pickel* 3089 (Ch, GH, UC, US).

This species is distinguished by its relatively slender, long-stipitate fruits, usually 10-14-articulate. The plants are moderately hispid, usually more so than *Ae. indica* or *Ae. evenia*, but much less so than *Ae. ciliata*.

The length of the fruit-stipe is usually a good diagnostic character in *Aeschynomene*. In *Ae. scabra*, however, as in a few other species, there is considerable variability of that character. Most of the collections exhibit stipes 10-15 mm. long, but a few are as short as 5 mm. In several cases, moderately long as well as short-stiped fruits occur on the same plant. In some specimens it can be recognized that the longer stipes are due to abortion of ovules toward the base of the ovary.

There is also some variation in fruit width, usually the wider fruits having the shorter stipes.

The above observations lend credence to my interpretation of the species and the type specimen. The "Ruiz and Pavón" sheet, presumably representing the type of *Ae. scabra*, consists of two separate branches. Vegetatively, there is no apparent difference except that one is more robust than the other. The more slender branch bears flowers equivalent to those of the specimens cited above, and fruits which are smooth, narrow, about 3 mm. wide, with stipe about 8 mm. long. The other branch, flowerless, has fruits which are broader, about 4 mm. wide, with shorter stipes, about 5 mm. long, and joints which are "muricated in the center," as characterized in the original description of *Ae. scabra*.

22. *Aeschynomene denticulata* Rudd, sp. nov.

Herba suffruticosa, caulibus hispidulis nonnunquam glabratis; stipulae infra insertionem productae, margine dense denticulato-ciliato; folia 4–6 cm. longa, 24–40-foliolata, petiolis rhachibusque hispidulis; foliola 5–10 mm. longa, 1.5–3 mm. lata, denticulato-ciliata, subtus aliquanto glauca; flores 10–12 mm. longi; legumen 10–14-articulatum, marginibus utrinque subrectis, stipite circiter 7–11 mm. longo, articulis 3–4 mm. longis, 4 mm. latis, hispidulis, saepe medio verrucosis vel muricatis.

Stems up to about 1.5 m. high, hispidulous, sometimes glabrate; stipules 10–15 mm. long, 2–3 mm. wide, the apical portion acuminate, slightly more than twice as long as the acute to obtuse, sometimes erose, basal auricle, the margin closely denticulate-ciliate; leaves 4–6 cm. long, about 25–40-foliolate, the petiole and rachis hispidulous; leaflets 5–10 mm. long, 1.5–3 mm. wide, denticulate-ciliate, the lower surface somewhat glaucous; pedicels and peduncles hispidulous; bracts graduating from stipule-like to subcordate-ovate, about 3–4 mm. long and 2 mm. wide, acute, serrulate, sometimes laciniate, ciliate; bracteoles lanceolate-ovate, acute to obtuse, denticulate-ciliate, about 2–4 mm. long, 1–2 mm. wide; flowers 10–12 mm. long; calyx 7–8 mm. long; standard 10–12 mm. long, the claw 0.5–1 mm. long, the blade ovate-suborbiculate, about 9.5–11 mm. long, 7–10 mm. wide, ciliate; wings about 9–11 mm. long, the claw 1 mm. long, the blade 8–10 mm. long, 3.5–4 mm. wide, ciliate in part; keel about 10–11 mm. long, the claws about 1 mm. long, the blades 9–10 mm. long, 3–3.5 mm. wide; stamens 10–12 mm. long; fruit 10–14-articulate, the margins subentire, the stipe about 7–11 mm. long, the articles 3–4 mm. long, about 4 mm. wide, hispidulous, often verrucose or muricate at the center; seeds about 3 mm. long and 2 mm. wide.

TYPE: In the U. S. National Herbarium, No. 1515226, collected at Abra Grande, Department of Orán, Salta, Argentina, altitude 750 m., Nov. 17, 1927, by S. Venturi (No. 5604). Duplicates at Ch, GH, K, Mo, UC.

DISTRIBUTION: Chaco region of Bolivia, Paraguay, and Argentina, and eastward into Brazil, in wet places, at elevations up to about 1,200 m. (fig. 6).

BOLIVIA: SANTA CRUZ: Buena Vista, *Steinbach* 5398 (GH, NY).

BRAZIL: RIO GRANDE DO SUL: Pôrto Alegre, *Malme* 679 (R).

PARAGUAY: *Hassler* 1651 (SI). "Chaco, 21° lat.," *Fiebrig* 1321a (K). BOQUERÓN: Palma Chica, *T. Rojas* 7726 (SI). GUAIRÁ: Villarrica, *Jørgensen* 4205 in part (Ch, Mo). CORDILLERA: Tobatí, *Fiebrig* 807 (Ch).

ARGENTINA: SALTA: Cerrillos, *Meyer* 3554 (GH). Coronel Moldes, *Meyer* 3554 (GH). TUCUMÁN: Monteros, *Venturi* 1640 (US). Leales, *Venturi* 709 (GH, SI). Bella Vista, *Venturi* 2791 (US). FORMOSA: Guayculec, *Jørgensen* 3220 in part (Mo, US). CHACO: Las Palmas, *Jørgensen* 2696 in part (Mo, SI, US). Colonia Benitez, *A. G. Schulz* 3017 (US). SANTA FÉ: Reconquista, *Burkart* 5876 (SI); *Job* 770 (Ch, SI). CORRIENTES: La Cruz, *Burkart* 8181 (SI). Ituzaingó, *Spegazzini* 10049 (US). Estancia Santa Teresa, *Pedersen* 109 (US). MISIONES: San Ignacio, *Berti y Escalante* 513 (SI). Posadas, *Ekman* 1721 (Mo, NY); *Burkart* 14040 (US).

This species somewhat resembles *Ae. evenia* and *Ae. pluriarticulata* in fruit characters, but the fruits are longer stipitate and slightly more glandular. The denticulate leaflets are larger, but otherwise resemble those of *Ae. evenia* var. *serrulata*. The flowers of *Ae. denticulata* are considerably larger than those of *Ae. evenia* and *Ae. scabra*.

23. *Aeschynomene magna* Rudd, sp. nov.

Herba suffruticosa, caulibus hispidulis nonnunquam glabratis; stipulae infra insertionem productae, margine dense denticulato-ciliato; folia 5–10 cm. longa, circiter 40–60-foliolata, petiolis rhachibusque hispidulis; foliola 5–10 mm. longa, 2–3 mm. lata, denticulato-ciliata, subtus aliquanto glauca; flores 15–20 mm. longi; legumen 8-articulatum, marginibus utrinque subrectis, stipite 20–30 mm. longo, articulis circiter 6 mm. longis et 5 mm. latis, hispidulis, saepe medio verrucosis vel muricatis.

Stems up to about 1.5 m. high, hispidulous, sometimes glabrate; stipules 10–15 mm. long, 2–3 mm. wide, the apical portion acuminate, slightly more than twice as long as the acute, basal auricle, the margin closely denticulate-ciliate; leaves 5–10 cm. long, about 40–60-foliolate, the petiole and rachis hispidulous; leaflets 5–10 mm. long, 2–3 mm. wide, denticulate-ciliate, the lower surface somewhat glaucous; pedicels and peduncles hispidulous; bracts subcordate-ovate, about 4 mm. long and 2 mm. wide, acute, serrulate, ciliate; bractcoles lanceolate-ovate, acute to obtuse, denticulate-ciliate, about 4–4.5 mm. long, 1.5–2 mm. wide; flowers 15–20 mm. long; calyx about 10 mm.

long; standard 15–20 mm. long, erect or somewhat reflexed, the claw about 1–1.5 mm. long, the blade ovate-suborbiculate, 14–18.5 mm. long, 13–14 mm. wide, ciliate; wings about 15–16 mm. long, the claw 1 mm. long, the blade 14–15 mm. long, 3.5–7 mm. wide, ciliate in part; keel about 15 mm. long, the claws 1 mm. long, the blades about 14 mm. long, 5–6 mm. wide; stamens 15–20 mm. long; fruit about 8-articulate, the margins subentire, the stipe 20–30 mm. long, the articles about 6 mm. long and 5 mm. wide, hispidulous, somewhat verrucose or muricate at the center; seeds about 4 mm. long and 2 mm. wide.

TYPE: In the Gray Herbarium, collected at Centurion, between the Río Apa and the Río Aquidaban, Concepción, Paraguay, Nov. 8, 1908, by K. Fiebrig (No. 4059).

DISTRIBUTION: Known only from the Department of Concepción, Paraguay (fig. 6).

PARAGUAY: CONCEPCIÓN: Estrella, *Fiebrig* 4340 (US).

This species exhibits the largest flowers of the series. They are equaled in size only by those of *Ae. paraguayensis*, and approached by those of *Ae. montevidensis*, both of the series *Montevidenses*, and natives of the same general region as *Ae. magna*.

Section II. Ochopodium

Aeschynomene section *Ochopodium* Vog. *Linnaea* 12: 86. 1838.

Aeschynomene subgenus *Ochopodium* (Vog.) J. Léonard, *Bull. Jard. Bot. État. Brux.* 24: 84. 1954.

Herbs or shrubs; indument of glandular hairs or simple pubescence, or the plants sometimes glabrous; stems erect to prostrate; stipules striate, subcordate to lanceolate, attached at the base, not peltate; leaves 5–80-foliolate; leaflets oblong to orbiculate, ovate to obovate, glabrous to densely pubescent, with or without marginal glandular hairs; inflorescences axillary and sometimes terminal, racemose, sometimes paniculate; calyx campanulate with five subequal lobes; standard petal pubescent on the outer face in all but a few species, the other petals glabrous; seeds light brown to black, smooth, sublustrous.

In the absence of previous typification, *Aeschynomene falcata* (Poir.) DC. is here designated as type of the section *Ochopodium*. This species was included by Vogel in his original treatment of the section and is, apparently, correctly recognized today. It falls into my series *Viscidulae*, species No. 30.

Series 6. *Viscidulae* Rudd, ser. nov.

Herbae prostratae vel suberectae, nonnumquam suffruticosae; stipulae non productae; foliola imprimis obovata, 1-costata, costa

centrali vel fere centrali; flores fructusque pro sectione *Ochopodio* plerumque inter minores.

Herbs, sometimes suffrutescent; stems prostrate to suberect; stipules attached at the base, not appendiculate; leaves 5-32-foliolate; leaflets preponderately obovate, the costa central or nearly so, the secondary venation reticulate; flowers relatively small, less than 10 mm. long; fruit either long or short-stipitate, the upper margin entire, the lower crenate, the articles mostly less than 5 mm. in diameter.

The type of the series is here designated as *Ae. viscidula* Michx.

24. *Aeschynomene viscidula* Michx. Fl. Bor. Am. 2: 74. 1803, non *Ae. viscidula* Roxb. ex Willd. 1809.

Aeschynomene prostrata Poir. in Lam. Encycl. Suppl. 4:76. 1816.

Secula viscidula (Michx.) Small, Fl. Miami 90, 200. 1913.

Aeschynomene eriocarpa Standl. & Steyerm. Field Mus. Publ. Bot. 23:9. 1943.

Stems prostrate to about 1 m. long, viscidulous-pubescent with glandular hairs and also crisp-pubescent; stipules deltoid-ovate, acute, 2-4 mm. long, 1.5-2 mm. wide, hispidulous to subglabrous, ciliate; leaves to about 2.5 cm. long, 5-9-foliolate, the petiole and rachis pubescent like the stem; leaflets 4-10 mm. long, 3-7 mm. wide, obliquely obovate-cuneate, ciliate-denticulate, mucronulate, the costa subcentral, the upper surface pubescent, reticulate; inflorescences 1-8-flowered, frequently longer than the subtending leaves, the peduncles and pedicels pubescent like the stem; bracts stipule-like, decreasing in size toward the flowers, the bracteoles ovate, about 2 mm. long and 1 mm. wide; flowers 5-7 mm. long; calyx 2.5-3.5 mm. long, hispidulous, ciliate; standard about 6 mm. long, the claw 1-1.5 mm. long, the blade orbicular, about 5 mm. in diameter, pubescent on the outer face, retuse, entire; wings about the same length as the standard, the blade about 2 mm. wide; keel falcate, the claws about 3 mm. long, the blades 2.5-3 mm. long, about 2 mm. wide; stamens about 6 mm. long; legume commonly 2- or 3-(rarely 4- or 5-) articulate, the stipe 1-3 mm. long, subglabrous, the articles 3.5-4 mm. in diameter, densely white-tomentulose and commonly beset with glandular hairs, or rarely the terminal articles glabrous; seeds 2.5-3 mm. long, about 2 mm. wide.

TYPE LOCALITY: "Habitat in arenosis insulae Cumberland et Florida," United States. Type presumably was collected by Michaux but neither specimen nor exact locality was cited.

DISTRIBUTION: In sand, upland oak woods, and high pine lands of southern United States, and in tropical America southward to Brazil, at elevations to about 1,800 m. (fig. 7).

UNITED STATES: GEORGIA: Charlton County: Traders Hill, Harper 1498 (Mo, NY, US). FLORIDA: Chapman (Ch, GH, Mo, NY, US). Buckley (GH). Volusia County: Spring Garden, Rugel 176 (Ch, GH, Mo, NY, US). Polk

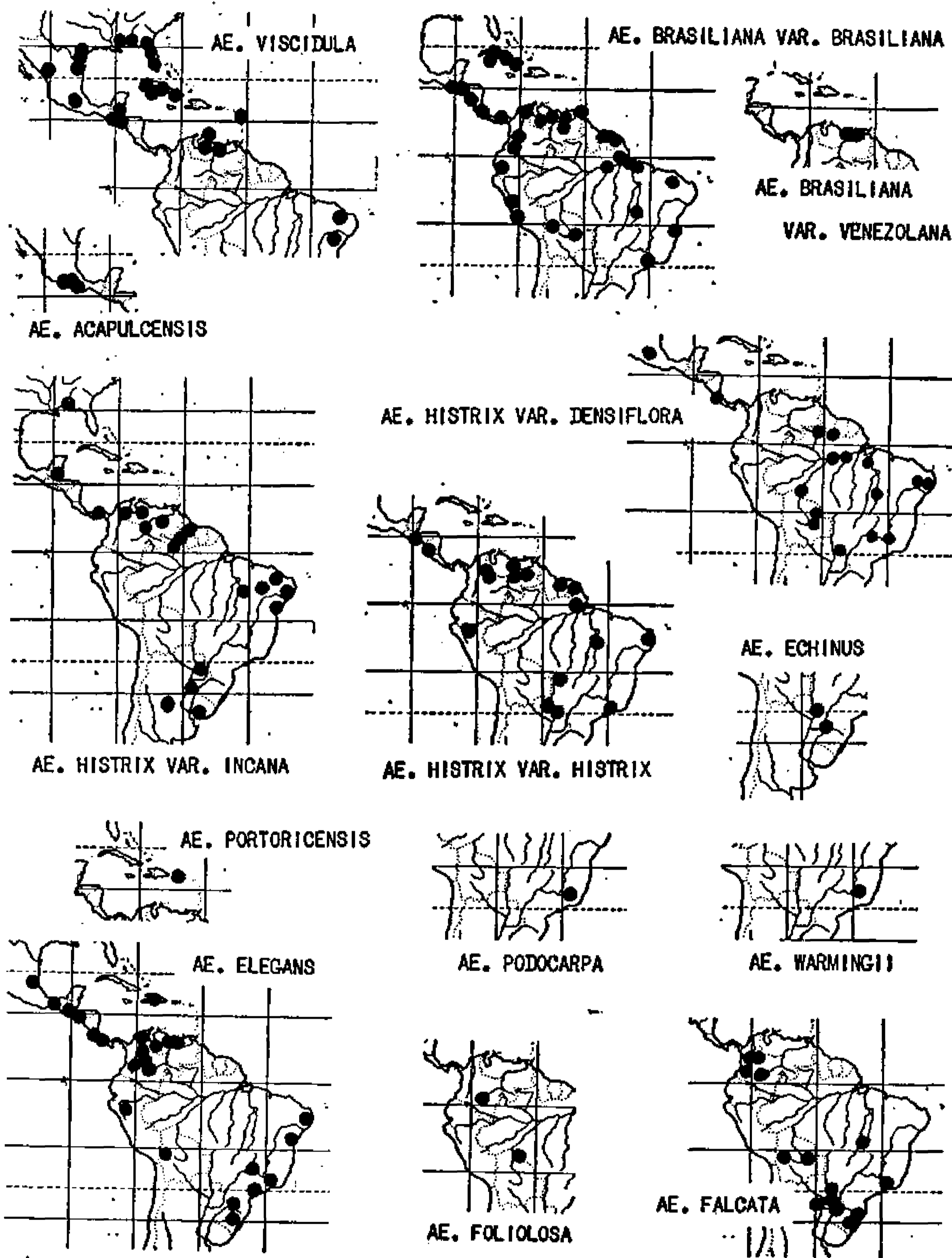


FIGURE 7. Distribution of the *Viscidulae*.

County: Davenport, *McFarlin* 6243 (UC); Kissinger Spring, *McFarlin* 5568 (Ch). Duval County: Jacksonville, *Curtiss* 607 (Ch, GH, Min, Mo, NY, UC, US), 4236 (US), 4238 (Mo, UC), 4239 (NY), 4901 (GH, Min, NY, UC, US); St. Nicholas, *Lighthipe* 227 (NY). Sumter County: Wildwood, *Webber* 2 (Mo). Lake County: Eustis, *Nash* 593 (GH, Mo, NY, UC, US), 1847 (NY, US); *Hitchcock* 341 (Ch), 342 (Ch); *Biltmore Herb.* No. 226a (NY). Hernando County: Hernando, *Degener* 5179 (NY). Orange County: *Fredholm* 5348 (GH). Lake Brantley, *Lewton*, June 21, 1894 (NY); Clarcona, *Pieters* 89 (US); Orlando, *O'Neill*, Aug. 12, 1929 (US). Columbia County: Lake City, *Rolfs* 104 (Ch, Mo);

Hitchcock 343 (Ch). Putnam County: Johnson, *Barnhart* 2183 (NY). Brevard County: *Fredholm* 5960 (GH, US). San Antonio, *Schulz* 417 (US). Alachua County: Archer, *Quaintance* 1167 (Ch); High Springs, *Wiegand & Manning* 1580 (GH); Gainesville, *Murrill*, June 1, 1937 (Mo). Hillsborough County: Tampa, *Leeds*, Oct. 12, 1892 (Ch); *O'Neill & Blanton* 6767 (Ch); *Garber*, in 1877 (US); Sutherland, *Barnhart* 2762 (Ch, Min, NY). Levy County: Cedar Key, *Edw. Palmer* 128, in 1874 (Ch, Mo, US); *Garber*, Apr. 1876 (Ch, NY, US); Rosewood, *Garber*, June 1876 (Ch). Lee County: Fort Myers, *Hitchcock* 51 (Ch, GH, Min, Mo, NY, US). Highlands County: Lake Placid, *McFarlin* 11116 (GH). Dade County: Ross Hammock, *Small, Mosier, & Small* 6510 (NY, US); Ross-Costello Hammock, *Small, Mosier, & Small* 6563 (GH, NY); Miami, *Small, Mosier, & Small* 6429 (Mo, NY); Cutler, *Small, Mosier, & Small* 6735 (NY); between Cutler and Cocoanut Grove, *Small & Wilson* 1589 (NY); *Small & Carter* 741 (NY). Escambia County: Pensacola, *Brinker* 221 (Mo); along Escambia Bay, *Biltmore Herb. No. 226b* (NY). Franklin County: St. Vincent Island, *Chapman*, in 1868 (Mo). MISSISSIPPI: Jackson County: Horn Island, *Tracy* 6460 (Ch, GH, Min, Mo, NY, US); *Mohr*, Aug. 1878 (US); Harrison County: Between Gulfport and Long Beach, *Joor*, Sept. 19, 1891 (Mo); Mississippi City, *Demaree* 30686 (US); Ship Island, *Tracy, Earle, & Underwood*, June 1896 (NY, US); Cat Island, *Tracy & Lloyd* 174 (Ch, GH, Min, Mo, NY, US). TEXAS: Nueces County: Corpus Christi Bay, *Tharp*, in 1928 (Mo, UC); Flour Bluff, *Cory* 20512 (GH); Padre Island, *Tharp* 4716 (US). Bexar County: *Parks* 5075 (GH). Atascosa County: Pleasanton, *E. J. Palmer* 9774 (Mo). Wilson County: Terrell Hill, *Cory* 15080 (GH). Medina County: Devine, *Tharp*, June 24, 1941 (GH, Mo, NY, US). Brooks County: Encino, *Whitehouse* 44284 (GH). San Patricio County: Aransas Pass, *Cory* 20362 (GH).

MÉXICO: TAMAULIPAS: Matamoros, *Berlandier* 990 (GH, Mo). Between Matamoros and San Patricio, *Berlandier* 2420 (GH, Mo, US). Between Matamoros and Goliad, *Berlandier* 3137 (Ch, GH, Mo, NY). OAXACA: Oaxaca, *Pringle* 5627 (GH, US). Valle de Oaxaca, *Liebmann* 4712 (Ch, fragm. ex C). SINALOA: Culiacán, Cerro Colorado, *Brandegee*, Nov. 5, 1904 (UC).

GUATEMALA: HUEHUETENANGO: Between San Ildefonso and Cuilco, *Steyermark* 50750 (Ch). ZACAPA: Santa Rosalía, *Steyermark* 29313 (Ch, TYPE of *Ae. eriocarpa*). JUTIAPA: Jutiapa, *Standley* 75101 (Ch), 75406 (Ch), 76194 (Ch).

BRITISH HONDURAS: BELIZE: Big Fall, *Lundell* 4400 (Ch).

EL SALVADOR: SANTA ANA: Chalchuapa, *Calderón* 1039 (NY, US).

CUBA: PINAR DEL RÍO: Laguna Jovero, *Shafer* 10711 (Ch, Mo, NY, US), 10991 (NY). Between Pinar del Río and Coloma, *Britton, Britton, & Cowell* 10091 (NY). Between Candelaria and Artemisia, *Wilson* 1741 (NY). Guane, *León & Roca* 6968 (NY). Cortés, *Britton & Cowell* 10001 (NY, US). Chirigota, *León & Roca* 7470 (NY). HABANA: Isla de Pinos, *Britton, Wilson & Selby* 14472 (NY); *Britton, Britton, & Wilson* 15099 (Ch, GH, Mo, NY, US); *Marie-Victorin & Alain* 123 (GH); *Killip* 42894 (US), 43115 (US). LAS VILLAS: Gara, *León* 1298 (NY). Sancti-Spiritus, *León* 5360 (NY); Cienequita, *Combs* 408 (Ch, GH, Mo, US). ORIENTE (?): "In Cuba Orientali in 1859, 1860," *C. Wright* (Mo), 123 in part (NY, US).

LESSER ANTILLES: GUADELOUPE: *Duss* 3923 (Ch, GH, Mo, NY, US). CURAÇAO: *Boldingh* 5215 (NY). Macao to Playa Grande, *Britton & Shafer* 3041 (NY). *Pareira, Arnoldo* 1843 (US).

VENEZUELA: LARA: Barquisimeto, *Burkart* 17131 (US). GUARICO: Between El Socorro and Pariaguán, *Burkart* 17220 (US).

BRAZIL: CEARÁ: Quixadá, *Drouet* 2428 (Ch, GH, US). BAHIA: Joazeiro, *Zehntner* 42 (R), 135 (R), 807 (R).

This species is readily distinguished by its short-stipitate, densely white-tomentulose fruits with articles 3.5–4 mm. in diameter. Herbarium specimens usually have a considerable amount of sand adhering to them, attesting to the viscid nature of the plants.

There is some instability of fruit indument; the glandular hairs occasionally fail to develop, or the tomentum may be lacking from the terminal one or two joints of otherwise normal fruits. These aberrances, when they occur, are often consistent over the entire plant. Specimens from Texas, northern México, Guadeloupe, and Curaçao have been observed with partially glabrous fruits.

Aeschynomene prostrata, based on *Ae. viscidula* Michx., was proposed by Poiret because of homonymy with Willdenow's *Ae. viscidula*. However, the latter apparently was merely an unpublished herbarium name until 1809 and thus became the illegitimate later homonym.

The type specimen of *Ae. eriocarpa* appears to be an individual of *Ae. viscidula* whose fruits show no development of glandular hairs, a condition which occurs occasionally throughout the range of the species. Another name is therefore added to the synonymy.

Small included *Ae. viscidula* in his genus *Secula*, which in this paper is placed in synonymy under *Aeschynomene*. The calyx and corolla characters on which Small based his generic separation are not believed critical enough to warrant such treatment.

25. *Aeschynomene acapulcensis* Rose, Contr. U. S. Nat. Herb. 5: 191. 1899.
Aeschynomene picachensis Brandeg. Univ. Calif. Publ. Bot. 6: 181. 1915.

Stems prostrate, to about 8 dm. long, crisp pubescent to glabrous, sometimes also hispidulous; stipules subovate, acute to acuminate, 2–4 mm. long, 1.5–2 mm. wide at base, subglabrous to sparsely hispidulous, entire, sometimes ciliolate; leaves 5–7-foliolate, the petiole and rachis pubescent like the stems; leaflets obovate-cuneate, 5–15 mm. long, 3–7 mm. wide at maximum, obtuse, mucronulate, entire or glandular-denticulate, the upper surface glabrous, the lower appressed-pubescent, subglabrous to reticulate; inflorescences few-flowered, longer than the subtending leaves; peduncles and pedicels with indument like the stems; bracts ovate, acute, 1.5–2 mm. long, 1–1.5 mm. wide, subglabrous to pubescent, the bracteoles similar but 2–3 mm. long, about 1 mm. wide; flowers about 7 mm. long; calyx 3 mm. long, subglabrous to pubescent; standard about 7 mm. long, the claw 1 mm. long, the blade suborbiculate, about 6 mm. in diameter, entire, retuse, the outer face pubescent to subglabrous; wings 6–6.5 mm. long, the claw about 1 mm. long, the blade about 5 mm. long, 2.5–3 mm. wide; keel falcate, 7–8 mm. long, the claw 1 mm. long, the blade 6–7 mm. long, about 1.5 mm. wide; stamens about 7 mm. long; fruit commonly 2- or 3-articulate, the stipe 4–5 (–7) mm. long, glabrous or

hispid, sometimes glabrate, the articles 4–5.5 mm. in diameter, glabrous; seeds about 3 mm. long, 1.5–2 mm. wide, dark brown.

TYPE LOCALITY: Acapulco, Guerrero, México. Type collected by Edw. Palmer (No. 126, between October 1894 and March 1895), cited below.

DISTRIBUTION: México, Guerrero to Oaxaca (fig. 7).

MÉXICO: GUERRERO: Acapulco, *Edw. Palmer* 126 in 1894–95 (CH, GH, Mo, NY, UC, US TYPE). OAXACA: "Cerro de Picacho," *Purpus* 7162 (Ch, GH, Mo, NY, UC TYPE of *Ae. picachensis*, US). "S. Augustin," *Liebmann* 4710 (Ch, UC, US).

The relatively large, glabrous fruits, with stipes 4–7 mm. long, serve to distinguish this species from others of the series.

Although specimens of the three collections cited are not identical, they do not seem to possess significant differences. Considerable range of stipe length can be observed on each plant. Since there is some variability of glandular development on the vegetative parts in most species of the genus, the fact that type material of *Ae. picachensis* exhibits an abundance of glandular hairs, which are lacking on the other two collections cited, does not seem to be of specific importance, and that species is here reduced to synonymy.

Aeschynomene acapulcensis rather resembles *Ae. viscidula* except that the latter has more glandular development in general and its fruits are much more pubescent and longer stipitate.

Material distributed as the Old World species *Ae. micrantha* (Poir.) DC. also appears to be very similar. However, I have not seen the type of *Ae. micrantha* so am not able to state the relationship with any degree of certainty.

26. *Aeschynomene brasiliiana* (Poir.) DC. Prodr. 2: 322. 1825.

Prostrate or decumbent herb; stems to about 1 m. long, glandular-hispidulous and also crisp-pubescent; stipules ovate, acuminate, 3–4 mm. long, about 1 mm. wide at base, glandular-hispidulous, ciliolate; petiole and rachis with indument like the stem; leaves 2–3 cm. long, 8–22-foliolate; leaflets obovate-elliptic to oblong, 5–15 mm. long, 3–8 mm. wide, obtuse, mucronulate, ciliate-denticulate, the upper surface sparsely pubescent or sometimes glabrous, the lower surface sparsely pubescent, reticulate; inflorescences usually 2–4 times the length of the subtending leaf, 1–8-flowered, the pedicels and peduncles pubescent like the stem; bracts broadly ovate, acute, 1–2 mm. long, 1–1.5 mm. wide, hispidulous; bracteoles ovate, acute, 2–2.5 mm. long, about 1 mm. wide; flowers 5–8 mm. long; calyx 1.5–3 mm. long, hispidulous, ciliolate; petals yellow; standard about 6 mm. long, the claw 1–1.5 mm. long, the blade suborbiculate, about 5 mm. in diameter, pubescent on the outer face, retuse; wings and keel about

as long as the standard, the wing blades about 2 mm. wide, the keel blades 1.5 mm. wide; stamens about 6 mm. long; legume 2-5-articulate, the stipe 3-5 mm. long, hispid, rarely subglabrous, the articles 2.5-3 mm. long, 2-3 mm. wide, moderately crisp-pubescent and also glandular hispidulous, occasionally 1 or more articles subglabrous; seeds about 2 mm. long, 1-1.5 mm. wide, dark brown.

26a. *Aeschynomene brasiliana* var. *brasiliana*.

Aeschynomene brasiliana (Poir.) DC. Prodr. 2: 322. 1825.

Cassia biflora Mill. Gard. Dict. ed. 8, No. 14. 1768, non L. 1753.

Hedysarum brasilianum Poir. in Lam. Encycl. 6: 448. 1804.

Cassia houstoniana Collad. Hist. Nat. Med. Cass. 132. 1816.

Aeschynomene paucijuga DC. Prodr. 2: 321. 1825.

Aeschynomene paucijuga var. *subscabra* DC. Prodr. 2: 321. 1825.

Hedysarum hirtum Vell. Fl. Flum. 319. 1825; Icon. 7: tab. 151. 1835.

Aeschynomene brasiliana β Vog. Linnaea 12: 90. 1838.

Aeschynomene biflora (Mill.) Fawc. & Rendle, Fl. Jam. 4: 27. 1920.

Aeschynomene guaricana Pittier, Bol. Teen. Minist. Agric. & Cría, Serv. Bot. Caracas 5: 41. 1944, without Latin diagnosis.

The typical variety characteristically has 2- or 3-, rarely 4-jointed fruits, with stipes 3-4 mm. long, and leaves 8-13-foliolate, the leaflets predominantly obovate.

TYPE LOCALITY: Rio de Janeiro, Brazil. Type collected by Comerson, cited below.

DISTRIBUTION: Widespread in tropical America, along roadsides, in brushland, savanna, and open pine-oak woods, at elevations up to about 3,000 m. (fig. 7).

MÉXICO: Jalisco: Tonilita, *Orcutt* 6479 (US).

GUATEMALA: CHIQUIMULA: Quezaltepeque, *Steyermark* 31199 (Ch), 31374 (Ch). JALAPA: Between Monjas and Jalapa, *Steyermark* 32214 (Ch, GH). GUATEMALA: Between Guatemala and Fiscal, *Standley* 59682 (Ch). Jacaltenanjo, *Nelson* 3572 (Ch, US). ESCUINTLA: Along Río Guacalate, *Standley* 58239 (Ch), 89383 (Ch).

HONDURAS: COMAYAGUA: Comayagua, *Standley & Chacón* 5821 (Ch). OLANCHE: Trail from Catacamas to Loma Pelona, *Standley* 18196 (Ch). MORAZÁN: San Antonio de Oriente, *J. Valerio* 672 (Ch), 1471 (Ch). Vicinity of El Zamorano, *Standley* 205 (Ch), 1088 (Ch); *Swallen* 10827 (US). Santa Inéz, *J. Valerio* 1529 (Ch). Santa Clara Creek, *Williams & Molina* 10643 (Ch, Mo). Las Mesas, *Swallen* 11262 (US). El Jicarito, *Standley* 28244 (US). EL PARAÍSO: Las Casitas, *Standley, Williams, & Allen* 540 (Ch). Ojo de Agua, *Standley* 4711a (Ch). Quebrada de Dantas, *Standley, Williams, & Molina* 1262 (Ch). Road to Yuscarán, *Swallen* 11355 (US). Río Choluteca, Yuscarán, *Swallen* 10856 (US). Near Río San Francisco, *Swallen* 11207 (US), 11209 (US). El Limonal, *Standley* 28919 (US).

EL SALVADOR: SANTA ANA: Santa Ana, *Standley* 19706 (GH, NY, US), 20438 (GH, US).

NICARAGUA: MASAYA: Masaya, *Baker* 199 (GH, Mo, NY, UC), 694 (US).

GRANADA: Granada, *Grant* 750 (GH), 874 (GH).

COSTA RICA: ALAJUELA: Maderal de San Mateo, *Brenes* 3678 (Ch). PUNTA-RENAS: El General, *Skutch* 2946 (GH, Mo, NY, US). Térraba, *Tonduz* 3806 (US). Buenos Aires, *Tonduz* 4990 (US), 4994 (US).

PANAMÁ: PANAMÁ: Taboga Island, *Standley* 28022 (US). Matías Hernández, *Pittier* 6908 (US). Between Las Sabanas and Matías Hernández, *Standley* 31866 (US). Between Matías Hernández and Juan Díaz, *Standley* 32083 (US). Panamá, *Standley* 26806 (US), 27724 (US), 29747 (US). CANAL ZONE: Balboa, *Standley* 25275 (US), 25586 (US), 26442 (US), 29295 (US). Between Fort Clayton and Corozal, *Standley* 29111 (US). Corozal, *Standley* 27369 (US). Summit, *Standley* 30069 (US). Ancón Hill, *Standley* 25153 (US). Cerro Gordo, *Standley* 26042 (US). Between Red Tank and Pueblo Nuevo, *Piper* 5189 (Ch, US).

CUBA: HABANA: Isla de Pinos, *Alain & Killip* 2081 (US), 2160 (US); *Killip & Swetland* 41633 (US); *Killip* 42537 (US), 42934 (US). LAS VILLAS: Sancti Spiritus, *Luna* 922 (NY). ORIENTE: C. Wright 123 in part (GH, NY, Mo). Daiquirí, *Ekman* 8341 (NY). Between Firmeza and Gran Piedra, *Shafer* 8937 (NY). CAMAGÜEY: Camagüey, *Britton, Britton, & Cowell* 13156 (NY, US). La Gloria, *Shafer* 554a (Ch, NY, US). El Cobre, *Britton, Cowell, & Shafer* 12863 (NY, US).

TRINIDAD: *Crueger* 1006 (US); *Fendler* 294 (US); *Broadway* 7804 (Mo), (*Trin. Herb.*) 3699 (NY). O'Meara Savanna, *Britton & Britton* 2508 (GH, NY, US). St. Joseph Savanna, *Britton, Hazen, & Broadway* 975 (NY).

FRENCH GUIANA: Iles du Salut, *Sagot* 133 (US). Cayenne, *Perrotet*, in 1819 (F. M. neg. 6959, of TYPE of *Ae. paucijuga* ex G); *Broadway* 153 (NY, US), 460 (GH, NY), 636 (NY).

SURINAM: *Hostmann* 637a (Mo); *Focke* 670 (GH).

VENEZUELA: ANZOÁTEGUI: Los Caños, Río Carí, *Pittier* 14482 (Ven). DISTRITO FEDERAL: Turmerito, *Pittier* 13607 (Mo). Las Barrancas, *Tamayo* 1475 (Ven). ARAGUA: Colonia Tovar, *Fendler* 1781 (GH, Mo). Between San Juan de las Morros and Uberito, *Pittier* 11324 (US, Ven). CARABOBO: Valencia, *Pittier* 9422 (US). COJEDES: San Carlos, *Rudd* 332 (US). TRUJILLO: Escuque, *Pittier* 13149 (Ch, Mo, NY, US, Ven). BOLÍVAR: Between Santa Rosalía and Río Orocopicha, *Killip* 37649 (US). Upata, *Steyermark* 57530 (Ch, Ven).

COLOMBIA: MAGDALENA: Santa Marta, *H. H. Smith* 708 in part (Ch, GH, Mo, NY, UC, US). CUNDINAMARCA: Nocaíma, *Uribe* 1594 (US). TOLIMA: Chicoral, *Haught* 6371 (US). Honda, *Pennell* 3595 (GH, Mo, NY, US). Amero, *García-Barriga* 7515 (US). Espinal, *Apolinar-María*, July 1928 (US). HUILA: Villavieja, *S. G. Smith* 1264 (US). Neiva, *Rusby & Pennell* 461 (NY), 1087 (GH, NY, US), 1114 (NY); *Marulanda-Caicedo* 48A (US). CAUCA: El Tambo, *Idrobo & Fernández* 75 in part (US). El Bordo, *García-Barriga* 4492 (US). San Francisco, *Andre* 2854 (Ch, NY).

ECUADOR: Los Ríos: Between Quevado and Naranjal, *Mexia* 6665 (Ch).

PERÚ: *Mathews* 1579 (GH). Cusco: Patio de Illapani, *Bues*, May 15, 1930 (Ch, US). JUNÍN: La Merced, *Macbride* 5483 (Ch).

BOLIVIA: LA PAZ: San Carlos, Mapiri, *Buchtien* 791 (Mo). Coripata, *Bang* 2082 in part (Ch, GH, Mo, NY). Sorata, *Rusby* 1036 (NY). SANTA CRUZ: Buena Vista, *Steinbach* 7046 (Ch.).

BRAZIL: AMAPÁ: Macapá, *Fróes & Black* 27136 (IAN). PARÁ: Monte Alegre, *Ducke* 16065 (US). Santarém, *Spruce*, Mar. 1850 (GH, NY). Belém (as Pará), *Burchell* 9647 (NY); *Spruce*, Jul.-Aug. 1849 (NY). Marajó, *Jobert & Schwacke* 158 (R). Vigia, *Fróes* 27864 (IAN); *Black, Ledoux, & Accioly* 52-14196 (IAN). CEARÁ: Allemão 354 in part (R). BAHIA: Ilheos, *Riedel* 134 (US). GOYAZ: Goyaz, *Burchell* 7094-2 (GH, NY). Between Pôrto Real and São João de

Araguaia, Burchell 8907 (GH, NY). RIO DE JANEIRO; Commerson (Ch, fragment, presumably of TYPE ex P); Sampaio 2974 (R); Sousa Britto 14 (R).

LOCAL NAME: Pega pega (Panamá).

This species usually is readily distinguishable by its short-stipitate fruits, which are puberulent and also beset with glandular hairs. The amount of indument on the fruits is, however, somewhat variable. The glandular hairs occasionally fail to develop. The puberulence may be crispate or appressed, sometimes both on the same plant. In several specimens some articles, or even whole fruits, may be glabrous.

The number of articles, usually 2 or 3 in the typical variety, is fairly constant on a given plant, although sometimes 2- and 3-articulate fruits are found on the same specimen. Several collections have been observed to have an occasional 4-articulate fruit, indicating a tendency toward variety *venezolana*, but since these specimens have fruits which are predominantly 2- or 3-articulate and leaflets which are obovate rather than oblong, they are cited here as representing variety *brasiliانا*.

That the fruits are, incipiently, more than 3-articulate is suggested by the presence of an undeveloped basal article and usually one or two aborted articles between the matured articles.

Aeschynomene brasiliانا, based on *Hedysarum brasilianum*, appears to be the oldest legitimate name for this taxon. Fawcett and Rendle (Flora of Jamaica 4: 28. 1920) cited a specimen of *Cassia biflora* Mill., presumably the type, as being equivalent to *Ae. brasiliانا*. Because of the priority of the specific name *biflora*, they published the new combination *Ae. biflora*, overlooking the fact that *Cassia biflora* Mill. was a later homonym of *Cassia biflora* L. and therefore illegitimate when published. Colladon apparently recognized the homonymy although not the misdetermination as to genus, and proposed *Cassia houstoniana*, based on *C. biflora* Mill.

As indicated by a photograph of the type and by the description, *Ae. paucijuga* was distinguished by its relatively few leaflets, "4-5-jugis," and its glabrous fruits; its variety *subscabra* was distinguished by the short, scabrous pubescence of its fruits. Since these conditions are not uncommon in *Ae. brasiliانا*, and other characters are essentially the same, *Ae. paucijuga*, in this paper, is being treated as a synonym of *Ae. brasiliانا*.

Velloso's illustration of *Hedysarum hirtum* appears to be based on material of *Ae. brasiliانا* and, following a tentative disposition made by Bentham, that species is also reduced to synonymy under *Ae. brasiliانا*.

In *Ae. brasiliانا* var. β , characterized by "legumine pubescente non viscoso," it is suspected that Vogel had at hand some of the aber-

rant material with little or no development of glandular hairs on the joints of the fruits.

A specimen cited by Pittier as *Ae. guaricana* is slightly depauperate but not significantly different from characteristic material of *Ae. brasiliana*, adding another name to the synonymy of the latter species.

26b. *Aeschynomene brasiliana* var. *venezolana* Rudd, var. nov.

A varietate typica fructibus 4-5-articulatis stipitibus 4-5 mm. longis, foliis 14-20-foliolatis, foliolis oblongis differt.

This variety differs from the typical one in that the fruits are 4- or 5-jointed, with stipes 4-5 mm. long; the leaves are 14-20-foliolate, the leaflets predominantly oblong.

TYPE: In the Herbario Nacional de Venezuela, Ministerio de Agricultura y Cría, No. 3775, collected near Petare, Miranda, Venezuela, Nov. 11, 1923, by H. Pittier (No. 11233a). Duplicate at US.

VENEZUELA: SUCRE: Los Altos, *Tamayo* 2157 (US, Ven). **MIRANDA:** Los Teques, *Pittier* 11621 (NY, US, Ven). **DISTRITO FEDERAL:** Between La Guaira and Caracas, *Kuntze* 1338 (NY).

This variety is known only from a few specimens collected in northern Venezuela (fig. 7). The fact, though, that there is a tendency toward 4-articulate fruits in some of the collections cited as var. *brasiliana* suggests that additional specimens might be found in a wider area of the general range of the species.

27. *Aeschynomene echinus* Vog. Linnaea 12: 92. 1838.

Aeschynomene brasiliana (Poir.) DC. forma *multijuga* Chod. & Hass. Bull. Herb. Boiss. II. 4: 882. 1904.

Stems prostrate to suberect, somewhat frutescent, about 1 m. long, usually canescent and also hispid with yellowish glandular hairs 2-4 mm. long, sometimes glabrate toward the base; stipules lanceolate, 3-8 mm. long, 1-1.5 mm. wide at base, sparsely hispid, usually with an apical cilium; leaves 20-30-foliolate; leaflets elliptic to oblong, 3-10 mm. long, 2-2.5 mm. wide, acute, the upper surface glabrous or nearly so, the lower surface appressed-pubescent, entire or sparsely denticulate-ciliate; inflorescences axillary, about as long as the subtending leaves or slightly longer; bracts and bracteoles ovate, acute, hispid, about 1.5-3 mm. long, 1-1.5 mm. wide; flowers 7-9 mm. long; calyx about 3 mm. long; standard 7-9 mm. long, the claw 1-3 mm. long, the blade suborbiculate, 5-6 mm. in diameter; wings 5-8 mm. long, the claw 1-2 mm. long, the blade 4-6 mm. long, 2-3 mm. wide; keel about as long as the wings, the blades about 1 mm. wide; stamens 6-8 mm. long; fruit 2-articulate, with a third, aborted article discernible at the base, the stipe 2-3 mm. long, hispid with yellowish hairs 2-4 mm. long, concentrated at the base of the first

article, otherwise glabrous, the articles about 3 mm. in diameter, crisp-pubescent; seeds about 2.5 mm. long and 1.5 mm. wide, black.

TYPE LOCALITY: "Braz. merid.," probably between São Paulo, Brazil, and Montevideo, Uruguay. Type collected by Sellow.

DISTRIBUTION: Paraguay and eastward, in savannas (fig. 7).

PARAGUAY: CONCEPCIÓN: Centurión, *Fiebrig* 4387 (GH, US). Apa, *Hassler* 11021 (Ch, GH, US). CAAZAPÁ: Arroyo Carimbatay, *Hassler* 5814 (GH, Mo, ISOTYPES of *Ae. brasiliensis* forma *multijuga*).

ARGENTINA: MISIONES: "On the Paraná, 26°-27° S. lat.," *Parodi* 100 (K). San Ignacio, *Burkart* 15344 (US).

Although I have not seen the type of *Ae. echinus*, I believe, on the basis of the original description, that the above cited specimens, including the type material of *Ae. brasiliensis* forma *multijuga*, represent that species.

As indicated in the key, *Ae. echinus* differs from *Ae. histrix* chiefly in its larger flowers and fruits.

29. *Aeschynomene histrix* Poir. in Lam. Encycl. Suppl. 4: 77. 1816.

Stems to about 1 m. long, prostrate to suberect, moderately pubescent and also hispid with yellowish glandular hairs 2-4 mm. long, sometimes glabrate toward the base; stipules lanceolate, acuminate, 4-10 (-15) mm. long, 1-3 mm. wide at base, subglabrous to hispid; leaves about 16-30-foliolate; leaflets oblong-elliptic, rarely somewhat obovate, 4-12 mm. long, 1.5-4 mm. wide, obtuse to acute, entire or sparsely denticulate-ciliate, the upper surface pubescent to glabrous, the lower surface pubescent; inflorescence axillary, about 4-15-flowered, usually congested, much shorter than the subtending leaves, occasionally lax and longer than the leaves; bracts and bracteoles ovate, acute, 1-3 mm. long, 1 mm. wide or less, hispid; flowers about 5-7 mm. long; calyx 2-3 mm. long; standard 5-7 mm. long, the claw 1-1.5 mm. long, the blade suborbiculate, about 4-6 mm. in diameter; wings and keel about as long as the standard, the wing blades about 2 mm. wide, the keel blades about 1 mm. wide; stamens 5-6 mm. long; fruit 2-articulate, with a third, basal article usually undeveloped, rarely 3-articulate, the stipe 1.5-2 mm. long, hispid with yellowish hairs 2-4 mm. long concentrated at the base of the first article, but otherwise glabrous, the articles 2-2.5 mm. in diameter, rarely about 3 mm. long and 2.5 mm. wide, glabrous to moderately pubescent; seeds 1.5-2 mm. long, 1-1.5 mm. wide, black.

29a. *Aeschynomene histrix* var. *histrix*.

Aeschynomene histrix Poir. in Lam. Encyc. Suppl. 4: 77. 1816.

? *Aeschynomene cassioides* Desv. in Ham. Prod. Pl. Ind. Occ. 51. 1825.

Aeschynomene conferta Benth. Ann. Nat. Hist. 3: 433. 1839.

Aeschynomene mucronulata Benth. Hook. Journ. Bot. 2: 56. 1840.

Aeschynomene hystrix var. *mucronulata* Benth. in Mart. Fl. Bras. 15(1): 69. 1859.

Secula hystrix (Poir.) Small, Man. Southeast Fl. 728. 1933.

Aeschynomene pineticola Standl. & Wms. Ceiba 1: 79. 1950.

The typical variety commonly has prostrate, moderately pubescent stems; stipules 4–5 mm. long, about 1 mm. wide; leaves about 16–20-foliolate; leaflets 4–6 (–8) mm. long, 1–2 mm. wide; bracteoles about as long as the calyx; flowers 5–6 mm. long; fruits with glabrous to sparingly pubescent articles, the hairs usually crispate.

TYPE LOCALITY: Cayenne, French Guiana. Type collected by Martin.

DISTRIBUTION: Central and South America, in savanna, fields, pine woods, rocky hillsides, and waste places, at elevations up to about 1,400 m. (fig. 7).

GUATEMALA: CHIQUIMULA: Quezaltepeque, Steyermark 31376 (Ch).

HONDURAS: Morazán: Between El Zamorano and San Antonio de Oriente, Standley 12657 (Ch, TYPE of *Ae. pineticola*).

EL SALVADOR: SANTA ANA: Chalchuapa, Calderón 1038 (GH, NY, US).

NICARAGUA: CHINANDEGA: El Viejo, Oersted 67 (K).

FRENCH GUIANA: Cayenne, Leprieur, in 1835 (GH).

SURINAM: Hostmann 1074 (Mo). Saron, Kegel 1281 (NY). "Forests of Zandery," Samuels 473 (GH). Zanderij I, Maguire & Stahel 23731 (Ch, Mo, NY, US). Zanderij II, Maguire & Stahel 25041 (Ch, NY, US). Sectie Oeëst, Pulle 185 (Mo).

BRITISH GUIANA: Schomburgk 187 (Ch, GH, US, ISOTYPES of *Ae. conferta*), 822 (F. M. neg. 27929, of ISOTYPE of *Ae. mucronulata*, ex G); Jenman 3741 (NY).

VENEZUELA: Warming 82 (US). ANZOÁTEGUI: Los Caños, Río Carlí, Pittier 14471 (Ven). GUÁRICO: El Socorro, Burkart 17215 (US). BOLÍVAR: Between Upata and Río Caroní, Steyermark 57623 (Ch, Ven). Between Santa Rosalía and Río Orocopicha, Killip 37651 (US, Ven). Sabanas de Tumeremo, Tamayo 2663 (Ven).

COLOMBIA: Mutis 4923 (US). SANTANDER: Bucaramanga, Araque & Barkley 285 (US). BOYACÁ: Esmeralda, Cuatrecasas 3853 (Ch). Matabubosa, Cuatrecasas 4248 (Ch, US).

PERÚ: SAN MARTÍN: Tarapoto, Ll. Williams 5846 (Ch).

BRAZIL: AMAPÁ: Macapá, Froés & Black 27396 (IAN). RIO BLANCO: Rio Agua Boa, Black 51–13076 (IAN). PARÁ: Marajó, Huber, July 1, 1902 (US). PERNAMBUCO: Prazeres, Pickel 1035 in part (GH, R). Tapera, Pickel 3695 in part (Ch). GOYAZ: Carolina, Pires & Black 2362 (US). BAHIA: Ilheos, Riedel 742 in part (NY). MATO GROSSO: Cuyaba, Malme 3242 (R).

PARAGUAY: "Gran Chaco: Santa Elisa lat. 23° 10'," Hassler (by T. Rojas) 2757 (GH). CONCEPCIÓN: Estrella, Fiebrig 5220 (GH, US). PARAGUARÍ: Ybytymi, Hauthal 24 (NY).

This specific name was originally published as *histris*, but subsequently has been spelled *hystrix* by most authors. Following Art. 82 of the International Code of Botanical Nomenclature (1952) concerning orthographic variants, *histris* is used in this paper.

The species sens. lat. is polymorphic. Typical *Ae. histrix*, according to the original description, has glabrous fruits. On many plants there is no trace of pubescence on the surface of the articles; others have fruits with the basal article pubescent and the apical article glabrous. Others are pubescent when young, glabrate toward maturity. In this treatment, the concept of typical *Ae. histrix* is extended to include numerous pubescent specimens.

Aeschynomene cassioides is here tentatively placed in synonymy, following Bentham in "Flora Brasiliensis."

Examination of isotypes of *Ae. conferta* reveals no significant differences from material of typical *Ae. histrix*. The fruits are moderately pubescent, crisp-pubescent on two specimens, and more or less appressed-pubescent on the other. All show a tendency toward glabrescence. Bentham, himself, reduced the species to synonymy under *Ae. histrix*.

A photograph of an isotype of *Ae. mucronulata* shows a plant specimen not too dissimilar to be included in the typical variety of *Ae. histrix*. The subglabrous legumes mentioned in the original description of *Ae. mucronulata* would also permit inclusion in *Ae. histrix* var. *histrix*.

As mentioned in the discussion of *Ae. viscidula*, in this paper, Small's genus *Secula*, in which he also placed *Ae. histrix*, seems to be unnecessary.

Aeschynomene pineticola is based on a specimen which corresponds exactly to the description of typical *Ae. histrix* and is almost indistinguishable from the Leprieur collection from the type locality. Reduction to synonymy under *Ae. histrix* var. *histrix* seems to be in order.

28b. *Aeschynomene histrix* var. *incana* (Vog.) Benth. in Mart. Fl. Bras. 15 (1): 69. 1859 (as *Ae. hystrix* var. *incana*).

Aeschynomene puberula DC. Prodr. 2: 321. 1825.

Aeschynomene incana Vog. Linnaea 12: 90. 1838, non G. F. W. Mey. ex DC. 1825, as synonym.

The variety *incana* is similar to the typical variety in general habit and size, but the stems and leaves are canescent, often densely so, and the leaflets tend to average slightly smaller. The bracteoles usually are about half as long as the calyx, the flowers 6–7 mm. long, the fruits commonly appressed-pubescent, rarely subglabrous or crisp-pubescent.

TYPE LOCALITY: Montevideo, Uruguay. Type collected by Sellow.

DISTRIBUTION: Principally in South America, a few occurrences in Central America, and one collection from Florida, in habitats similar to those of the typical variety (fig. 7).

UNITED STATES: FLORIDA: Escambia County: Pensacola, *Curtiss*, in 1885 (NY).

BRITISH HONDURAS: STANN CREEK: All Pines, *Schipp* 628 (Ch, GH, Mo, NY, UC). BELIZE: Manatee Lagoon, *Peck* 285 (GH). TOLEDO: Monkey River, *Gentle* 4188 (GH, Mo, NY).

PANAMÁ: *Seeman* 216 (GH, NY). COCLÉ: Aguadulce, *Pittier* 4863 (GH, NY, US). Penomoné, *R. S. Williams* 102 (NY, US).

BRITISH GUIANA: "Sand ck., Rupununi River," *For. Dept. British Guiana* WB-22 (NY), WB-114 (NY).

VENEZUELA: *Stevens*, in 1868 (NY). TRUJILLO: Valera, *Burkart* 16881 (US). ZULIA: Mene Grande, *Pittier* 10571 (GH, NY, US, Ven). Perijá, *Tejera* 152 (US). BOLÍVAR: Morichal Santa Isabel, *Cardona* 650 (US, Ven). Ciudad Bolívar, *Bailey & Bailey* 1347 (US).

COLOMBIA: MAGDALENA: La Jagua, *Haught* 2271 (US). VICHADA: Puerto Carreño, *Cuatrecasas* 4044 (Ch, US).

BRAZIL: *Sellow* (Ch, fragment, presumably of TYPE of *Ae. incana*, ex B). RIO BRANCO: Frechal, south of Mount Roraima, *Tate* 30 (NY). Surumú, *Ule* 8154 (US). Igarapé Amim, *Luetzelburg* 20565 (R). São Marcos, *Luetzelburg* 21948 (R). Bôa Vista, *Black* 51-12602 (US), 51-13726 (US). PIAUI: Oeiras, *Gardner* 2095 (GH, NY). São Pedro de Alacantara, *Jobert & Schwacke* 1175 (R). CEARÁ: *Allemão* 354 in part (R). ALAGÔAS: Rio San Francisco, *Gardner* 1271 (GH, NY). BAHIA: Muritiba, *Blanchet*, in 1841 (NY). GOYAZ: Between Conceição and Natividade, *Burchell* 8169 (GH).

URUGUAY: SAN JOSÉ: Santa Lucía, *Osten* 22169 (GH).

PARAGUAY: Concepción: Estrella, *Fiebrig* 5220 (GH). Caraguatay: "Corros de Tobatí," *Fiebrig* 678 (Ch, GH).

ARGENTINA: CÓRDOBA: *Hieronymus*, Jan. 4, 1877 (NY, US). La Reducción, *Burkart* 7348 (Ch), 7357 (GH). Alta Gracia, *Hunziker* 708 (US). CORRIENTES: Estancia Santa Teresa, *Pedersen* 106 (US). "America merid.," (F. M. neg. 6960, of TYPE of *Ae. puberula* ex G).

Although the extremes are readily recognized, there is considerable intergradation which often makes it difficult to delimit var. *incana* from the other varieties, particularly var. *histris*. Because of that, it is believed more satisfactory to follow Bentham's reduction of *Ae. incana* to a variety of *Ae. histris* than to maintain it as a separate species.

It is interesting to note that elongation of the peduncle, forming an inflorescence longer than the subtending leaf, while unusual, is seen most frequently in specimens of var. *incana*. And the one specimen exhibiting 3-articulate fruits is Curtiss' collection of var. *incana* from Florida.

A photograph of the type of *Ae. puberula* shows that species to be essentially the same as *Ae. histris*, apparently corresponding to var. *incana*.

28c. *Aeschynomene histris* var. *densiflora* (Benth.) Rudd, comb. nov.

Aeschynomene densiflora Benth. in Hook. Journ. Bot. 2: 56. 1840.

The plants of var. *densiflora* are usually suffrutescent, suberect, and moderately pubescent. The stipules are 5-10(-15) mm. long, 2-3 mm. wide. The leaves are about 20-30-foliolate, the leaflets

oblong, 7–12 mm. long, 2–4 mm. wide. The flowers are 5–6 mm. long; the articles of the fruits range from glabrous to pubescent.

TYPE LOCALITY: British Guiana, in savanna. Type collected by Schomburgk (No. 846), cited below.

DISTRIBUTION: México to South America, in habitats similar to those of the typical variety (fig. 7).

MÉXICO: MÉXICO: Chorrera, *Hinton* 4582 (US).

COSTA RICA: PUNTARENAS: Boruca, *Tonduz* 4557 in part (US).

BRITISH GUIANA: *Schomburgk* 846 (US ISOTYPE).

BOLIVIA: SANTA CRUZ: Buena Vista, *Steinbach* 5402 (Ch, NY). *Velasco*, *Kuntze*, July 1892 (NY, US).

BRAZIL: RIO BRANCO: São Marcos, *Ule* 7785 (UC); *Black* 51–13250 (US). Bôa Vista, *Black* 51–12999 (US). AMAZONAS: Parintins, *Traill* 135 (GH).

GUAPORÉ: Falls of Madeira, *Rusby* 1038 (Ch, NY, US). PARÁ: Santarém, *Spruce*, Nov.–Mar., 1849–50 (GH, NY). Faro, *Ducke*, Feb. 19, 1910 (US).

Cameta, *Ducke* (R). CEARÁ: Crato, *Löfgren* 658 (R). PERNAMBUCO: Tapera, *Pickel* 1035 in part (GH, US), 3695 in part (GH, NY). BAHIA: *Salzmann* (R).

MINAS GERAIS: Campina Verde, *Macedo* 1717 (Mo). Serra do Inficionado, *Glaziou* 12575 (R). GOYAZ: Pôrto Real, *Burchell* 8754 (GH, NY). MATO GROSSO: Cuyabá, *Hoehne* (*Comissão Rondon*) 4806 (R), 4883 (R), 4884 (R).

PARAGUAY: AMAMBAY?: Sierra de Amambay, *Hassler* 10955 (GH).

This taxon was first given specific status by Bentham and then reduced by him, in "Flora Brasiliensis" (15 (1):69. 1859), to synonymy under *Ae. histrix*. However, since it is readily distinguished from typical *Ae. histrix* by its more robust habit and larger leaves and stipules, it is believed that it should have varietal recognition. But, since its flowers and fruits are essentially the same as those of *Ae. histrix* var. *histrix* and there appears to be some intergradation with the other varieties, specific rank is not warranted.

29. *Aeschynomene elegans* Schl. & Cham. *Linnaea* 5: 583. 1830.

Aeschynomene tecta Vog. *Linnaea* 12: 87. 1838.

Aeschynomene gracilis Vog. *Linnaea* 12: 89. 1838, non *Ae. gracilis* Miq. 1844.

Aeschynomene falcata Vog. var. *plurijuga* Benth. in *Mart. Fl. Bras.* 15 (1): 68. 1859.

Aeschynomene falcata Vog. var. *elegans* (Schl. & Cham.) O. Ktze. *Rev. Gen.* 1: 158. 1891.

Aeschynomene falcata Vog. var. *elegans* (Schl. & Cham.) O. Ktze. forma *glabrior* O. Ktze. *Rev. Gen.* 1: 158. 1891.

Aeschynomene arenicola Brandeg. *Univ. Calif. Publ. Bot.* 10: 408. 1924.

Stems decumbent, to about 1 m. long, pubescent and also glandular-hispidulous; stipules 4–7 mm. long, about 1 mm. wide at base, lanceolate, acuminate, ciliate, subglabrous to sparsely hispidulous; leaves (7–)10–16-foliolate; leaflets obovate to subelliptic, about 8–15 mm. long, 4–9 mm. wide, obtuse, mucronate, entire, the upper surface sparsely pubescent to glabrous, the lower moderately pubescent; inflorescences commonly 2–7-flowered, longer than the subtending leaves, the pedicels and peduncles with indument like the stem, the

bracts and bracteoles 0.5–1.5 mm. long, 0.5–1 mm. wide, ovate, acute, ciliate, flowers about 7 mm. long; calyx 2–3 mm. long, subglabrous, ciliolate; standard about 7 mm. long, the claw 1 mm. long, the blade elliptical-orbiculate, about 6 mm. long, 4–6 mm. wide, entire, pubescent on the outer face; wings about 6 mm. long, the claw 1 mm. long, the blade about 5 mm. long and 2 mm. wide; keel about as long as the standard, the blades 1.5–2 mm. wide; stamens about 6 mm. long; fruit submoniliform, curved or straight, 5–9- (commonly 6–8-) articulate, the stipe (8–)10–15 mm. long, glabrous or somewhat hispidulous, the articles obliquely suborbiculate, 2–2.5 mm. in diameter, crisp-pubescent, often slightly glabrate, the margins often separating from the body of the article; seeds about 1.8–2 mm. long, 1–1.5 mm. wide, dark brown.

TYPE LOCALITY: Hacienda de la Laguna, Jalapa, Vera Cruz, México. Type collected by Schiede and Deppe, cited below.

DISTRIBUTION: Widespread in tropical America, in pine-oak woods, on rocky slopes, in moist grasslands and fields, at elevations up to about 7,600 m. (fig. 7).

MÉXICO: Müller, in 1853 (NY). VERA CRUZ: Hacienda de la Laguna, Jalapa, Schiede & Deppe (F. M. neg. 27926, of ISOTYPE ex G); Rose & Hough 4300 (GH, NY, US). "Zacuapan, Fortin," Purpus 1899 (Ch, GH, Mo, NY, UC, US). Zacuapán, Purpus, Sept. 1908 (UC), 10819 (Mo, NY, US). CHIAPAS: Hacienda Monserrate, Purpus 9148 (GH, Mo, NY, UC TYPE of *Ae. arenicola*, US). Between San Gerónimo and El Retiro, Hernández X-614 (GH).

GUATEMALA: HUEHUETENANGO: Cerro Victoria, Steyermark 49584 (Ch). ALTA VERAPAZ: Cobán, von Türckheim II 2038 (Ch, GH, NY, US); Standley 71462 (Ch). IZABAL: Quiriguá, Standley 23930 (GH, US), 72361 (Ch). Los Amates, Kellerman 7555 (NY). JALAPA: Jalapa, Standley 76532 (Ch), 77478 (Ch). GUATEMALA: Guatemala, Tonduz 840 (US). SACATEPÉQUEZ: Antigua, Standley 58610 (Ch), 61690 (Ch, US). SUCHITEPÉQUEZ: Finca Mocá, Skutch 1465 (Ch, GH). ESCUINTLA: Along Río Guacalate, Standley 58226 (Ch). JUTIAPA: Jutiapa, Standley 74853 (Ch), 75395 (Ch), 75579 (Ch).

HONDURAS: Morazán: Río Yeguaré, J. Valerio 831 (Ch). El Zamorano, Standley 313 (Ch), 316 (Ch), 3898 (Ch), 12259 (Ch); J. Valerio 3088 (Ch); Swallen 10816 (US), 10994 (US). Las Mesas, Swallen 10790 (US), 11415 (US). Mt. Uyuca, Swallen 11182 (US). San Antonio del Oriente, Swallen 10964 (US), 10974 (US). Suyapa, Swallen 11283 (US). Joya Grande, Standley & Molina 4530 (Ch). EL PARAÍSO: Güinope, J. Valerio 1729 (Ch). Cumbre, Standley, Williams, Molina, & Padilla 2094 (Ch).

EL SALVADOR: Finca San Nicolás, Calderón 1767 (GH, US).

COSTA RICA: PUNTARENAS: Boruca, Tonduz 4557 in part (US). SAN JOSÉ: San José, M. Valerio 1143 (Ch). CARTAGO: Cerro de la Carpintera, Standley 35480 (US). NAVARRITO, Torres 207 (US). Cóncevas, Lankester 312 (Ch). Alajuela: "Camino entre la carretera Alajuela-Grecia y el Tajo del Río Rosales," Brenes 17476 (Ch.) "Carretera Alajuela-Grecia entre los ríos Pilas y Tacares," Brenes (28) 17308 (Ch.) "Colinas de San Pedro de San Ramón," Brenes (618) 4833 (Ch), 6450 (Ch). San Ramón, Brenes (183) 5027 (Ch).

PANAMA: CHIRIQUÍ: El Boquete, Terry 1263 (Ch, GH, US); Maurice 726 (US).

DOMINICAN REPUBLIC: SANTA DOMINGO: Ciudad Trujillo, *Allard* 14254 (US).

VENEZUELA: MIRANDA: Los Teques, *Pittier* 11599 (US, Ven). Turmerito, *Burkart* 16196 (US). DISTRITO FEDERAL: Caracas, *Pittier* 7292 (US, Ven), 9762 (GH, NY, US); *Cornelio* 39 (Ven), 605 (Ch); *Kuntze*, in 1874 (NY TYPE of *Ae. falcata* var. *elegans* forma *glabrior*). ARAGUA: Colonia Tovar, *Fendler* 287 (GH, Mo). El Parque Nacional Rancho Grande, *J. García* 167 (Ven). MÉRIDA: Tabay, *Gehriger* 518 (Ch, NY, US, Ven). Bailadores, *Tamayo* 2422 (Ven).

COLOMBIA: MAGDALENA: Minca, *H. H. Smith* 708 in part (NY). NORTE DE SANTANDER: Between Chinácota and La Esmeralda, *Killip & Smith* 20912 (GH, NY, US). CUNDINAMARCA: Between Santandercito and El Colegio, *García-Barriga* 138 (US). Quetame, *Pennell* 1734 (GH, Mo, NY, US). Icononzo, *Pennell* 2785 (US). META: Villavicencio, *Apollinar-Martía*, Dec. 1928 (US). TOLIMA: Líbano, *Pennell* 3337 (GH, Mo, NY, US). ANTIOQUIA: Cocorná, *Daniel* 1187 (US). San Antonio, *Daniel* 528 (US). Medellín, *Archer* 758 (US); *Toro* 369 (NY), 1327 (NY). Río Negro, *Archer* 279 (US). EL VALLE: Timba, *von Sneidern* 1166 (NY, US). Buga, *Galvis*, Sept. 1939 (US). Cali, *Bermúdez & Barkley* 17.C.877 (Ch, US). Palmira, *Pennell & Killip* 6012 (GH, NY, US). Lomitas, *Pennell* 5464 (GH, NY, US). Jamundí, *Bermúdez* 23 in part (US).

PERÚ: *Mathews* 3272 (GH).

BOLIVIA: LA PAZ: Yanacachi, *Buchtein* 211 (US). Guanai, *Rusby* 1035 (GH, NY, US). Coripati, *Bang* 2082 in part (NY, R, US). Coroico, *Buchtein* 6122 (US). Apolo, *R. S. Williams* 186 in part (NY, US). Millihuaya, *Buchtein* 4107 (Ch, GH, Mo, NY).

BRAZIL: *Warming* (US). *Gardner* 3682 (GH). *Sellow* (N. Y. neg. n. s. 2291, presumably of ISOTYPE of *Ae. gracilis* Vog., ex K). RIO DE JANEIRO: *Riedel* 125 (US); *Gardner* 25 (NY); *Burchell* 1773 (GH). Tijuca, *Ule*, Sept. 1899 (R). Copacabana, *Jobert & Schwacke*, in 1887 (R). Campo Belo, *Sampaio* 4654 (R). São Christavão, *Glaziou* 6503 (R). MINAS GERAIS: *Claussen* 757 (US). Belo Horizonte, *Mello Barreto* 5777 (R), 5778 (Ch) 6576 (Ch, US), 10360 (R). Caete, *Mello Barreto* 5778 (Ch). Uberaba, *Regnell* II 88 (US). Caldas, *Regnell* II 88 (Ch, R). Turvo, *Hoehne & Gehrt* 17491 (GH). Conceição, *Sampaio* 6800 (R). Sitio, *Sampaio* 142 (R). Jaboticatubas, *L. B. Smith* 6775 (US). GOYAZ: *Gardner* 3682 (GH, NY). PERNAMBUCO: Tapera, *Pickel* 3049 (Ch, GH, US). SÃO PAULO: Campinas, *Krug & Zagatto* 2260 (US). Butantan, *Hoehne* 86 (NY). "Taubaté et Mugo," *Riedel* 1559 (GH, US). BAHIA: Bahia, *Blanchet*, in 1831 (GH, NY); *Salzmann* (GH, Mo, R). SANTA CATARINA: Between Capetinga and Chapeco, *Reitz* 4314 (US). RIO GRANDE DO SUL: Bom Jesus, *Rambo* 35024 in part (Mo).

BRAZIL?; URUGUAY?; ARGENTINA?: "Banda Oriental," *Tweedie*, in 1837 (K).

LOCAL NAMES: Pega-pega (Costa Rica, Colombia); dormidera (Panamá); adormidera (Colombia).

As indicated in the key, the rather slender, moniliform, small-jointed, long-stipitate fruits and the leaves, which are commonly 10–16-foliolate, serve to distinguish *Ae. elegans* from other species in the series.

Aeschynomene tecta is believed to be synonymous with *Ae. elegans*, on the basis of the original description, especially the stipe measurement of 7 lines, and the leaves with 7–10 pairs of leaflets.

Examination of the type specimen of *Ae. arenicola* clearly shows that species also to be the same as *Ae. elegans*.

The specimen annotated by Kuntze as *Ae. falcata* var. *elegans* forma *glabrior* is essentially identical with the collections of *Ae. elegans* cited in this paper. The designation of forma *glabrior* was in contrast to an unpublished form with short-stipitate, hispid fruits that is cited as *Ae. brasiliiana* var. *venezolana* in this paper.

Aeschynomene gracilis Vog. is here placed in synonymy with *Ae. elegans* on the basis of a photographic negative of a specimen, presumably an isotype, rather than with *Ae. falcata* as was done by Bentham. Although in the original description the stated width and length of articles is two lines, which is nearer *Ae. falcata* than *Ae. elegans*, the number of leaflets is given as 4-6 pairs, a characteristic number for *Ae. elegans*. Only rarely can one find an 8-foliolate leaf on a specimen of *Ae. falcata*, and apparently never a greater number. It would seem that an error in measuring fruits as small as these would be more likely than a miscount of the number of leaflets.

30. *Aeschynomene falcata* (Poir.) DC. Prodr. 2: 322. 1825.

Hedysarum falcatum Poir. in Lam. Encycl. Meth. Bot. 6: 448. 1804.

Hedysarum diffusum Vell. Fl. Flum. 320. 1825; 7, tab. 155. 1835.

Aeschynomene falcata (Poir.) DC. var. *paucijuga* Benth. in Mart. Fl. Bras. 15 (1): 67. 1859.

Aeschynomene apoloana Rusby, Bull. N. Y. Bot. Gard. 6: 511. 1910.

Stems decumbent, to about 6 dm. long, pubescent and sometimes also hispidulous; stipules lanceolate, acuminate, 5-8 mm. long, 1-1.5 mm. wide at base, subglabrous to hispidulous, ciliolate; leaves 5-7 (-8) -foliolate, the petiole and rachis pubescent like the stem; leaflets obovate-elliptic, about 6-10 mm. long, 3-4 mm. wide, obtuse, mucronate, pubescent on both surfaces, the base often oblique, entire; inflorescences usually with only 1 or 2 flowers developing, longer than the subtending leaves, the peduncles and pedicels hispidulous, the bracts and bracteoles subovate, acuminate, 1-2 mm. long, about 1 mm. wide, pubescent, ciliolate; flowers 7-9 mm. long; calyx 3-4 mm. long, pubescent, ciliate; standard 7-9 mm. long, the claw about 1 mm. long, the blade orbiculate, 6-7 mm. in diameter, entire, the outer face puberulent; wings about 7 mm. long, the claw 1 mm. long, the blade about 6 mm. long, 1.5-2 mm. wide at maximum; keel 7-8 mm. long, the claws 1 mm. long, the blades 6-7 mm. long, about 2 mm. wide; stamens about 8 mm. long; legume usually falcate, 6-8-articulate, the stipe 6-14, commonly 8-10, mm. long, with spreading, glandular hairs, 1.5-2 mm. long, the articles 3-4 mm. long, 2.5-3.5 mm. wide, puberulent with crispate or appressed hairs, sometimes also sparsely hispidulous, the body of the articles tending to break away from the margins; seeds about 2 mm. long and 1.5 mm. wide, dark brown.

TYPE LOCALITY: Rio de Janeiro, Brazil. Type collected by Commerson, cited below.

DISTRIBUTION: Northwestern and east-central South America, on rocky hillsides, in savannas, and in fields, at elevations to about 1,800 m. (fig. 7).

COLOMBIA: Santander: Bucaramanga, *Killip & Smith* 16345 (GH, NY, US). CUNDINAMARCA: Icononzo, *Pennell* 2785 (Ch, GH, Mo, NY, US). Nilo, *Pérez* 514 (US). META: San Martín, *Hermann* 11206 (US). TOLIMA: Honda, *Pennell* 3570 (GH, Mo, NY, US), 3595a (US). Mariquita, *Pennell* 3653 A (NY). Chicoral, *Haught* 6274 (US). Gualandry, *Pérez & Cuatrecasas* 6494 (US). Quebrada de los Ángeles, *Rusby & Pennell* 295 (NY). Natagaima, *Rusby & Pennell* 1146 (NY). HUILA: Neiva, *Rusby & Pennell* 1085 (NY). ANTIOQUIA: Bello, *Archer* 336 (NY, US). Medellín, *Daniel* 499 (US). EL VALLE: Cartago, *Cuatrecasas* 22960 (US). Cali, *Bermúdez*, Feb. 1941 (US); *Soto-Herrera* 933 (US); *Killip & Lehmann* 39794 (US). Jamundí, *Bermúdez* 23 in part (US).

BOLIVIA: *Bang* 2820 (NY). LA PAZ: Milluhuaya, *Buchtien* 4106 (GH, Mo, US). San José, *R. S. Williams* 389 (NY). Apolo, *R. S. Williams* 25 (NY TYPE of *Ae. apoloana*, US). SANTA CRUZ: Buena Vista, *Steinbach* 5283 (Ch, GH, NY), 6692 (Ch, GH, Mo). Yapacani, *Kuntze*, June 1892 (NY).

BRAZIL: MINAS GERAIS: Jaragua, *Macedo* 1724 (Mo). São Sebastião de Paraíso, *Teodoro* 3936 (GH). GOYAZ: *Gardner* 3682 (NY). RIO DE JANEIRO: *Commerson* (Ch, fragment, presumably from TYPE ex P; *Killip* neg. 425, TYPE ex P). *Vellozo* (illustration based on type of *Hedysarum diffusum*). SÃO PAULO: Mogy das Cruzes, *Schwacke*, Apr. 19, 1889 (R). PARANÁ: Serrinha, *Jönsson* 1090a (GH, Mo). Ponta Grosso, *Dusen* 2435 (R), 2546 (R). Pôrto Amazonas, *Gurgel*, Dec. 17, 1929 (R, US). Araucaria, *Santos*, Feb. 1914 (R). SANTA CATARINA: Curitybanos, *Müller* 92 (R). RIO GRANDE DO SUL: Pôrto Alegre, *Tweedie*, in 1837 (K). Viamão, *Rambo* 46876 (US). Rio Pardo, *Archer* 4412 (US). São Leopoldo, *Eugenio* 542 (NY), 1877 (GH); *Henz* 35534 (Mo).

PARAGUAY: "Central Paraguay," *Morong* 778 (US). CONCEPCIÓN: Estrella, *Fiebrig* 4330 (GH). CARAQUATAY: Cordillera de Altos, *Fiebrig* 653 (Ch, GH). Cerros de Tobatí, *Hassler* 6360 (GH, Mo). GUAIRÁ: Villarrica, *Jørgensen* 3595 (Mo, NY), 7595 (Ch, GH). CAAGUAZÚ: Igatimí, *Hassler* 4806 (GH). PARAGUARÍ: Caballero, *Morong* 400 in part (NY).

ARGENTINA: FORMOSA: Colonia Clorinda, *Venturi* 9144 (US). CHACO: Fontana, *A. G. Schultz* (US). MISIONES: Loreto, *Montes* 2487 (US); *Burkart* 15219 (US). Posadas, *Ekman* 1722 (Mo, NY); *Burkart* 14188 (US), 15236 (US).

As indicated in the key, *Ae. falcata*, which typifies the section *Ochopodium*, is characterized by leaves with a small number of obovate leaflets and by fruits with relatively long stipes and numerous articles.

There is some variability of stipe length and the puberulence of the fruit may be crispate, as is the type, or appressed, as seemingly is more common. Rarely, there is a sparse development of glandular hairs. These variations, however, do not seem to justify delimitation of the aberrant specimens.

Originally placed in the genus *Hedysarum* by Poiret, this species was subsequently transferred to *Aeschynomene* by DeCandolle. *Vellozo's H. diffusum*, as illustrated in his "Flora Fluminensis," is apparently the same as *Ae. falcata*.

Bentham proposed three varieties of *Ae. falcata*, one, var. *paucijuga*, corresponding to the typical variety and therefore synonymous with the species as here interpreted. His other two varieties are not retained as such in this paper. Incidentally, as pointed out by Burkart (1939), plate 14 in "Flora Brasiliensis" is erroneously labeled as *Ae. falcata*. Actually, it illustrates typical *Ae. brasiliana*.

Examination of the type material of *Ae. apoloana* does not reveal sufficient difference to warrant separation from *Ae. falcata*. Fruits of one plant, of the four observed, show some development of glandular hairs, but, as mentioned above, the aberrance does not seem to be significant in this case.

31. *Aeschynomene portoricensis* Urb. Symb. Antill. 1: 325. 1899.

Stems prostrate, to about 5 dm. long, moderately subappressed-pubescent and also sparsely beset with glandular hairs, glabrate toward base; stipules lanceolate, acute to acuminate, 2-4 mm. long, 1 mm. or less at base, subglabrous, ciliate; petiole and rachis pubescent like the stem; leaves 5-10-foliolate; leaflets predominantly obovate, 3-8 mm. long, 2-4 mm. wide, entire, the apex rounded, mucronate, the base asymmetrically rounded to subcordate, the upper surface appressed-pubescent to subglabrous, the lower appressed-pubescent, reticulate; inflorescences commonly 2-4-flowered, slightly longer than the subtending leaf; peduncles and pedicels with pubescence like the stems; bracts and bracteoles ovate, acute, subglabrous, 1 mm. long or less, about 0.5 mm. wide; flowers 5-6 mm. long; calyx 2-2.5 mm. long, subglabrous; standard 5-6 mm. long, the claw about 1 mm. long, the blade orbiculate, 4-5 mm. in diameter, entire; wings about as long as the standard, the blade about 1.5-2 mm. wide; keel petals arcuate, about 5 mm. long, the claws 1.5 mm. long, the blades about 3.5 mm. long and 1.5 mm. wide; stamens 5-6 mm. long; fruit 3-6- (commonly 4- or 5-) articulate, falcate, the stipe (4-) 5-8 mm. long, subglabrous or with a few glandular hairs, the articles about 3 mm. in diameter, crisp-pubescent; seeds about 2.5 mm. long and 1.5 mm. wide, dark brown.

TYPE LOCALITY: Maricao, Aguadilla, and Laguna Tortuguero, near Manatí, Arecibo, Puerto Rico. Syntypes collected by Sintenis (No. 4889 in flower, and No. 6657 in fruit), the latter cited below.

DISTRIBUTION: Puerto Rico, in open places (fig. 7).

PUERTO RICO: Martín Piño, *Stevenson & Johnston* 1310 (US). **AGUADILLA:** Sardinia, *Britton & Britton* 8698 (NY). **ARECIBO:** Laguna Tortuguero, *Sintenis* 6657 (Ch, GH, Mo, NY, US, SYNTYPE collections); *Britton & Britton* 7953 (NY). Dorado, *Britton, Britton, & Brown* 6645 (Ch, NY, US); *Britton & Britton* 8991 (NY). **SAN JUAN:** Santurce, *Britton & Cowell* 1467 (Ch, GH, NY, US); *Heller & Heller* 22 (Ch, NY, US); *Hess* 5703 (NY). Río Piedras, *J. R. Johnston* 520 (NY). **MAYAGÜEZ:** Mayagüez, *Britton & Hess* 2815 (Ch, NY, US). Ponce: Coamo, *Horne* 9119 (NY). **GUAYAMA:** Aibonito, *Britton, Britton, & Brown* 5875 (NY).

This apparently endemic species suggests both *Ae. falcata* and *Ae. elegans*, from which it differs in having smaller flowers and fruits with fewer but larger articles and a slightly shorter stipe. The leaflets are usually more numerous than those of *Ae. falcata*, but fewer than those of *Ae. elegans*.

At present, without seeing or knowing the status of the specimens studied by Urban, I hesitate to designate a lectotype. It would be my preference, if possible, to select as type the collection in fruit (*Sintenis* 6657) rather than the collection in flower (*Sintenis* 4889).

32. *Aeschynomene foliolosa* Rudd, sp. nov.

Herba suffruticosa, suberecta, *Ae. falcata* affinis sed imprimis foliis 20-foliolatis, foliolis oblongo-ellipticis differt.

Stems suffrutescent, suberect, to about 1 m. high, appressed-pubescent to glabrate; stipules lanceolate, acuminate, 4–12 mm. long, about 1.5 mm. wide, sparsely pubescent, ciliolate; leaves about 20-foliolate; leaflets oblong-elliptic, 5–15 mm. long, 3–4 mm. wide, subacute to obtuse, mucronulate, entire, pubescent on both surfaces; inflorescences axillary and terminal, racemose and paniculate, commonly much longer than the subtending leaves; bracts and bracteoles ovate, acute, 1–3 mm. long, 0.5–1 mm. wide, sparsely pubescent; flowers 7–10 mm. long; calyx 3–5 mm. long, sparsely pubescent; standard 7–10 mm. long, the claw 1–1.5 mm. long, the blade suborbiculate, 6–7.5 mm. in diameter, the outer face pubescent; wings and keel about as long as the standard, the wing blade 2–3.5 mm. wide, the keel blades about 1.5–2 mm. wide; stamens about 7 mm. long; fruit moniliform, 4–6-articulate, the stipe 7–10 mm. long, finely pubescent to subglabrous, the articles 3–4 mm. long, about 3 mm. wide, moderately subappressed-pubescent; seeds about 2 mm. long and 1.5 mm. wide, brown.

TYPE: In the U. S. National Herbarium, No. 1797059, collected in savanna, San José del Guaviare, Vaupés, Colombia, altitude 270 m., Nov. 12, 1939, by J. Cuatrecasas (No. 7697), isotype at Ch.

DISTRIBUTION: Known only from the vicinity of the type in Colombia and from Guaporé, Brazil (fig. 7).

COLOMBIA: VAUPÉS: Mesa de la Lindosa, *Idrobo & Schultes* 664 (US).

BRAZIL: GUAPORÉ: Serra da Paca Nova, *Rondon (Comm. Rondon* 6801) 2009 (R).

This species apparently is the only one of the series that exhibits paniculate, terminal inflorescences. It suggests *Ae. paniculata* but is readily distinguished by its broader leaflets. In fruit and flower characters it is essentially the same as *Ae. falcata* but, whereas the latter has leaves with 5–8 obovate leaflets, *Ae. foliolosa* has 16–20-

foliolate leaves, with oblong-elliptical leaflets. *Ae. podocarpa*, while similar to *Ae. foliolosa* in leaf characters, differs in its fruits with shorter stipes and fewer articles.

33. *Aeschynomene podocarpa* Vog. *Linnaea* 12: 89. 1838.

Aeschynomene podocarpa β Vog. *Linnaea* 12: 89. 1838.

Aeschynomene falcata var. γ *multijuga* Benth. in *Mart. Fl. Bras.* 15 (1): 68. 1859.

Stems suffrutescent, prostrate to suberect, to about 5 dm. high, hispid; stipules about 6–7 mm. long, 1–2 mm. wide at base, lanceolate, acuminate, ciliate, hispidulous; leaves (10–) 20–32-foliolate; leaflets elliptic, about 3–10 mm. long, 1.5–5 mm. wide subacute, entire, sometimes closely ciliate, sparsely pubescent on both surfaces; inflorescences usually 3–5-flowered, about as long as the subtending leaves, the pedicels and peduncles hispidulous; bracts ovate to subcordate, acute, 2–3 mm. long, 1–2 mm. wide; bracteoles 2.5–4 mm. long, about 1 mm. wide, ovate-elliptic, acute, hispidulous; flowers about 7 mm. long; calyx about 3 mm. long, hispidulous; standard about 7 mm. long, the claw 2 mm. long, the blade orbiculate, about 5 mm. in diameter; wings about as long as the standard, the blade spatulate, about 3 mm. wide; keel with claws about 1.5 mm. long, the blades about 5 mm. long and 1.5 mm. wide; stamens about 6 mm. long; fruit 3–5-articulate, the stipe 5–7 mm. long, hispidulous, the articles 3–4 mm. long, about 3 mm. wide, crisp-puberulent to glabrate; seeds 3–3.5 mm. long, about 2 mm. wide, black.

TYPE LOCALITY: "Brasil. merid." Type collected by Sellow, cited below.

DISTRIBUTION: Known only from southeastern Brazil (fig. 7).

BRAZIL: *Sellow* (Ch, fragment, presumably of TYPE ex B). MINAS GERAIS: Serra Itambé, *Sellow* (NY, probably ISOTYPE of var. β). Serra da Lapa, *Riedel* 943 (NY).

It has been difficult to place this species in the key because of the variable, yet scanty, material available.

On the basis of the *Sellow* material cited above, it appears that var. β differs from the typical variety in minor degree only, in details such as leaf size, habit of stem, and development of glandular hairs, and that maintenance of separate status is not justified.

Since Bentham based his *Ae. falcata* var. γ *multijuga* on *Ae. podocarpa* var. β Vog., that name also falls into synonymy under *Ae. podocarpa*, according to the present treatment.

34. *Aeschynomene warmingii* Micheli, *Vid. Medd. Nat. Foren. Kjøbenhavn* 68. 1875.

Stem prostrate or suberect, to about 5 dm. long, puberulent and also hispidulous; stipules lanceolate, acuminate, 5–7 mm. long, about 2 mm. wide at base, hispidulous; leaves 5–7-foliolate, and rachis and

petioles pubescent like the stem; leaflets elliptic-oblong, acute, 12–30 mm. long, 5–10 mm. wide, the upper and lower surfaces sparsely pubescent, the margins entire but closely ciliate; inflorescences few-flowered, about as long as the subtending leaf; peduncles and pedicles pubescent; bracts and bracteoles ovate, acute, about 2 mm. long, 1 mm. wide, sparsely hispidulous; flowers probably about 6–7 mm. long (mature flowers not seen); calyx about 3 mm. long; stamens about 6 mm. long; fruit 3- or 4-articulate, the stipe about 5–7 mm. long (or more?), the articles about 3 mm. in diameter, pubescent (fide Micheli); seeds not seen.

TYPE LOCALITY: Lagôa Santa, Minas Gerais, Brazil. Type collected by Warming, cited below.

DISTRIBUTION: Known only from the type collection.

BRAZIL: MINAS GERAIS: Lagôa Santa, *Warming* (F. M. neg 2155 of ISOTYPE ex B: Ch fragment of ISOTYPE ex B).

This species is inadequately known and it is difficult to place it in the key. From the one collection, it appears to be intermediate between the species having short-stipitate, few-articulate fruits and those with long-stipitate, multiarticulate fruits.

Series 7. *Pleuronerviae* Rudd, ser. nov.

Frutices vel herbae suffruticosae, erectae; stipulae non productae; foliola 1-costata, costa excentrici, saepe marginali; flores fructusque pro sectione *Ochopodio* plerumque inter mediocres.

Shrubs or suffrutescent perennials; stems erect, somewhat angled when young, terete when older; leaflets with excentric, often marginal, costae, the secondary venation usually prominent, reticulate, sometimes pinnate; inflorescences racemose, sometimes fasciculate, sometimes paniculate, axillary, and, in some species, also terminal; petals of some species drying to a chocolate brown color rather than the usual yellowish or purple

Aeschynomene pleuronervia DC. is designated as the type of this series.

35. *Aeschynomene oroboides* Benth. in Mart. Fl. Bras. 15 (1): 64. 1859.

Ctenodon weddellianum Baill. Adansonia 9: 237. 1870.

Suffrutescent perennial with numerous shoots arising from a thick woody base; stems 2–3 dm. high, cinereous-pubescent when young, sometimes glabrate toward base; stipules lanceolate-ovate, acuminate, 6–8 mm. long, about 3 mm. wide at base, pubescent; leaves 5–20-foliolate; leaflets falcate-ovate, about 10–20 mm. long, 5–7 mm. wide, acute, entire, the lower surface pubescent, the upper surface pubescent to subglabrous, the venation quasi-palmate with several secondary veins arising near the base of the leaflet, almost as prominent as the

excentric costa; inflorescences axillary, mostly longer than the subtending leaves, the floral axes pubescent like the stems, the bracts ovate, acute, about 2 mm. long and 1 mm. wide, pubescent; flowers 12–15 mm. long; calyx 5–6 mm. long, somewhat pubescent; petals drying to a chocolate brown color; standard about 12 mm. long, the claw 3 mm. long, the blade suborbiculate, about 9 mm. long and 10 mm. wide; wings and keel about 11 mm. long, the wing blades about 5 mm. wide, the keel blades about 2.5 mm wide; stamens 10 mm. long; fruit 3–6-articulate, the stipe 2–4 mm. long, the articles about 6 mm. long and 4 mm. wide, pubescent; mature seeds not seen.

TYPE LOCALITY: Southeastern Mato Grosso and southern Goyaz, Brazil. Type not designated in the original description.

DISTRIBUTION: Mato Grosso and Goyaz, Brazil (fig. 8).

BRAZIL: MATO GROSSO: *Moore* 194 (NY). Rio Pardo, *Riedel* 502 (Ch, fragment, presumably of SYNTYPE; F. M. neg. 2151 ex B). Corrego do Moreiras, *Kuhlmann* 353 (R), 354 (R). Braço, Rio Arinas, *Baldwin* 3023 (US), 3072 (US).

The fairly sizable, falcate-ovate leaflets give this species a distinctive appearance, and it is not readily confused with other species of *Aeschynomene*. However, the differences are not sufficient to justify Baillon's placing it in a separate genus. The characters he gives for his genus *Ctenodon* are essentially those of the section *Ochopodium* of *Aeschynomene*, his major distinction being that the fruits of *Ochopodium* are glabrous and those of *Ctenodon* are pubescent. Actually, pubescent fruits are more common than glabrous fruits in the *Ochopodium* section of *Aeschynomene*.

The Weddell collection (No. 2771), which typifies *Ctenodon weddellianum*, is probably the same as the Weddell collection that Bentham cites, without number, as *Ae. oroboides*. On the basis of the description, it is believed that *C. weddellianum* is synonymous with *Ae. oroboides*.

Bentham did not designate a type in the original description; and, until I have seen his material at Kew, I hesitate to select any one specimen as the type. The Riedel specimen (No. 502) cited above is presumably a part of the collection referred to by Bentham and thus is at least syntype material.

36. *Aeschynomene fascicularis* Schlecht. and Cham. *Linnaea* 5: 584. 1830.

? *Aeschynomene fruticosa* Sessé and Mociño, *Plantae Novae Hispania*, in *La Naturaleza*, II, 1 app.: 122. 1889, non Rose, 1899.

Aeschynomene oligantha Micheli, *Mem. Soc. Phys. Hist. Nat. Genève* 34: 256. 1903.

Aeschynomene sciaphila Pittier, *Bol. Tecn. Minist. Agric. y Cría, Serv. Bot. Caracas* 5: 41. 1944, without Latin diagnosis.

Shrub 1–2 m. tall; stem appressed-pubescent, rarely patent-pubescent, glabrate with age; stipules about 5–8 mm. long, 1 mm. wide at

base, linear, acuminate, strigillose or subglabrous; leaves about 40–50-foliolate; leaflets 10–20 mm. long, 2–5 mm. wide, oblong, entire, obtuse to subacute, the base rounded, the upper surface glabrous or nearly so, the lower surface pubescent with appressed hairs, especially along costa and margin, the costa excentric but not marginal; inflorescences axillary, racemose-fasciculate, shorter than the subtending leaves; peduncles and pedicels strigillose and also hispidulous; bracts ovate-acute to lanceolate-acuminate, 2–4 mm. long, about 1 mm. wide at base, appressed-pubescent; flowers 8–15 mm. long, calyx 4–5 mm. long, strigillose; petals drying to chocolate brown; standard 8–15 mm. long, commonly 10–12 mm. long, the claw 2 mm. long, the blade 8–10 mm. long, 6–7 mm. wide, elliptic, entire; wings and keel about as long as the standard, the wing blades about 3 mm. wide, the keel blades about 1 mm. wide; stamens 8–9 mm. long; fruit 3–5-articulate, the stipe 3–4 mm. long, the articles about 6–8 mm. long, 4–5 mm. wide, reticulate, lightly appressed-pubescent or, rarely, the pubescence somewhat crispate; seeds 3–5 mm. long, 1.5–2 mm. wide, light brown.

TYPE LOCALITY: "Inter la Laguna Verde et Actopan" [Vera Cruz?], México. Type collected by Martens.

DISTRIBUTION: Sonora, México, southward to Colombia and northern Venezuela, on shaded slopes, in brushland and thickets, at elevations up to about 2,250 m. (fig. 8).

MÉXICO: *Sessé & Mociño* 1940 (Ch), 1941 (Ch), 1942 (Ch). *Haenke* 1543 (NY). SONORA: Alamos, *Rose, Standley, & Russell* 12734 (GH, NY, US); *Gentry* 4821 (Mo, NY). Agiobampo, *Edw. Palmer* 808, in 1890 (GH, NY, US). CHIHUAHUA: *Batopilas, Edw. Palmer* 178 in 1885 (GH, US); *Goldman* 242 (GH, US). Guasaremos, Río Mayo, *Gentry* 1838 (Ch, Mo). Almaden, *Le Sueur* 1354 (Ch). SINALOA: Culiacán, *Brandegge*, Sept. 22, 1904 (GH, UC, US); *Ortega* 6588 (GH, US). Imala, *Edw. Palmer* 1668, in 1891 (GH, NY, UC, US); *Gentry* 4938 (Mo, NY). DURANGO: Tamazula, *Ortega* 4393 (US), 4422 (US). ZACATECAS: San Juan Capistrano, *Rose* 2482 (GH, US). JALISCO: Bolaños, *Rose* 2937 (GH, US). Guadalajara, *Pringle* 2996 (GH), 3832 (Ch, GH, Min, Mo, NY, UC, US), 11399 (Ch, GH, US); *Rose & Painter* 7394 (GH, NY, US). BARRANCA DE PORTILLO, *Barnes & Land* 230 (Ch). VERA CRUZ: Rancho Remudadero, *Purpus* 14328 (Ch), 16269 (Ch), 16353 (Ch). GUERRERO: "Mata de Dios" *Langlassé* 431 (GH, US, ISOTYPES of *Ae. oligantha*). Campeche: Aposote, *Goldman* 496 (US). Tuxpeña, *Lundell* 1340 (Ch). YUCATÁN: Enán, *Gaumer* 23282 (Ch, GH, Mo, NY, US). San Anselmo, *Gaumer* 1808 (Ch, GH, Mo, NY), 1819 (Ch). Izamal, *Gaumer* 495 (Ch, Mo, NY, US), 511 (Ch); *Greenman* 477 (Ch), 480 (Ch, GH). "South Kancabconot," *Gaumer* 23614 (Ch, GH, US). Uxmal, *Schott* 864 (US). Tekax, *Gaumer* 1126 (Ch, GH, Mo). Mayapán, *Seler & Seler* 3873 (Ch, GH). Between Ticul and Tabí, *Seler & Seler* 3905 (Ch). Chichén-Itzá, *Lundell & Lundell* 7340 (Ch, US). Mérida, *Schott* 276 (Ch). Chichancanab, *Gaumer* 1529 (Ch). Peto, *Steere* 2275 (Ch).

GUATEMALA: PETÉN: La Libertad, *Lundell* 3413 (Ch, US). ZACAPA: Zacapa, *Standley* 74194 (Ch). Between Zacapa and Chiquimula, *Standley* 73773 (Ch). Río Hondo, *Standley* 74022 (Ch, Mo). Estanzuela, *Steyermark* 29071 (Ch).

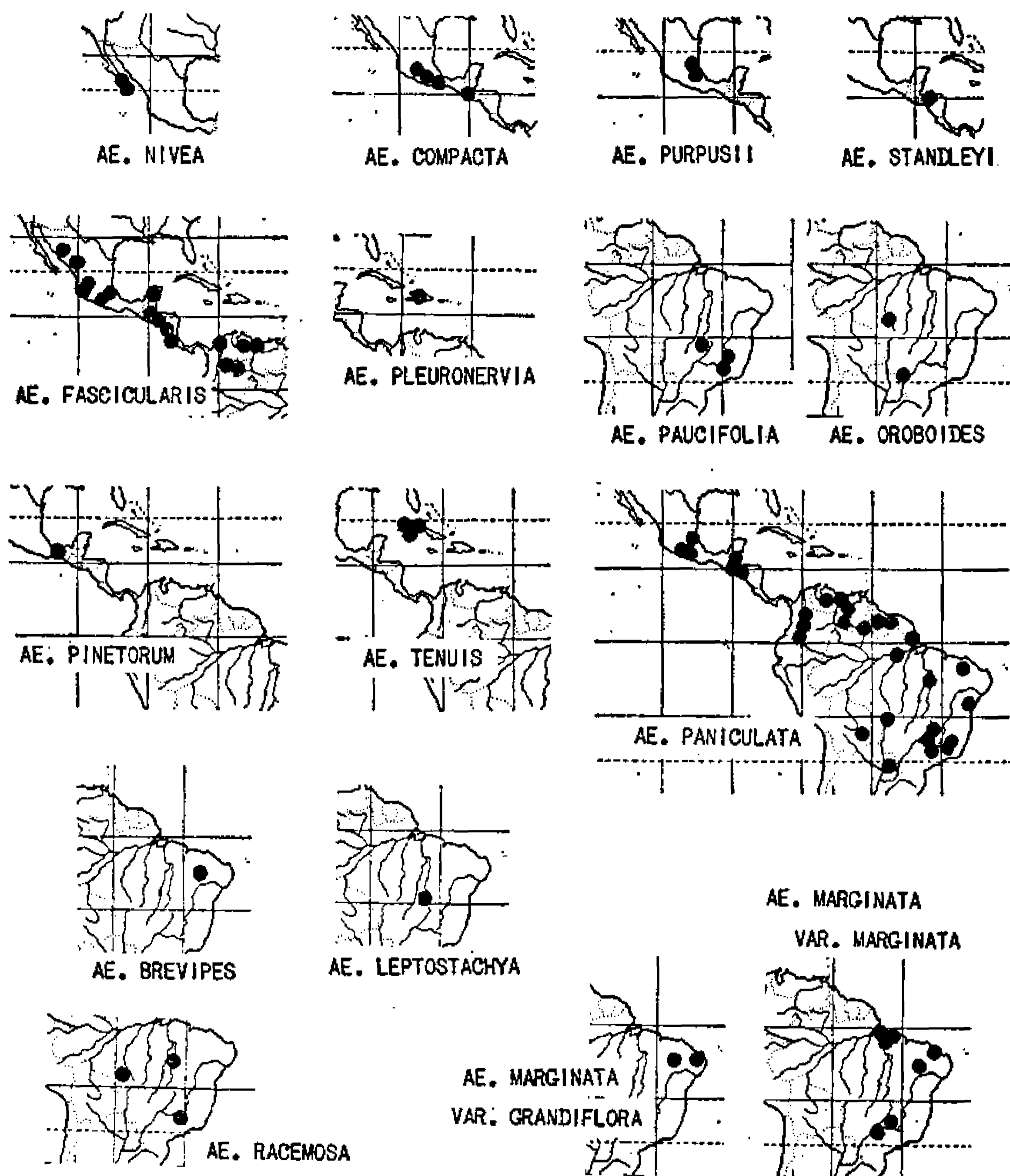


FIGURE 8. Distribution of the *Pleuronerviae*.

CHIQUIMULA: Between Chiquimula and Zacapa, *Standley* 74520 (Ch). El Rincón, *Standley* 74724 (Ch). JUTIAPA: Jutiapa, *Standley* 75195 (Ch), 75653 (Ch), 76136 (Ch). Ovejero, *Standley* 77614 (Ch).

HONDURAS: MORAZÁN: Between Jicarito and Quebrada de la Pita, *Molina* 1552 (Mo). Zamorano, *J. Valerio* 1411 (Ch). EL PARAÍSO: Río Choluteca, Yuscarán, *Swallen* 10872 (US); *Standley* 28946 (US).

EL SALVADOR: SANTA ANA: Metapán, *Standley & Padilla* 3145 (Ch), 3208a (Ch). SAN VICENTE: San Vicente, *Standley* 21689 (GH, Mo, NY, US). LA UNIÓN: La Unión, *Standley* 20666 (GH, NY, US).

NICARAGUA: MANAGUA: Sierra de Managua, *Garnier* 48 (Ch).

COSTA RICA: GUANACASTE: Nicoya, *Tonduz* 13560 (US).

VENEZUELA: TRUJILLO: Valera, *Pittier* 10734 (GH, NY, US). GUARICO: El Socorro, *Burkart* 17367 (US).

COLOMBIA: MAGDALENA: Bonda, *H. H. Smith* 270 (Ch, GH, NY, US). Codazzi, *Haught* 3823 (Ch, US). Cerrejón, *Haught* 6579 (US). ATLÁNTICO: Tubará, *Elias* 946 (US). Megua, *Elias* 1358 (Ch, US). Usiacurí, *Araque & Barkley* 19.At.074 (US). BOLÍVAR: Tierrabomba Island, *Killip & Smith* 14139 (Ch, GH, NY, US). Cartagena, *Heriberto* 225 (US); *Schott* (Ch). Turbaco, *Heriberto* 439 (US); *Killip & Smith* 14204 (GH, NY, US). Torrecilla, *Killip & Smith* 14274 (GH, NY, US). BOYACÁ: Boavita, *Cuatrecasas* 1940 (Ch). CUNDINAMARCA: Nilo, *Pérez* 571 (US). Tocaima, *Pérez* 2546 (US). HUILA: Villavieja, *Mason* 13982 (US).

LOCAL NAMES: Popotillo (México).

The numerous, oblong, excentric leaflets of this species are sufficiently distinctive to prevent confusion with others of the genus. I have not seen the type of *Ae. fascicularis*, but the original description, and the many specimens so identified previously, leave little doubt that the species is being correctly interpreted.

Sessé and Mociño published only one new species of *Aeschynomene*, *Ae. fruticosa*. By comparison of their specimens against the description, it is believed that their species is synonymous with *Ae. fascicularis*.

The two isotypes of *Ae. oligantha* that I have seen appear to be somewhat delicate specimens of *Ae. fascicularis*.

Pittier's No. 10734, although representing for the flora of Venezuela a new species which he named *Ae. sciaphila*, is identical with *Ae. fascicularis*.

37. *Aeschynomene racemosa* Vog. Linnaea 12: 92. 1838.

Stem erect, suffrutescent, about 5 dm. high, subglabrous or sparsely glandular hispidulous; stipules lanceolate, acuminate, 7–8 mm. long, about 2.5 mm. broad at base, subglabrous; leaves 5–10 cm. long, 20–40-foliolate, the petiole and rachis moderately pubescent, the petiole also sparsely hispidulous toward the base; leaflets oblong, obtuse, 8–14 mm. long, 3–4 mm. wide, crisp-pubescent on both surfaces, the costa slightly excentric, the inflorescences as much as 30 cm. long, many-flowered, terminal or axillary, the peduncles and pedicels hispidulous, the bracts caducous, ovate, subacute, about 1 mm. long and wide, subglabrous, ciliolate, the bracteoles essentially like the bracts but about 2 mm. long and 1 mm. wide; flowers about 7–10 mm. long; calyx 3.5–4 mm. long, subglabrous, ciliolate; standard 7–10 mm. long, the claw about 2.5 mm. long, the blade suborbiculate, 4.5–7.5 mm. in diameter; wings and keel about as long as the standard, the wings about 2 mm. wide, the keel about 1.5 mm. wide; stamens about 7 mm. long; fruit 3–6-articulate, the stipe about 3 mm. long, glabrous, the articles semi-orbiculate, about 5 mm. long and 3 mm. wide, crisp-pubescent, somewhat rugose; mature seeds not seen.

TYPE LOCALITY: Santo Antonio do Monte, Minas Gerais, Brazil. Type collected by Sellow.

DISTRIBUTION: South-central Brazil (fig. 8).

BRAZIL: GOYAS: Rio Tocantins, between Pôrto Real and São João de Araguaia, *Burchell* 8844 (GH). MATO GROSSO: Juruena, *Hoehne* 37 (*Comm. Rondon* 1871) (R).

The specimens cited above are so identified on the basis of the original description of *Ae. racemosa*. This species is readily distinguished from others of the series by its relatively large, membranous leaflets.

38. *Aeschynomene marginata* Benth. in Mart. Fl. Bras. 15 (1): 66. 1859.

Stem erect, suffrutescent, about 1 m. high, appressed-pubescent, glabrate; stipules lanceolate, acuminate, 5–6 mm. long, 1–1.5 mm. wide at base; subglabrous; leaves 3–5 cm. long, 20–50-foliolate; leaflets oblong to oblanceolate, obtuse, 5–15 mm. long, 1–3 mm. wide, the upper surface subglabrous, the lower surface sparsely appressed-pubescent, the costa but slightly excentric, the secondary veins essentially pinnate; inflorescences terminal or axillary, few-flowered, the floral axes subglabrous, with a few glandular hairs; bracts ovate-flabelliform, obtuse, about 1 mm. long, the bracteoles subacute, 1.5–2 mm. long; flowers 6–12 mm. long; calyx 3–5 mm. long; standard 6–12 mm. long, the claw 1.5–2 mm. long, the blade suborbiculate, retuse, about 5–10 mm. in diameter; wings and keel about as long as the standard, the wing blades about 2 mm. wide, the keel blades about 1.5 mm. wide; stamens 7–12 mm. long; fruit 3–5-articulate, the stipe glabrous, 1–5 mm. long, longest when the lower ovules abort, the articles semi-orbiculate, 5–6 mm. long, 3–4 mm. wide, torose, foveolate when fully mature, sparsely appressed-pubescent; seeds about 4 mm. long, 3–3.5 mm. wide, brown.

38a. *Aeschynomene marginata* var. *marginata*.

Aeschynomene marginata Benth. in Mart. Fl. Bras. 15 (1): 66. 1859.

The typical variety is characterized by flowers 6–7 mm. long, the calyx about 3 mm. long, the corolla 6–7 mm. long, and leaflets about 5–8 mm. long, 1–2 mm. wide.

TYPE LOCALITY: In sandy woods near Oeiras, Piauí, and in sandy hills near Aracaty, Ceará, Brazil. Syntypes collected by Gardner (Nos. 2098 and 1543, the former cited below).

DISTRIBUTION: Eastern Brazil, in sandy places.

BRAZIL: PIAUÍ: Oeiras, *Gardner* 2098 (SYNTYPE collection, GH, NY, F. M. neg. 2149 ex B). CEARÁ: *Allemão* 353 in part (R). MINAS GERAIS: "In campo siccis," *Riedel* 897 (NY, US). Uberaba, *Regnell* III. 416 (US). SÃO PAULO: Between Franca and Rio Grande (as "Rio Paraná"), *Riedel* 2393 (US). PARÁ: Ilha do Mosqueiro, *Killip & Smith* 30397 (GH, NY, US). Salinas, *Ducke* 1681 (NY, R, US). Soure, *Black* 48-3604 (IAN). Salvaterra, *Black* 48-3489 (IAN). Vigia, *Fróes* 27869 (US).

The thickened margin of the legumes that inspired the specific name is characteristic of immature fruits but not of the torose, mature fruits. The type material that I have seen, Gardner's No. 2098, includes only immature fruits. I have not seen Gardner's No. 1543 and so refrain, at this time, from designating a lectotype.

38b. *Aeschynomene marginata* var. *grandiflora* Benth. in Mart. Fl. Bras. 15(1):67. 1859.

This differs from the typical variety in that the flowers are larger, the calyx about 4–5 mm. long, the corolla 8–12 mm. long, and the leaflets about 5–15 mm. long, 2–3 mm. wide.

TYPE LOCALITY: A dry rocky place, near Oeiras, Piauí, Brazil. Type collected by Gardner (No. 2099), cited below.

DISTRIBUTION: Eastern Brazil, in rocky places.

BRAZIL: CEARÁ: *Allemão* 350 in part (R). **RIO GRANDE DO NORTE:** Rio Diamante, *Löfgren* 405 (R). **PIAUI:** Oeiras, *Gardner* 2099 (GH, NY, ISOTYPES).

This variety, as indicated above, seems to differ from the typical one chiefly in size of flowers and leaflets and in habitat, being found in rocky rather than sandy locations.

39. *Aeschynomene tenuis* Griseb. Cat. Pl. Cub. 72. 1866.

Perennial herb with one or more slender stems arising from a woody root; stems 1–5 dm. high, subglabrous with only occasional white, appressed hairs; stipules 1–2 mm. long, about 1 mm. wide, deltoid-subcordate, acute, entire, subglabrous; leaves 1–2 cm. long, 8–25-foliolate, relatively few in number, usually 2–4 to a stem, the internodes 4–10 cm. long; leaflets linear-oblong, 3–5 mm. long, 1.5–2 mm. wide, acute, the upper surface glabrous, the lower surface sparsely pubescent with appressed white hairs, reticulations prominent, the costa submarginal; inflorescences terminal, usually 3–5-flowered, the peduncles and pedicels hispidulous, the bracts and bracteoles stipule-like but slightly smaller, sometimes subovate, usually ciliate; flowers about 8 mm. long; calyx 2–3 mm. long, lightly pubescent; standard about 8 mm. long, the claw 2 mm. long, the blade reniform, about 6 mm. long and 8 mm. wide, emarginate; wings and keel about as long as the standard, the wing blades about 4 mm. wide, the keel blades about 2 mm. wide; stamens about 8 mm. long; fruit commonly 2–4-articulate, the stipe about 10 mm. long, glabrous, the articles suborbiculate, about 4 mm. in diameter, glabrous or sparsely pubescent with white, appressed hairs; seeds about 3 mm. long and 2 mm. wide, dark brown.

TYPE LOCALITY: "Vuedabajo," "Cuba Occ." Type collected by C. Wright (No. 2306), cited below.

DISTRIBUTION: Western half of Cuba, including Isla de Pinos, in sandy pinelands, palm barrens, and savannas (fig. 8).

CUBA: "Vuedabajo," "Cuba occ.," *C. Wright* 2306 (ISOTYPES, GH, Mo, NY, US.) PINAR DEL RÍO: Laguna Jovero, *Shafer* 10692 (Ch, Mo, NY, US). Guane, *Shafer* 10505 (NY). Herradura, *Earle* 641 (Ch, NY); *Britton, Britton, Earle, & Gager* 6451 (NY, US). Herradura to Paso Real, *Shafer* 11732 (NY). Pinar del Río, *Wm. Palmer & Riley* 48 (NY), 449 (US); *Shafer* 287 (NY); *Britton, Britton, & Gager* 7086 (NY). Between Pinar del Río and Coloma, *Britton, Britton, & Cowell* 10067 (NY). Los Palacios, *León & Roca* 7382 (NY). Río Guao, *Britton, Britton, & Cowell* 10118 (NY). LA HABANA: Isla de Pinos, *Curtiss* 241 (Ch, GH, Mo, NY, Min, US); *Taylor* 121 (Ch, GH, NY, US); *Britton, Britton, & Wilson* 14347 (GH, Mo, NY, US); *Britton, Wilson, & Selby* 14347 (Ch); *Jennings* 19 (GH, NY, US), 248 (GH, US); *Wm. Palmer & Riley* 1111 (NY, US); *Killip* 41300 (US), 41615 (US), 42552 (US), 42686 (US), 42763 (US), 42946 (US); *Alain & Killip* 2139 (US). LAS VILAS: Manacas, *Howard* 5535 (GH, NY); *León & Cazanás* 5817 (NY).

This species, apparently endemic to western Cuba, is readily recognized by its slender stems, bearing terminal inflorescences and a few widely spaced leaves. The subcordate stipules and the leaflets with excentric costae are also rather distinctive.

40. *Aeschynomene paniculata* Willd. ex Vog. *Linnaea* 12: 95. 1838.

Aeschynomene laevis Mart. & Gal. Acad. Brux. 10 (2): 180. 1843.

Aeschynomene hedysaroides Mart. & Gal. Acad. Brux. 10 (2): 181. 1843.

Aeschynomene gracilis Miq. *Linnaea* 18: 566. 1844, non *Ae. gracilis* Vog. 1838.

Stem erect, suffrutescent, to about 2.5 m. tall, glabrous or sparsely pubescent with white, subappressed hairs; stipules lanceolate, acuminate, 3–6 (–10) mm. long, 1–2 mm. wide at base, glabrous; leaves as much as 8 cm. long, 50–60-foliolate, the petiole and rachis strigillose and also sparingly beset with glandular hairs; leaflets oblong, obtuse, 2–5 mm. long, 1–1.5 mm. wide, the upper surface glabrous, the lower surface strigillose, the costa slightly excentric, the secondary venation essentially pinnate; inflorescences terminal, sometimes also axillary, many-flowered, the peduncles and pedicels subglabrous, sometimes glandular, the bracts and bracteoles deltoid-ovate, 1–2 mm. long, about 1 mm. wide; flowers 6–6.5 mm. long; calyx 2–3 mm. long; standard commonly 6.5 mm. long, the claw 1.5 mm. long, the blade orbiculate-cordate, about 5 mm. in diameter, retuse; wings and keel about as long as the standard, the wing blades 2 mm. wide, the keel blades 1.5 mm. wide; stamens about 6 mm. long; fruit moniliform, 4–6 articulate, the stipe 4–5 mm. long, glabrous, a suture at the base of the first of the article, the articles suborbiculate 2.5–3.5 in diameter, sparsely pubescent, often glabrate; seeds about 2.5 mm. long and 1.5 mm. wide, smooth, dark^hbrown.

TYPE LOCALITY: "In Brasil. merid. ad Bahia." Type collected by Sellow, cited below.

DISTRIBUTION: On rocky, brushy slopes, in meadows, open woods and savannas, at elevations up to about 1,500 m., in southern México, Central America, northern and eastern South America (fig. 8).

MÉXICO: VERA CRUZ: Zacuapán, *Purpus* 1898 (Ch, GH, Mo, NY, UC, US), 10854 (US), 10875 (US), 13004 (Ch), Nov. 1907 (UC), Apr. 1933 (Ch). MÉXICO: Pantoja, Temascaltepeque, *Hinton* 5044 (Ch, GH, NY, US). GUERRERO: Vallecitos, Montes de Oca, *Hinton* 11396 (GH, NY, US). Acapulco, *Palmer* 283 in 1894-95 (US). OAXACA: "Cordillera," *Galeotti* 3184 (F. M. neg. 27928, presumably of the TYPE of *Ae. hedysaroides*, ex G).

GUATEMALA: IZABAL: Quiriguá, *Standley* 72263 (Ch). ZACAPA: Santa Rosalía, *Steyermark* 29007 (Ch). CHIQUIMULA: Quezaltepeque, *Steyermark* 31268 (Ch). Concepción de las Minas, *Steyermark* 30864 (Ch). Chiquimula, *Steyermark* 30190 (Ch). JUTIAPA: Jutiapa, *Standley* 74931 (Ch), 75330 (Ch), 75611 (Ch), 76172 (Ch), 76333 (Ch).

BRITISH HONDURAS: TOLEDO: Monkey River, *Gentle* 3884 (Mo, NY). EL CAYO: Mountain Pine Ridge, *Lundell* 6886 (GH, NY, US); *Bartlett* 11784 (Ch). Yaccos Lagoon, *Peck* 684 (GH). BELIZE: "Maskall Pine Ridge," *Gentle* 975 (Mo, NY). Manatee Lagoon, *Peck* 363 (GH). STANN CREEK: All Pines, *Schipp* 660 (Ch, GH, Mo, NY, UC).

EL SALVADOR: SANTA ANA: Santa Ana, *Standley* 20426 (US). San Sebastián, *Calderón* 1211 (GH, US). Chalchuapa, *Calderón* 1043 (NY, US).

HONDURAS: MORAZÁN: El Zamorano, *Standley* 854 (Ch); *Williams & Molina* 10568 (Ch, Mo); *Swallen* 10997 (US), 11374 (US). Camino San Antonio, *J. Valerio* 1391 (Ch). SANTA BÁRBARA: San Pedro Sula, *Thieme* 5217 (GH, US). EL PARAÍSO: Quebrado del Muro, *Swallen* 11337 (US).

SURINAM: *Hostmann* 820a (Mo). Berlijn, *Focke* 966 (GH, ISOTYPE of *Ae. gracilis* Miq.). Corantijn River, *Pulle* 500 (US). Paramaribo, *L. B. Smith* 7125 (US).

BRITISH GUIANA: Isherton, Rupununi River, *A. C. Smith* 2459 (Ch, Mo, NY, US). Sand Creek, Rupununi River, *Forestry Dept. Brit. Guiana* WB 19 (NY). Ituni-Waruni savannas, Berbice or Demerara, *Abraham* 88 (NY). Berbice, *Schomburgk* 181 (GH, US).

VENEZUELA: *Stevens*, in 1868 (NY). ANZOÁTEGUI: Río Cañi, *Garroni* 69 (US, Ven). ARAGUA: Colonia Tovar, *Fendler* 1791 (GH, Mo, NY). TRUJILLO: La Cuchilla, *Burkart* 16885 (US). BOLÍVAR: Between Río Pao and El Cristo, *Killip* 37245 (US). El Cristo, *Cardona* 1004 (US, Ven). Between Ciudad Bolívar and Río Caroní, *Steyermark* 57611 (Ch, Ven).

COLOMBIA: *Mutis* 4925 (US). SANTANDER: Bucaramanga, *Killip & Smith* 16337 (GH, NY, US); *Araque & Barkley* 270 (US). CUNDINAMARCA: Melgar, *Pennell* 2908 (NY). TOLIMA: El Convenio, *Pennell* 3511 (GH, NY, US). HUILA: Neiva, *Rusby & Pennell* 1089 (NY, US).

BOLIVIA: SANTA CRUZ: Buena Vista, *Steinbach* 5280 (Ch, Mo, NY), 6960 (Ch, GH, Mo, UC).

BRAZIL: *Sieber?* (*Hoffmanssegg*) (F. M. neg. 2242 ex B). RIO BRANCO: São Marcos, *Ule* 7784 (K, US); *Luetzelburg* 21945 (R). Surumú, *Ule* 8157 (UC, US). Igarapé Pitomba, *Luetzelburg* 21371 (R). Boa Vista, *Black* 51-12497 (US), 51-12622 (US). AMAZONAS? Camarão, *Luetzelburg* 21128 (US). AMAPÁ: Amapá, *Baldwin* 4081 (US). PARÁ: Santarém, *Spruce*, in 1849-50 (GH, NY); *Black & Ledoux* 50-10259 (IAN). Velha Pobre, *Ducke*, June 6, 1919 (US). MARANHÃO:

Carolina, *Pires & Black* 1989 (IAN). CEARÁ: *Allemão* 353 in part (R). BAHIA: *Sellow* (Ch, fragment, presumably of TYPE, ex B). *Salzmann* (Mo, R). Cuyabá, *Riedel* 832 (US). MINAS GERAIS: Corinto, *Mexia* 5676 (GH, Mo, NY, UC, US). Bello Horizonte, *Sampaio* 7317 (R); *Williams & Assis* 6413 (US); *Mello Barreto* 5781 (Ch), 10351 (R). Sabara, *Neto*, in 1862 (R); *Hoehne (Comm. Rondon)* 6727 (R). Ituiutaba, *Macedo* 2296 (US). Jaboticatubas, *L. B. Smith* 6774 (US). São Sebastião do Paraíso, *Teodoro* 4931 (GH). GOYAS: Pôrto Real (Pôrto Nacional), *Burchell* 8641 (GH, NY). Between Cavalcante and Conceição, *Burchell* 8050 (GH). Saia Velha, *Glaziou* 20923 (R). MATO GROSSO: Cuyabá, *Malme* 1350 (R); *Hoehne (Comm. Rondon)* 4569 (R). SÃO PAULO: Franca, *Riedel* 2393 (NY); *Gehrt* 4022 (GH).

PARAGUAY: AMAMBAY?: "Sierra de Amambay," *Hassler* 12017 (GH). CONCEPCIÓN: Upper Río Apa, *Hassler* 8128 (GH, Mo). Between Río Apa and Río Aquidabán, *Fiebrig* 5109 (GH).

LOCAL NAMES: Lengua de pájaro (El Salvador).

The numerous slender, moniliform fruits, borne on panicles about half as high as the entire plant, give this species a distinctive appearance. Vegetatively, it is very similar to *Ae. marginata*, but the latter has considerably larger flowers and fruits and less conspicuous inflorescences.

Examination of an isotype of *Ae. gracilis* Miq. and of a photograph of the type of *Ae. hedysaroides* shows those two species to be synonymous with *Ae. paniculata*. According to the original description, *Ae. laevis* differs from *Ae. hedysaroides* in length of stipules and pubescence of stems. Since size of fruit was not given as a factor, it is believed that *Ae. laevis* also is a synonym of *Ae. paniculata*.

41. *Aeschynomene leptostachya* Benth. in Mart. Fl. Bras. 15 (1): 65. 1859.

Suffrutescent herb; stems slender, 3–4 dm. high, pilose to glabrous; stipules deltoid-subcordate, acute, about 1 mm. long, 0.5–1 mm. wide, subglabrous; leaves 1.5–2.5 cm. long, 15–24-foliolate; leaflets oblong, 3–5 mm. long, 1–1.5 mm. wide, acute, mucronate, oblique, entire, the upper surface glabrous or subglabrous, the lower surface subglabrous or lightly appressed-pubescent, reticulate-veiny, the costa excentric but not marginal; inflorescences axillary or terminal, longer than the subtending leaves, pedicels appressed-pubescent; bracts ovate, obtuse, 1–1.5 mm. long, subglabrous, ciliate; mature flowers not seen, probably about 6–7 mm. long; calyx 3–4 mm. long; ovary sessile, 2-ovulate (fide Bentham); fruit not seen but probably sessile.

TYPE LOCALITY: Near Salinas, Goyaz, Brazil. Type collected by Weddell (No. 2113), cited below.

DISTRIBUTION: Known only from the type collection (fig. 8).

BRAZIL: GOYAS: Salinas, *Weddell* 2113 (K, TYPE).

This species, known only from the type collection, is dubiously separable from *Ae. brevipes*, another inadequately known species. Additional collections must be available before the relationship can be established with certainty.

42. *Aeschynomene brevipes* Benth. in Mart. Fl. Bras. 15 (1): 66. 1859.
? *Aeschynomene brevipes* var. *uliginosa* Benth. in Mart. Fl. Bras. 15 (1): 66.
1859.

Suffrutescent herb; stems slender, nearly 1 m. high, pilose, glabrate; stipules deltoid-lanceolate, acute to acuminate, 3.5–4 mm. long, about 1 mm. wide at base, subglabrous; leaves to about 7 cm. long, about 40–80-foliolate, the rachis lightly pubescent with subappressed hairs; leaflets oblong, 3–5 mm. long, about 1 mm. wide, acute, entire, the upper surface glabrous, the lower surface sparingly pubescent with subappressed hairs, the costa excentric; inflorescences terminal or axillary, few-flowered; pedicels pubescent like the stems; bracts and bracteoles ovate, obtuse, about 1–1.5 mm. long, 0.5–1 mm. wide, subglabrous, sometimes ciliate; flowers about 8–10 mm. long; calyx 4–5 mm. long, sparsely pubescent, ciliolate; standard about 8 mm. long, the claw 2.5 mm. long, the blade broadly obcordate, about 5.5 mm. long and 8 mm. wide; wings and keel about as long as the standard, the wing blades about 3.5 mm. wide, the keel blades about 2.5 mm. wide; stamens about 8 mm. long; fruit with stipe about 2 mm. long, 2–4-articulate, the articles semi-orbiculate, about 5 mm. long and 3 mm. wide, pubescent with subappressed hairs; seeds about 3 mm. long and 2 mm. wide, brown.

TYPE LOCALITY: Oeiras, Piauí, Brazil. Syntypes collected by Gardner (No. 2097) and by Martius, cited below.

DISTRIBUTION: Piauí, northern Bahia, and possibly also Maranhão (fig. 8).

BRAZIL: PIAUÍ: Oeiras, Gardner 2097 (GH, SYNTYPE collection); Martius (F. M. neg. 6269 of SYNTYPE ex M); Jobert & Schwacke 1074 (R). BAHIA: Serra da Tiririca, Zehntner, May 11, 1912 (US).

This species is doubtfully distinct from *Ae. leptostachya*, another Brazilian species, and from *Ae. pinetorum*, a Mexican species. The paucity of material available prevents an evaluation of the range of variability of these three species, and, for the present, they will be maintained separately. If they are truly native species, separation of the Mexican from the Brazilian species, at least, seems reasonable.

The status of var. *uliginosa*, from "Maranhão," was apparently somewhat doubtful to Bentham, its author, as indicated by his query at the close of the original description: "An species propria?" However, the distinctions do not seem convincing, and, although I have not seen the type of var. *uliginosa*, I am tentatively placing it in synonymy under typical *Ae. brevipes*. Another possibility is that it may be the same as typical *Ae. marginata*. Several specimens that I have cited as the latter had been previously determined by others as *Ae. brevipes* var. *uliginosa*.

43. *Aeschynomene pinetorum* Brandeg. Univ. Calif. Publ. Bot. 10: 408. 1924.
Aeschynomene chiapensis Brandeg. Univ. Calif. Publ. Bot. 10: 407. 1924.

Suffrutescent perennial; stems mostly virgate, to about 6 dm. high, glabrous to strigillose; stipules deltoid-lanceolate, acute to acuminate, 1–3 mm. long, about 1 mm. wide at base, somewhat pubescent, usually ciliate; leaves 3–5 cm. long, 20–80-foliolate, commonly 30–40-foliolate, the rachis sparsely pubescent with subappressed white hairs; leaflets about 3–5 mm. long, 1–1.5 mm. wide, obtuse to subacute, cuspidate to retuse, entire, the upper surface glabrous, the lower surface sparsely strigillose, the costa slightly excentric; inflorescences terminal or axillary, the axes usually hispidulous; bracts and bracteoles deltoid-ovate, subglabrous, ciliate, about 0.5–1 mm. long and 1 mm. wide at base; flowers about 6–8 mm. long; calyx 2–4 mm. long, finely pubescent, ciliate; standard about 6 mm. long, the claw 1.5 mm. long, the blade broadly obcordate, about 4.5 mm. long and 6.5 mm. wide; wings and keel about as long as the standard, the wing blades about 3 mm. wide, the keel blades about 2 mm. wide; stamens about 6 mm. long; fruit 2–5-articulate, sessile, the stipe about 1 mm. long or less, the articles 4–5 mm. long, 2–3 mm. wide, moderately white-pubescent; seeds about 2 mm. long and 1.5 mm. wide, brown.

TYPE LOCALITY: Hacienda Monserrate, Chiapas, México. Type collected by Purpus (No. 9064), cited below.

DISTRIBUTION: Oaxaca and Chiapas, México, at elevations up to about 450 m. (fig. 8).

MÉXICO: OAXACA: San Juan Guichocovi, *Nelson* 2737 (US). Between Guichocovi and Laguna, *Nelson* 2751 (US). Santa Efigenia, *Nelson* 2851 (US). Rincón Antonio, *Orcutt* 3262 (Ch). Hacienda de Mazatlán, *Liebmann* 4726 (Ch). CHIAPAS: Sierra de Tonalá, *Seler & Seler* 2051 (GH); *Purpus* 6635 [cited by *Brandeg* as 6625] (Ch, GH, Mo, NY, UC, US). Hacienda Monserrate, *Purpus* 9064 (Ch, GH, Mo, NY, UC TYPE, US), 9147 (Ch, GH, Mo, NY, UC TYPE of *Ae. chiapensis*, US).

There appear to be no essential differences between material designated as *Ae. pinetorum* and *Ae. chiapensis*, but obviously at least two plant specimens were involved in the latter. The type of *Ae. pinetorum* is a plant with dark green, virgate stems and relatively small leaflets. The type sheet of *Ae. chiapensis* includes material identical with the type of *Ae. pinetorum* as well as one plant with thicker, brownish-barked main stems, light green secondary branches, and with larger, more rounded leaflets. The isotypes of *Ae. chiapensis* are similar to this latter plant. The differences possibly reflect habitat variations, although such data are not available.

In combining *Ae. chiapensis* with *Ae. pinetorum*, the latter specific epithet has been retained chiefly because it has been more widely used.

Several collections have been so designated, whereas the name *Ae. chiapensis* has apparently been applied only to the type collection.

As indicated in the discussion of *Ae. brevipes*, there is a great similarity between that inadequately known species and *Ae. pinetorum*. The wide geographic separation of the two species is one of the chief factors in maintaining them separately, assuming that they are correctly interpreted as natives, respectively, of Brazil and México.

44. *Aeschynomene purpusii* Brandeg. Zoe 5: 247. 1908.

Shrub, probably about 1-2 m. high; stem white-sericeous when young, glabrate, with grayish brown bark when older; stipules 3-4 mm. long, about 1 mm. wide, lanceolate, acuminate, sericeous to subglabrous; leaves about 18-25-foliolate, the petioles and rachis subappressed-pubescent; leaflets about 4-14 mm. long, 2-3.5 mm. wide, oblong, subfalcate, semicordate, the costa marginal, the upper surface glabrous, the lower surface sparsely pubescent; inflorescences axillary, fasciculate, 2-7-flowered, the pedicels sericeous; bracts deltoid-ovate, acute, about 1 mm. long, 0.5-1 mm. wide at base, sericeous; flowers about 7 mm. long; calyx 2-3 mm. long, pubescent; petals drying to a chocolate brown color; standard about 7 mm. long, the claw 1.5 mm. long, the blade orbiculate, about 5.5 mm. in diameter, entire; wings and keel about as long as the standard, the wing blades about 2 mm. wide, the keel blades about 1.5 mm. wide; stamens about 7 mm. long; fruit 2-5-articulate, the stipe 2 mm. long or less, glabrous, the articles elliptic, about 7 mm. long and 5 mm. wide, reticulate-veiny, sparsely appressed-pubescent; seeds 3.5-4 mm. long, about 2.5 mm. wide, light brown.

TYPE LOCALITY: Zacuapán, Vera Cruz, México. Type collected by Purpus (No. 1904), cited below.

DISTRIBUTION: Known only from the general region of the type collection (fig. 8).

MÉXICO: "Potrero de Consoquitla," Liebman 4727 (Ch, UC). VERA CRUZ: Zacuapán, Purpus 1904 (Ch, GH, Mo, NY, UC TYPE, US). Barranca de Santa María, Zacuapán, Purpus 1904 (UC). Barranca de Panoya, Purpus 8384 (UC). Rancho Remudadero, Purpus 14305 (Ch). "La Palmilla," Purpus 16409 (Ch).

The marginally costate leaflets serve to separate *Ae. purpusii* from most other species of the genus and to place it near *Ae. compacta*, also from México, and *Ae. standleyi* from Honduras. Perhaps with more collections available the differences between these three species will be found to be of less significance. However, for the present, they will be maintained separately, *Ae. purpusii* being distinguished by its generally larger and less numerous leaflets, smaller flowers, shorter bracteoles, and more oblong fruits.

The original description gives 2 mm. as the length of the flowers. That must have been a misprint, as the flowers of the type collection are about 7 mm. long. I have found no statement as to the height of the plants of *Ae. purpusii*, nor are any of the specimens sufficiently complete. On the basis of comparison with related species, I am estimating them to be 1 to 2 m. high.

45. *Aeschynomene standleyi* A. Molina, Ceiba 3: 92. 1952.

Erect shrub, 1-2 m. high; stems densely patent-pubescent when young, glabrate, brownish barked when older; stipules linear-attenuate, 5-7 mm. long, about 1 mm. wide at base, sparingly pubescent; leaves about 20-70-foliolate; leaflets linear-oblong, subfalcate, about 5-9 mm. long, 1.5-2 mm. wide, the upper surface sparsely pubescent to subglabrous, the lower surfaces moderately pubescent, the costa marginal; inflorescences axillary, fasciculate, few-flowered, shorter than the subtending leaves, the pedicels finely pubescent and also hispidulous, the bracts ovate-oblong, 1-3 mm. long, 0.5-1 mm. wide, acute, sparsely pubescent; complete flowers not seen, but on the basis of persistent stamens probably about 7-8 mm. long, calyx 3-4 mm. long, pubescent; stamens 7-8 mm. long; fruit 2-5-articulate, the stipe about 3 mm. long, glabrous, the articles suboblong, 9-13 mm. long, about 4 mm. wide, sparsely pubescent to subglabrous; seeds not seen.

TYPE LOCALITY: Las Mesas, Morazán, Honduras. Type collected by Molina (No. 1708a).

DISTRIBUTION: Known only from Honduras, in savannas, forested ravines, and rocky hillsides, at elevations of 600-900 m. (fig. 8).

HONDURAS: EL PARAÍSO: Quebrada El Muro, between Las Mesas and Yuscarón, *Molina* 1664 (Ch, US); *Standley* 14926 (Ch, US).

This species is rather similar to the Mexican species *Ae. purpusii* and *Ae. compacta*. As indicated in the key, it differs from the former in pubescence and in length of stipe, and from the latter in the size of flowers and width of fruit.

Although I have not yet seen the type of *Ae. standleyi*, the two collections available to me are cited in the original description and are doubtless authentic representations of the species.

46. *Aeschynomene nivea* Brandeg. Proc. Calif. Acad. II, 2: 150. 1889.

Shrub, 1-3 m. tall; stem silvery-sericeous; stipules linear, acuminate, 4-5 mm. long, about 0.5 wide at base, sericeous; leaves as much as 8 cm. long, about 30-60-foliolate; leaflets obliquely linear-oblong, subfalcate, about 4-10 mm. long, 1-2 mm. wide, entire, acute, sericeous, the costa marginal; pedicels sericeous and also hispidulous; bracts and bracteoles deltoid, acute, 1.5-2 mm. long, about 1 mm.

wide at base; flowers about 10–13 mm. long; calyx about 5 mm. long, sericeous and ciliate; petals drying to a chocolate brown color; standard commonly about 10 mm. long, the claw 2 mm. long, the blade orbiculate, about 8 mm. in diameter, entire, retuse; wings and keel about as long as the standard, the wing blades about 4 mm. wide, the keel blades about 2 mm. wide; stamens 8–10 mm. long; fruit 1–3-articulate, the stipe 5–6 mm. long, the articles 7–10 mm. long, about 5 mm. wide, sericeous, reticulate-veiny; seeds 5–6 mm. long, about 3 mm. wide, light brown.

TYPE LOCALITY: La Purísima, Baja California, México. Type collected by Brandegee, Feb. 12, 1889, cited below.

DISTRIBUTION: Known only from Distrito del Sur, Baja California, México, in washes, on flood plains and rocky, arid slopes, at altitudes up to about 600 m. (fig. 8).

MÉXICO: BAJA CALIFORNIA: 20 miles east of San Ignacio, *Nelson & Goldman* 7226 (US), Arroyo de San José de Magdalena, *Wiggins* 11382 (UC, US). 14 miles south of Mulége, *Shreve* 7088 (US). Southern end of Bahía de la Concepción, *Wiggins* 11430 (UC, US). Bahía San Nicolás, *Johnston* 3713 (GH, NY, UC, US). La Purísima, Feb. 12, 1889, *Brandegee* (GH, NY, UC TYPE, US). Sierra Giganta, Rancho Primera Agua, *Gentry* 3704 (Mo, UC). "Above Point Escondido," *Gentry* 3748 (Mo). Arroyo del Cajón de Tecomaja, *Carter & Kellogg* 2907 (US). "From Cerro Colorado to Rodríguez," *Nelson & Goldman* 7329 (Ch, US). La Paz, *Palmer* 110, in 1890 (GH, NY, US); *Brandegee*, Oct. 17, 1899 (Ch, NY); Oct. 27, 1899 (Ch, UC); *Jones* 24254 (Ch, Mo). Todos Santos, *Brandegee* 141 (GH, UC). Punta Lobos, *Carter, Alexander, & Kellogg* 2299 (UC, US). "Cape Region" in 1893, *Brandegee* (NY, UC). Isla Carmen, *Palmer* 818 in 1890 (US). Isla del Espíritu Santo, *Collins, Kearney, & Kempton* 128 (US).

This species, with its silvery-sericeous indument, fairly large flowers, and numerous small, subfalcate leaflets with marginal costae, is both showy and distinctive. It is one of the two species of *Aeschynomene* known to occur in Lower California and apparently is an endemic. The other species, *Ae. vigil*, has much broader leaflets and is not likely to be confused with *Ae. nivea*.

47. *Aeschynomene compacta* Rose, Contr. U. S. Nat. Herb. 5: 191. 1899.

Aeschynomene oaxacana Brandeg. Univ. Calif. Publ. Bot. 6: 181. 1915.

Shrub 1–3 m. high; stem white-sericeous when young, glabrate, brown barked with age; stipules 3–5 mm. long, about 1 mm. wide at base, linear-lanceolate, acuminate, sericeous to subglabrous; leaves commonly 20–40-foliolate; leaflets oblong, subfalcate, 4–10 mm. long, 1–2 mm. wide, acute, the upper surface subglabrous to moderately pubescent, the lower surface pubescent, the costa marginal; inflorescences axillary, fasciculate, usually 2- or 3-flowered, the pedicels sericeous, the bracts lanceolate, acute, sericeous, about 4 mm. long; flowers about 10 mm. long; calyx about 4 mm. long, sericeous, often glabrate; petals drying to a chocolate brown color; standard about 10

mm. long, the claw about 2 mm. long, the blade suborbiculate, 7-8 mm. in diameter, retuse; wings and keel about as long as the standard, the wing blades about 3 mm. wide, the keel blades about 1.5 mm. wide; stamens about 10 mm. long; legume 1-3-articulate, the stipe about 5 mm. long, the articles 5-8 mm long, 4-5 mm. wide, reticulate-veiny, pubescent; mature seeds not observed.

TYPE LOCALITY: Dry bluffs, Tomellín Canyon, Parián, Oaxaca, México. Type collected by Pringle (No. 5645), cited below.

DISTRIBUTION: Southern México and Guatemala, on dry bluffs, calcareous hills, and mountain slopes, at altitudes up to about 1,650 m. (fig. 8).

MÉXICO: *Haenke* 1279 (Ch), 1613 (Ch). **PUEBLA:** "Matamoros," *Rose & Hough* 4702 (US). Tehuacán, *Liebmann* 4725 (Ch, US); *Pringle* 8580 (Ch, GH, Min, Mo, NY, UC, US); *Rose & Hay* 5853 (US); *Rose, Painter, & Rose* 10014 (US); *Rose & Rose* 11238 (GH, NY, US). San Luis Tultitlanapa, *Purpus* 3507 (UC), June 1908 (UC). **MICHOACÁN:** Mal Paso, Huetamo, *Hinton* 7872 (Ch, GH, NY, US). **GUERRERO:** Between Tuxpam and Taxmalar, *Seler & Seler* 4228 (GH). **OAXACA:** Cuesta de Ejutla, Naraltepec, *L. C. Smith* 452 (GH, US). Parián, *Pringle* 5645 (GH, UC, US TYPE). Rancho de Calderón, *L. C. Smith* 102 (GH, US). San Gerónimo, *Doyle* 37 (US); *Mell* 2201 (NY). Cerro de Picacho, *Purpus* 7179 (Ch, GH, Mo, NY, UC TYPE of *Ae. oaxacana*, US). Between Juchitán and Chivela, *Nelson* 2630 (GH, US). **CHIAPAS:** Comitán, *Matuda* 5677 (Ch), 15683 (Ch); *Carlson* 1950 (US).

GUATEMALA: ZACAPA: Río Hondo, *Steyermark* 29500 (Ch).

This shrubby species, with marginally costate leaflets, closely resembles *Ae. purpusii*, from Vera Cruz, and is in some cases only slightly less sericeous than *Ae. nivea*, of Baja California. Apparently it stands intermediate between the two species, not only geographically but also in its characteristics. Its flowers are generally smaller than those of *Ae. nivea* and larger than those of *Ae. purpusii*. The fruit stipe is longer than in *Ae. purpusii* but about equal to that of *Ae. nivea*. The lanceolate bracteoles of *Ae. compacta* about equal the calyx in length, in contrast to the relatively short bracteoles of the other two species.

Examination of the type of *Ae. oaxacana* shows it to be identical with *Ae. compacta*.

48. *Aeschynomene pleuronervia* DC. Prodr. 2: 321. 1825.

Smithia domingensis Balb. ex DC. Prodr. 2: 321. 1825, nomen in synonymy.

Aeschynomene aurea Leonard, Journ. Wash. Acad. Sci. 17: 67. 1927.

Suffrutescent perennial with numerous slender shoots arising from a woody root, the stems to about 5.5 dm. high, sparingly pubescent, with appressed or subappressed white hairs; stipules deltoid-lanceolate, acute to acuminate, about 3 mm. long and 1 mm. wide, subglabrous, ciliate; leaves mostly 20-40-foliolate, the rachis white-pubescent; leaflets 5-6 mm. long, 1.5-2.5 mm. wide, semicordate, obtuse, the

costa marginal, the upper surface glabrous, the lower surface sparingly pubescent with subappressed hairs; inflorescences terminal and axillary, few-flowered, the peduncles and pedicles strigillose and also somewhat hispidulous; bracts and bracteoles deltoid-ovate, acute, 1–3 mm. long, about 1 mm. wide, sparsely pubescent; flowers about 10 mm. long; calyx 4–5 mm. long, sparsely pubescent, ciliate; petals drying to a chocolate brown color; standard 10 mm. long, the claw 2 mm. long, the blade ovate-orbiculate, about 8 mm. in diameter, retuse; wings and keel about as long as the standard, the wing blades about 4 mm. wide, the keel blades about 2.5 mm. wide; stamens about 8 mm. long; fruit 3–5-articulate, the stipe about 5 mm. long, the articles about 5 mm. long and 4 mm. wide, appressed-pubescent, reticulate-veiny; mature seeds not seen.

TYPE LOCALITY: "Santo Domingo." Type collected by Bertero, cited below.

DISTRIBUTION: Known only from Hispaniola, at elevations up to about 1,500 m. (fig. 8).

HAITI: NORD-OUEST: Bassin Bleu, *Leonard & Leonard* 15185 (Mo, NY, US). NORD: St. Michel de l'Atalaye, *Leonard* 7421 (US). ARTIBONITE: Ennery, *Leonard* 8818 (GH, US TYPE of *Ae. aurea*). OUEST: Thomazeau, *Ekman* H-1005 (US). Port au Prince, *Leonard & Leonard* 15738 (GH, UC, US). Morne l'Hôpital, *Holdridge* 998 (US).

DOMINICAN REPUBLIC: "Santa Domingo," *Bertero* in 1819–1820 (Mo, probably TYPE collection; F. M. neg. 33436 of TYPE ex G).

This species, apparently endemic to the island of Hispaniola, is readily identified by its semicordate, marginally costate leaflets and its lomentis with stipes about 5 mm. long.

In aspect, it somewhat resembles *Ae. tenuis* of Cuba, but that species has longer-stiped fruits and leaflets with excentric but not marginal costae. The Brazilian species *Ae. paucifolia*, except for its sessile fruits, seems to be most similar to *Ae. pleuronervia*.

Smithia domingensis apparently was only an unpublished herbarium name which DeCandolle cited in his original description.

The type of *Ae. aurea* shows that species to be undoubtedly the same as *Ae. pleuronervia*, as noted by Urban (*Repert. Spec. Nov. Regni. Veg.* 24: 13. 1927).

49. *Aeschynomene paucifolia* Vog. *Linnaea* 12: 94. 1838.

? *Aeschynomene nana* Glaziov, *Bull. Soc. France* 53. Mem. 3b: 132. 1906.

Suffrutescent perennial with numerous slender shoots arising from a woody root; stems to about 5 dm. high, appressed-pubescent when young, glabrate with age; stipules lanceolate, attenuate, about 3–5 mm. long, pubescent, glabrate; leaves 1–10 cm. long, 30–60-foliolate, the rachis somewhat pubescent; leaflets about 5 mm. long, 1–2 mm. wide, semicordate, acute, the costa marginal, the upper surface

glabrous, the lower surface appressed-pubescent to glabrate; inflorescences terminal or axillary, the floral axes strigillose and also somewhat hispidulous, the bracts and bracteoles ovate, acute, pubescent, 1-2 mm. long, about 1 mm. wide, entire or glandular-ciliate; flowers 10-12 mm. long; calyx 3-4 mm. long, pubescent, ciliate; petals drying to a chocolate brown color; standard commonly 10 mm. long, the claw 2 mm. long, the blade orbiculate, about 8 mm. in diameter, retuse; wings and keel about as long as the standard, the wing blades about 4 mm. wide, the keel blades about 2.5 mm. wide; stamens 10 mm. long; fruit 2-5-articulate, subsessile, the stipe about 2 mm. long, or less, although sometimes seeming to be longer due to abortion of the basal ovules and failure of the lower articles to attain normal width, the normal articles about 6.5 mm. long and 6 mm. wide, pilose; mature seeds not seen.

TYPE LOCALITY: "Ad S. Antonio do Monte," Minas Gerais, Brazil. Type collected by Sellow, cited below.

DISTRIBUTION: Highlands of southeastern Brazil, in grasslands (fig. 8).

BRAZIL: MINAS GERAIS: "S. do Galheiro" [near "San Antonio do Monte"], Sellow (F. M. neg. 2152, presumably of TYPE ex B). Between "S. Anna dos Alegres and Rio S. Francisco," Riedel 2926 (GH). Lagôa Santa, Riedel 722 (US); Hoehne (Comm. Rondon) 6615 (R); Warming 3017 (Ch, US). Santa Luzia, Mello Barretto 6052 (Ch). Brejo das Almas, Markgraf 3280 (R); Jaboticatubas, Mello Barretto 10355 (R); L. B. Smith 6934 (US). GOYAZ: Between Rio dos Velhos and Rio Paranahyba, Riedel 4268 (US). Between Catalão and Goyaz, Burchell 5741 (GH), 6061-2 (GH). Between "As Brancas and Rio Roncador," Glaziou 20921 (Ch, NY, F. M. neg. 27930 of ISOTYPE of *Ae. nana* ex G).

As indicated by the specific name, the leaves of this species are commonly rather widely spaced. The semicordate leaflets in particular, and other characters in general, are very similar to those of *Ae. pleuronervia* of Hispaniola. The chief difference is in the stipitate fruits of *Ae. pleuronervia* and the subsessile fruits of *Ae. paucifolia*.

Material of *Ae. nana* suggests specimens of *Ae. paucifolia* which might have suffered burning or close grazing and then resumed growth. The stems are short and numerous, about 1-2 dm. high, and the leaves are closely spaced. The flowers and fruits appear to be essentially the same as those of typical *Ae. paucifolia*. Tentatively, the two species are here placed in synonymy.

Series 8. Scopariae Rudd, ser. nov.

Arbores parvae, frutices, vel herbae suffruticosae; caulis erectus, teres, nonnunquam cum cortice cinereo vel fusco, caulibus immaturis nonnihil angulatis; stipulae non productae; foliola integra, costa centrali; inflorescentiae racemosae vel paniculatae, nonnunquam

fasciculatae, axillares vel terminales; flores fructusque pro sectione *Ochopodio* plerumque inter majores.

Small trees, shrubs, or suffrutescent perennials; stems erect, terete or somewhat angled when young, terete and sometimes developing gray or brownish bark when older; stipules attached at the base, not appendiculate; leaflets entire, essentially symmetrical although the base may be obliquely rounded or subcordate, the costae central, the secondary venation mostly reticulate, moderately prominent; inflorescences racemose, sometimes paniculate, sometimes fasciculate, axillary, and in some cases also terminal; flowers and fruits mostly larger than average for the section.

The type of the series is here designated as *Ae. scoparia* H. B. K.

50. *Aeschynomene amorphoides* (Wats.) Rose ex Robins. Proc. Amer. Acad. 29: 315. 1894.

Brya (?) *amorphoides* Wats. Proc. Amer. Acad. 22: 406. 1887.

Aeschynomene bracteolaris Riley, Kew Bull. 1923: 115. 1923.

Aeschynomene guadalajarana M. E. Jones, Contr. West. Bot. 18: 46. 1933.

Shrub or small tree up to about 8 m. high; stems canescent when young, glabrous, gray-barked when older; stipules linear, attenuate, 8–12 mm. long, 1–1.5 mm. wide at base, lightly pubescent; leaves about 5–8 cm. long, 40–80-foliolate, the petiole and rachis pubescent; leaflets oblong, obtuse to subacute, 5–17 mm. long, 2–3.5 mm. wide, the mucro 1.5–2 mm. long, the upper surface pubescent to subglabrous, the lower surface pubescent; inflorescences axillary or terminal panicles, the axes pubescent like the stem, the bracts and bracteoles ovate, obtuse, about 1 mm. long, 0.5–1 mm. wide, pubescent, ciliate; flowers 4–6 mm. long; calyx 2–3 mm. long, subglabrous, ciliate; standard commonly about 5 mm. long, the claw 1 mm. long, the blade suborbiculate, about 4 mm. in diameter, glabrous; wings and keel about as long as the standard, their blades 1.5–2 mm. wide; stamens about 5 mm. long; fruit 1–2.5 cm. long, 2–3 articulate, the stipe about 3 mm. long, the articles (6–)9–10 mm. long, about 5 mm. wide, pubescent to subglabrous; seeds about 5 mm. long and 3 mm. wide, dark brown.

TYPE LOCALITY: Tequila, Jalisco, México. Type collected by Edward Palmer (No. 414 in 1886), cited below.

DISTRIBUTION: México, from Sinaloa south to Colima, in rocky canyons of mountain foothills up to about 1,000 m. (fig. 9).

MÉXICO: *Sessè & Mociño* 1938 (Ch), 1948 ter (Ch). SINALOA: *Ortega* 4853 (US). Las Mesas, *Gentry* 6656 (GH, Mo, NY, US). Imala, *Edw. Palmer* 1702 in 1891 (GH, NY, UC, US). Cerro Colorado, Culiacán, *Brandegge*, Oct. 28, 1904 (GH, UC, US); *Gentry* 5114 (GH, Mo, NY, UC). La Noria, *Mexia* 141 (Mo, UC). Santa Fe, *Ortega* 4666 (US). Mazatlán, *Ortega* 6397 (GH, US). "San Ignacio: El Coacoyal, *Gonzalez*" [*Ortega*] 586 (N. Y. neg. n. s. 2277 of TYPE of *Ae. bracteolaris* ex K). Los Labrados, *Mexia* 943 (Ch, GH, Mo, NY, UC, US). NAYARIT: Tepic, *Mexia* 660 (Ch, GH, Min, Mo, NY, UC, US). La Barranca, *Jones* 23052

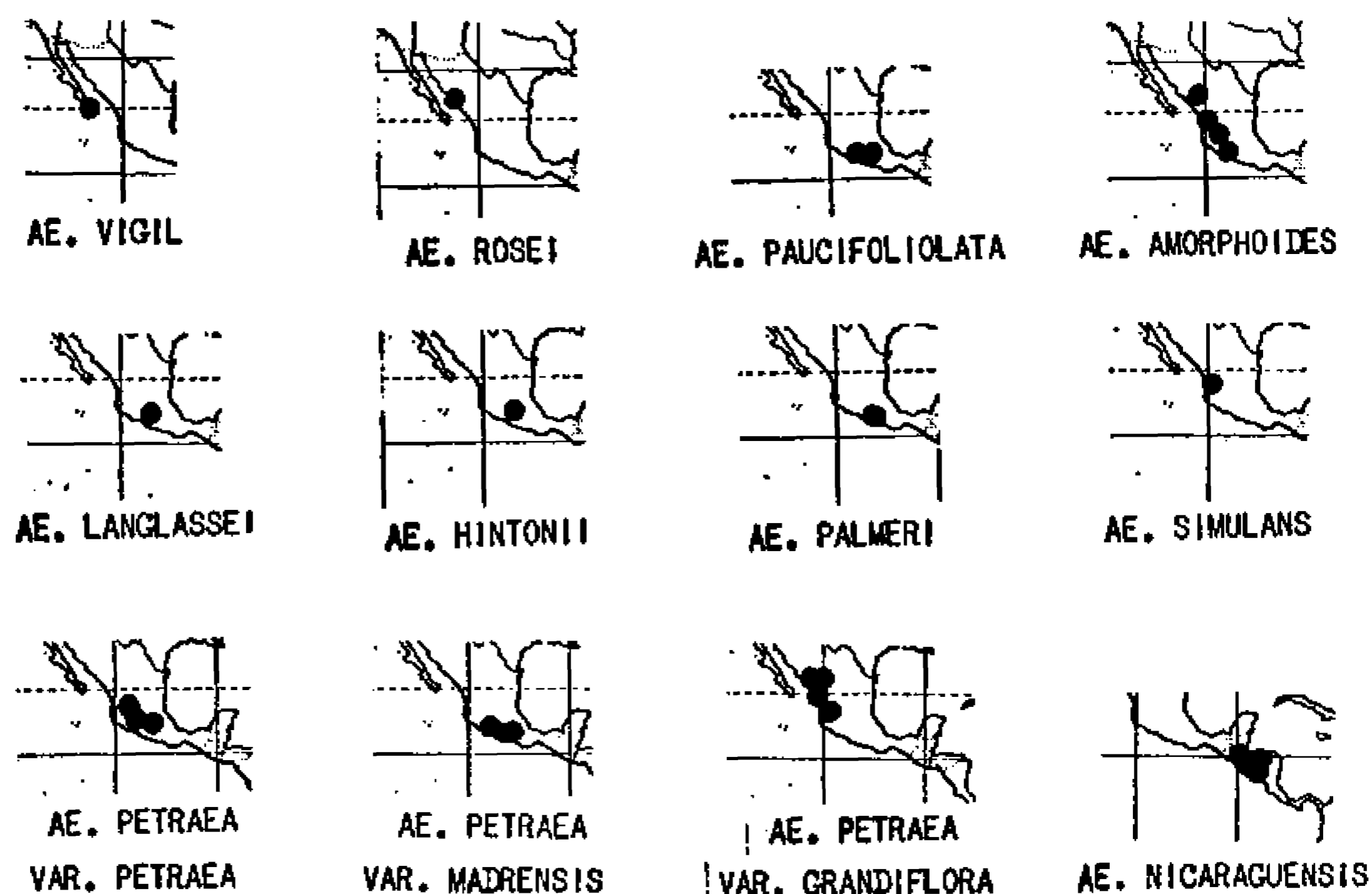


FIGURE 9. Distribution of the *Scopiae*: Mexican and Central American taxa.

(CH). Ixtlán, *Jones* 23055 (NY). JALISCO: Tequila, *Edw. Palmer* 414, in 1886 (GH TYPE, NY, US); *Pringle* 4613 (Ch, GH, Min, Mo, NY, UC, US). La Venta, *Reko* 4441 (US). Bolaños, *Rose* 2859 (GH, US), 2859a (GH, Mo, NY, US). COLIMA: Manzanillo, *Edw. Palmer* 903, in 1890 (GH, Mo, NY, UC, US); *Ferris* 6037 (Ch, US); *Orcutt* 4502 (Ch).

LOCAL NAMES: Yerba del pajarito (Nayarit); trucha (Sinaloa); baraprieta (Sinaloa).

Aeschynomene amorphoides, with its relatively large panicles of small flowers and its leaves with numerous, narrowly oblong, long-mucronate leaflets, is one of the most distinctive species of the genus. First tentatively placed in the genus *Brya*, it was later transferred to *Aeschynomene*, where it correctly belongs.

From the original description and from a photographic negative of the type of *Ae. bracteolaris*, it seems certain that that species is the same as *Ae. amorphoides*.

Morton (Contr. U. S. Nat. Herb. 29:100. 1945) has examined the type of *Ae. guadalajarana* and identified it as *Ae. amorphoides*. I have seen the second number cited by Jones, his 23052, and it undoubtedly is a specimen of *Ae. amorphoides*.

51. *Aeschynomene paucifoliolata* Micheli, Mem. Soc. Phys. Genève 34: 256. pl. 9. 1903.

Shrub about 3 m. tall; stems slender, strigillose, hispidulous when young, the older stems glabrous, gray-barked; stipules linear-subulate, 5-10 mm. long, scarcely 1 mm. wide, subglabrous, entire; leaves 5-20-foliolate; leaflets extremely variable in size and shape, sub-elliptic to rhombic, ovate to oblong, obtuse, the base cuneate or

rounded, the smallest about 5 mm. long and 2 mm. wide, the largest 40 mm. long, 28 mm. wide at maximum, the terminal leaflet sometimes rhombic and twice as large as the lateral, subelliptic leaflets, the upper surface appressed-pubescent to glabrate, the lower surface slightly more pubescent than the upper; inflorescences terminal and axillary, mostly paniculate, many-flowered, the axes strigillose, the bracts deltoid-ovate, the largest about 1 mm. long and 0.5 mm. wide; flowers 5-7(-8) mm. long; calyx 2-3 mm. long, subglabrous or appressed-pubescent, ciliolate; standard commonly 6 mm. long, the claw 1 mm. long, the blade obovate, about 5 mm. long and 5 mm. wide at maximum, glabrous on outer face; wings and keel about as long as the standard, the wing blades about 2 mm. wide, the keel blades about 1 mm. wide; stamens about 6 mm. long; fruit 2-4-articulate, the stipe 3-6 mm. long, appressed-pubescent, the articles about 10 mm. long and 6 mm. wide, sparsely appressed-pubescent, sometimes glabrate, reticulate-veiny; seeds 5-6 mm. long, 3-4 mm. wide, light brown.

TYPE LOCALITY: El Calabazal, Guerrero, México, in rocky, granitic soil, 200 m. altitude. Type collected by Langlassé (No. 474), cited below.

DISTRIBUTION: México, from Michoacán to Guerrero, on rocky hillsides, llanos, in woods, at elevations up to about 200 m. (fig. 9).

MÉXICO: MÉXICO: Temascaltepec, *Hinton* 1764 (US), 1997 (NY, US), 4784 (Ch, GH, US), 7059 (NY, US). MICHOACÁN: Coalcomán, *Hinton* 16060 (US), 16163 (US). GUERRERO: El Calabazal, *Langlassé* 474 (GH, US, ISOTYPES). Acapulco, *Beechey*, in 1827-28 (K). *Edw. Palmer* 106 in 1894-95 (GH). Cutzamala, *Hinton* 6708 (Ch, GH, Mo, NY, US). Coyuca, *Hinton* 6938 (Ch, GH, US).

Standley (Contr. U. S. Nat. Herb. 23: 491. 1922) treated *Ae. paucifoliolata* as a synonym of *Ae. palmeri*, but Sandwith (Hook. Icon. Pl. 35: sub pl. 3448. 1943) has pointed out, correctly I believe, that such reduction is unjustified. *Aeschynomene palmeri* has somewhat larger flowers, apparently only in axillary racemes, fruits with larger and less numerous articles and generally less indument.

The small flowers of *Ae. paucifoliolata*, in paniculate inflorescences, are most similar to those of *Ae. amorphoides*. The leaflets, however, are very different. Instead of being uniformly narrowly oblong as in *Ae. amorphoides*, they exhibit considerable variability of shape, size, and number. Specimens with the large rhombic leaflets are especially distinctive.

52. *Aeschynomene vigil* Brandege, Proc. Cal. Acad. II. 3: 128. 1891.

Shrub 1-3 m. tall; stem white-sericeous when young, glabrate, gray-barked with age; stipules about 3-5 mm. long and 1 mm. wide, lanceolate, acuminate, subsericeous; leaves 8-14-foliolate; leaflets

elliptic-oblong to obovate, obtuse, 8–15 mm. long, 4–8 mm. wide, subsericeous; inflorescences axillary, fasciculate, few-flowered, the pedicels subsericeous, sometimes also sparsely hispidulous; bracts and bracteoles ovate-lanceolate, acute, 1–2 mm. long, sericeous; flowers 8–10 mm. long; calyx 4–5 mm. long, pubescent; standard 8–10 mm. long, the claw about 2 mm. long, the blade suborbiculate, about 7 mm. long and 6 mm. wide, retuse; wings and keel about as long as the standard, the wing blades 3–5 mm. wide, the keel blades about 1.5 mm. wide; stamens about 9 mm. long; fruit 2- or 3-articulate, the stipe 1–3 mm. long, pubescent, the articles 5–7 mm. long, 5–6 mm. wide, moderately appressed-pubescent, reticulate-veiny; seeds about 5 mm. long and 3 mm. wide, light brown.

TYPE LOCALITY: San José del Cabo, Baja California, México. Type collected by Brandegee (No. 142), cited below.

DISTRIBUTION: Known only from the southern tip of Baja California, México, at elevations up to about 150 m. (fig. 9).

MÉXICO: BAJA CALIFORNIA: San José del Cabo, *Brandegee* 142 (GH, UC TYPE), Mar. 17, 1892, 1892 (UC), Sept. 23, 1893 (NY), Oct. 24, 1902 (UC, US); *Rose* 16461 (US); *Jones* 24053 (Ch, Mo, NY, UC). "West coast Cape region," *Brandegee*, Sept. 23, 1893 (US). "From El Cajón to El Saccatón," *Nelson & Goldman* 7365 (GH, US).

Aeschynomene vigil exhibits considerable white-sericeous pubescence, characteristic of *Ae. nivea* and many other plants of Lower California. Its broader, elliptic-oblong to obovate leaflets with essentially central costae readily distinguish it from *Ae. nivea*, which has narrow, marginally-costate leaflets.

The petals of *Ae. vigil* tend to discolor to a dark purplish-brown, similar to the color changes that occur in several species of the *Pleuronerviae* but are not customary in the *Scopariae*.

The short fruit-stipe easily distinguishes this species from others of the series except *Ae. rosei*, and from that the denser pubescence differentiates it.

53. *Aeschynomene rosei* Morton, *Contr. U. S. Nat. Herb.* 29: 84. 1944.

Aeschynomene fruticosa Rose, *Contr. U. S. Nat. Herb.* 5: 192. 1899, non Sessé and Mociño. 1889.

Shrub, to about 1.5 m. high; stems appressed-pubescent when young, glabrate, gray-barked when older; stipules lanceolate, attenuate, 2–4 mm. long, 0.5–1 mm. wide at base, pubescent; leaves 7–12-foliolate; leaflets 8–15 mm. long, 3–6 mm. wide, oblong to subelliptic, obtuse, subglabrous; inflorescences axillary, fasciculate, few-flowered, the bracts and bracteoles ovate, acute, 1–2 mm. long, about 1 mm. wide, lightly pubescent; flowers 8–9 mm. long; calyx 5–6 mm. long, sparsely pubescent; standard 8–9 mm. long, the claw 2 mm. long, the blade cordate, 6–7 mm. in diameter; wings and keel about as long as

the standard, the wing blades about 3 mm. wide, the keel blades about 1.5 mm. wide; stamens about 8 mm. long; fruit 3-articulate, subsessile, the stipe 1–2 mm. long, glabrous, the articles 7–8 mm. long, 5–6 mm. wide, the apical joint strigillose, the pubescence decreasing toward the subglabrous basal joint; mature seeds not seen.

TYPE LOCALITY: On stony hills near Topolobampa, Sinaloa, México. Type collected by Edw. Palmer (No. 204 in 1897), cited below.

DISTRIBUTION: Known only from the type collection (fig. 9).

MÉXICO: Sinaloa: Topolobampa, *Edw. Palmer* 204 in 1897 (UC, US TYPE).

This collection, the northernmost of the series, most resembles in general aspect the rather glabrous South American species, *Ae. tumbezensis*, *Ae. egena*, and *Ae. interrupta*. However, in more technical characters of the flowers, stipe length, etc., it appears to be closely related to the pubescent *Ae. vigil* from across the Gulf of California in Lower California.

As indicated above, this taxon was first described as *Ae. fruticosa* Rose, but, because that name was a later homonym of *Ae. fruticosa* Sessé and Mociño, Morton proposed the specific name *rosei*.

54. *Aeschynomene palmeri* Rose, Contr. U. S. Nat. Herb. 5: 192. 1899.

Shrub about 2 m. tall; stems subglabrous when young, becoming gray-barked when older; stipules linear-attenuate, about 5–7 mm. long, scarcely 1 mm. wide, subglabrous, entire; leaves 7–13-foliolate; leaflets variable in size and shape, elliptic to oblong or slightly obovate, acute to retuse, the largest about 25 mm. long and 15 mm. wide, the smallest 10 mm. long and 4 mm. wide, entire, subglabrous; inflorescences axillary, racemose, the axes finely appressed-pubescent and also beset with glandular hairs, the bracts linear-ovate, acute, 1–2 mm. long, 0.5–1 mm. wide, subglabrous, ciliolate; flowers 8–10 mm. long; calyx 3–4 mm. long, subglabrous, ciliolate; standard commonly about 10 mm. long, the claw 2 mm. long, the blade orbiculate, about 8 mm. in diameter, entire, retuse, glabrous; the wings and keel about 8.5 mm. long, the claws 1.5 mm. long, the blades about 7 mm. long and 3 mm. wide; stamens about 8.5 mm. long; legume 1–3- (usually only 1-) articulate, the stipe about 5–6 mm. long, subglabrous, the articles about 15 mm. long and 7 mm. wide, glabrous except for a few hairs along the margins; seeds about 6 mm. long and 3.5 mm. wide, brown.

TYPE LOCALITY: Acapulco, Guerrero, México. Type collected by Edw. Palmer (No. 106a in 1894–95 in part), cited below.

DISTRIBUTION: Known only from Guerrero, México (fig. 9).

MÉXICO: GUERRERO: Acapulco, *Edw. Palmer* 106a in 1894–95 in part (GH, US TYPE); *Langman* 3323 (NA), 3338 (NA). Galeana, *Hinton* 14604 (US).

Aeschynomene palmeri is another of the few species within the series which exhibits a glabrous standard petal, in contrast to the more common condition of well developed pubescence on the outer face. The fairly large, subglabrous leaflets and fruits also are distinctive.

In general appearance it most suggests *Ae. hintonii*, from the same region, but the latter has somewhat more obovate leaflets, pubescent standard petals, and, in some cases, terminal, paniculate inflorescences that so far have not been observed in the specimens of *Ae. palmeri*.

Unfortunately, the type of this species is one element of a mixed collection. In addition to the material cited above, other specimens of Palmer's No. 106a collected in 1894-95 are *Diphysa occidentalis*. A Gray Herbarium sheet of Palmer's No. 106 includes two twigs of *Ae. paucifoliolata* and one of *Ae. palmeri*, the latter presumably an isotype, equivalent to No. 106a.

55. *Aeschynomene hintonii* Sandw. Hook. Icon. Pl. 35: pl. 3448. 1943, published as *hintoni*.

Shrub 1-2 m. high; stems subglabrous when young, becoming brownish gray-barked when older; stipules linear-deltoid, 2-4 mm. long, about 2 mm. wide at base, acute, subglabrous, ciliate; leaves 2-4 cm. long, 5-6-foliolate, the petioles glandular-hispidulous; leaflets obovate-elliptic, somewhat variable in size, the smallest about 4 mm. long and 3 mm. wide, the largest about 20 mm. long and 17 mm. wide, subglabrous, entire, the apex rounded; inflorescences axillary or terminal, racemose, few-flowered; bracts and bracteoles deltoid-ovate, 1-2 mm. long, 1-1.5 mm. wide, acute, ciliate; pedicels and peduncles glandular-hispidulous and also somewhat crisp-pubescent; flowers 8-10 mm. long; calyx 3-4 mm. long, subglabrous, ciliate; standard 8-10 mm. long, the claw about 1.5 mm. long, the blade orbiculate, about 8 mm. in diameter, entire, retuse, pubescent on the outer face; wings and keel about as long as the standard, the wing blades about 4 mm. wide, the keel blades about 3 mm. wide; stamens 8-10 mm. long; fruit 1-3-articulate, the stipe 10-12 mm. long, glandular-hispidulous, the articles about 12 mm. long and 9 mm. wide, glabrous, reticulate-veiny; seeds about 6 mm. long and 3.5 mm. wide, brown.

TYPE LOCALITY: Placeres, Coyuca district, Guerrero, México. Type collected by Hinton (No. 6104), cited below.

DISTRIBUTION: Known only from northern Guerrero, México, in woods and on dry hills at elevations up to about 400 m. (fig. 9).

MÉXICO: GUERRERO: Los Placeres, *Hinton* 6104 (US ISOTYPE), 11247 (GH). Between Los Placeres and Cigarillo, *Hinton* 10644 (GH, US).

This species is very similar to *Ae. palmeri*, differing chiefly in having fruits with longer stipes, flowers with standards which are pubescent on the outer face, and leaflets which tend to be smaller and more obovate.

Originally published as "*hintoni*," the specific name is here changed to *hintonii*, following Recommendation 82C (b) of the International Code of Botanical Nomenclature (1952).

56. *Aeschynomene langlassei* Micheli ex Rudd, sp. nov.

Frutex, caulibus subglabris, cortice griseo; stipulae non productae; folia 12–16-foliolata, foliolis elliptico-oblongis, foliolo ultimo plerumque obovato-cuneato; inflorescentiae terminales vel axillares, paniculatae vel racemosae, floribus circiter 10 mm. longis; legumen 5- vel 6-articulatum, utrinque sinuatum, stipite 8–10 mm. longo, mediocriter adpresso-pubescente etiam hispiduloso, articulis suborbiculatis, 5–6 mm. longis latisque, glabris vel margine sparsim pubescente.

Shrub about 1.5 m. high; stems subglabrous, grayish-barked when older; stipules deltoid, acuminate, about 1 mm. long, 1 mm. wide or less, subglabrous; leaves 12–16-foliolate, the petioles and rachis sparsely pubescent; leaflets elliptic-oblong, 5–15 mm. long, 4–8 mm. wide, subglabrous, reticulate, the terminal leaflet usually obovate-cuneate, obtuse to retuse; inflorescences terminal or axillary, paniculate or racemose; peduncles and pedicels pubescent and also sparsely hispidulous with glandular hairs; bracts and bracteoles deltoid-ovate, acute to obtuse, scarcely 1 mm. long and 1 mm. wide, pubescent; flowers about 10 mm. long; calyx about 4.5 mm. long, subglabrous, ciliate; standard about 10 mm. long, the claw about 2 mm. long, the blade broadly ovate, about 8 mm. long, 10 mm. wide at maximum, emarginate, subcordate at base, entire, the outer face pubescent; wings about as long as the standard, the claw 3 mm. long, the blade about 7 mm. long and 3.5 mm. wide; the keel about 11 mm. long, the claws 3 mm. long, the blades about 8 mm. long and 2.5 mm. wide; stamens about 11 mm. long; fruit commonly 5- or 6-articulate, somewhat moniliform, the stipe 8–10 mm. long, moderately appressed-pubescent and also hispidulous, the articles suborbiculate, 5–6 mm. in diameter, glabrous or with sparse marginal pubescence; seeds about 3 mm. long and 2 mm. wide, dark brown.

TYPE: In the U. S. National Herbarium, No. 385558, collected in the Sierra Madre, State of Guerrero, México, altitude 1,200 m., February 1899, by E. Langlassé (No. 847). Duplicate at GH.

DISTRIBUTION: Known only from the type collection (fig. 9).

This collection was given the herbarium name *Ae. langlassei* by Micheli but, before his name was published, he apparently was convinced that it was the same as *Ae. simulans*, and so cited it in his "Leguminosae Langlasseanae" (Mem. Soc. Phys. Hist. Nat. Genève 34:257. 1903). Since I believe that these two elements are distinct, I am now validating the specific name *Ae. langlassei*, as originally applied by Micheli.

With its nearly glabrous fruits and leaflets, this species suggests *Ae. palmeri* and *Ae. hintonii*. The several small articles, rather than 1-3 large articles as in those two species, give the fruits of *Ae. langlassei* a rather distinctive, moniliform appearance. It differs from *Ae. simulans* in fruit characters, the articles being glabrous and more numerous and the stipes somewhat longer.

Fully mature fruits may have articles slightly larger than those (5-6 mm. diameter) described above. The type material appears to have been collected in a submature condition.

57. *Aeschynomene nicaraguensis* (Oerst.) Standl. Tropical Woods 34: 41. 1933.

Brya nicaraguensis Oerst. Vid. Medd. Nat. Foren. Kjøbenhavn 13. 1853.

Aeschynomene calderoniana Standl. Journ. Wash. Acad. Sci. 14: 93. 1924.

Shrub or small tree, 2-4 m. high; stem pubescent when young, glabrate, with grayish bark when older; stipules linear, acuminate, 6-10 mm. long, scarcely 1 mm. wide, subglabrous; leaves 5-10 cm. long, about 8-18-foliolate, the petiole and rachis pubescent; leaflets elliptic-oblong, the apical leaflets usually obovate, 10-35 mm. long, 5-12 mm. wide, obtuse, subglabrous; inflorescences axillary or terminal racemose or paniculate, the axes pubescent, the bracts ovate, acute to obtuse, 1-2 mm. long, 0.5-1 mm. wide, pubescent; flowers 8-10 mm. long; calyx about 3.5-5 mm. long, pubescent to subglabrous; standard commonly about 9 mm. long, the claw 2 mm. long, the blade about 7 mm. long, 8-10 mm. wide; wings and keel about the same length as the standard, the wing blades 3-4 mm. wide, the keel blades 1.5-2 mm. wide; stamens about 9 mm. long; fruit 2- or 3-articulate, the stipe 5-7 mm. long, appressed-pubescent, the articles 12-15 mm. long, 7-8 mm. wide, moderately appressed-pubescent, sometimes glabrate; seeds 5-6 mm. long, 3-3.5 mm. wide, light brown.

TYPE LOCALITY: El Viejo, Nicaragua. Type collected by Oersted (No. 4701), cited below.

DISTRIBUTION: Guatemala to Nicaragua, in oak-pine forest areas, at elevations of about 400-1,700 m. (fig. 9).

GUATEMALA: CHIQUIMULA: Concepción de las Minas, *Steyermark* 31117 (Ch).

HONDURAS: COMAYAGUA: Comayagua, *Standley & Chacón* 5738 (Ch). MORAZÁN: El Zamorano, *Standley* 830 (Ch), 1036 (Ch), 1338 (Ch), 4353 (Ch); *J. Valerio* 3554 (UC). Quebrada de Santa Clara, *Standley & Williams* 1562 (Ch, US). Santa Clara, *J. Valerio* 3787 (UC, US); *Williams & Molina* 10570 (Ch, Mo,

UC). Camino San Antonio, *J. Valerio* 1359 (Ch). Pozo del Tacuazán, *Molina* 679 (UC, US). Mount Uyuca, *Swallen* 10894 (US). EL PARAISO: Las Casitas, *Williams & Molina* 11540 (Ch, Mo). Galeras, *Standley* 15598 (US).

EL SALVADOR: CHALATENANGO: Cerro El Roblar, *Calderón* 2470 (Ch). SANTA ANA: Santa Ana, *Standley* 20367 (GH, NY, US TYPE of *Ae. calderoniana*). Metapán, *Standley & Padilla* 3145a (Ch.).

NICARAGUA: NUEVA SEGOVIA: *Oersted* 4702 (Ch, fragment ex C). CHINANDEGA: El Viejo, *Oersted* 4701 (Ch, fragment of TYPE ex C). MADRIZ: Somoto, *Williams & Molina* 12297 (Ch, Mo, UC).

This is the only species of the series which has been found in Central America exclusive of México. The articles of the fruit are large and moderately pubescent; the stipules are linear. Although color is not too stable a character, specimens of *Ae. nicaraguensis* commonly exhibit large, dark green, but not blackish, leaflets, and the petals are usually longitudinally striped with purple.

This species was first ascribed to the genus *Brya* and later independently described as an *Aeschynomene*; Standley then recognized the similarity of the material involved and published the combination *Ae. nicaraguensis*.

58. *Aeschynomene simulans* Rose, Contr. U. S. Nat. Herb. 5: 192. 1899.

Suffrutescent perennial, about 3 dm. high; stems appressed-pubescent to subglabrous; stipules obliquely ovate, entire, acute, about 5 mm. long, 1.5–2.5 mm. wide, subglabrous; leaves about 12–16-foliolate; leaflets orbiculate to oblong, 10–15 mm. long, 4–10 mm. wide, obtuse, rounded or subcordate at base, the upper surface glabrous, the lower surface finely appressed-pubescent, reticulate; inflorescences terminal or axillary, racemose or paniculate; bracts and bracteoles 1–1.5 mm. long, about 1 mm. wide, subovate, obtuse, subglabrous; flowers 8–10 mm. long: calyx 3–4 mm. long, subglabrous, ciliolate; standard 8–10 mm. long, obovate, not distinctly clawed, 9 mm. wide at maximum, pubescent on the outer face, entire, emarginate, the base cuneate; wings and keel commonly about 9.5 mm. long, the claws 1.5 mm. long, the wing blades 3.5 mm. wide at maximum, the keel blades about 1.5 mm. wide; stamens about 8 mm. long; fruit 2- or 3-articulate, the stipe about 6 mm. long, the articles 6–7 mm. in diameter (submature), thinly appressed-pubescent, glabrescent; mature seeds not observed.

TYPE LOCALITY: Between Rosario and Colomas, Sinaloa, México. Lectotype collected by Rose (No. 1616), cited below.

DISTRIBUTION: México, southern Sinaloa and Nayarit (fig. 9).

MÉXICO: SINALOA: Between Rosario and Colomas, *Rose* 1616 (GH, US LECTOTYPE). NAYARIT: Acajoneta, *Rose* 1487 (US).

As Rose said in the original description, "This species is near, perhaps too near, *Ae. petraea* Robins., but differs in coming from the low, hot coastal plain of the west coast, while *Ae. petraea* comes from much

higher elevations; it also has a very different pubescence, larger leaflets, smaller bracts and flowers, glabrous calyx, etc." The most obvious difference is in the pubescence, exclusive of the glandular hairs, of the fruit and inflorescence. All the material of *Ae. petraea* seems to have spreading, often crispate, pubescence but the two collections of *Ae. simulans* exhibit appressed hairs.

Vegetatively, *Ae. simulans* most resembles *Ae. petraea* var. *grandiflora*, but differs in having smaller flowers more like those of typical *Ae. petraea*. Apparently it is a near relative of that species. For the present, with so little data, it is believed preferable to maintain the status quo, with *Ae. simulans* as an independent species.

The two collections, *Rose* 1487 and *Rose* 1616, were cited as syntypes in the original description. Since there is slightly more material of the latter number, it seems desirable to designate *Rose* 1616 as the lectotype.

59. *Aeschynomene petraea* Robins. Proc. Amer. Acad. 27: 166. 1892.

Shrub or suffrutescent perennial, 1-4 m. high; stems pubescent when young, sometimes with glandular development, glabrate, often with grayish bark when mature; stipules obliquely lanceolate to ovate, acute, subcordate at base, about 5-10 mm. long, 2-4 mm. wide, pubescent, ciliate; leaves extremely variable, 5-15 cm. long, 6-40-foliolate, the petiole and rachis subglabrous to densely pubescent; leaflets elliptic to oblong, the smallest about 4 mm. long and 2 mm. wide, the largest 25 mm. long, 12 mm. wide, obtuse to subacute, entire, the larger leaflets tending to be subglabrous above and lightly pubescent on the lower surface, the smaller leaflets usually densely pubescent on both surfaces; inflorescences terminal or axillary, often paniculate; bracts subovate, acute to obtuse, 0.5-5 mm. long, 1-2 mm. wide, pubescent, sometimes with glandular hairs as much as 1-3 mm. long; flowers 6-15 mm. long; calyx 2-8 mm. long, pubescent, ciliate; standard 6-15 mm. long, the claw 1-3 mm. long, the blade orbiculate, 5-12 mm. in diameter, retuse, entire, pubescent on the outer face; wings and keel about as long as the standard, the wing blades 2-5 mm. wide, the keel blades 6-15 mm. long, 1.5-2 mm. wide; fruit 2-5, usually 2- or 3-articulate, the stipe 6-15 mm. long, pubescent, the articles moderately crisp-pubescent, about 8-12 mm. long, 5-9 mm. wide; seeds 4-6 mm. long, 2-3.5 mm. wide, dark brown.

59a. *Aeschynomene petraea* var. *petraea*.

Aeschynomene petraea Robins. Proc. Amer. Acad. 27: 166. 1892.

Leaves 15-40-foliolate, the leaflets about 4-10 mm. long, 2-5 mm. wide, densely pubescent to subglabrous; flowers 8-10 mm. long; fruit with stipe 6-7 mm. long and articles about 8-10 mm. long, 5-8 mm. wide.

TYPE LOCALITY: Rocky hills near Guadalajara, Jalisco, México. Type collected by Pringle (No. 5147), cited below.

DISTRIBUTION: México, the Sierra Madre of Jalisco, Colima, and México, at elevations of about 750 to 1,500 m. (fig. 9).

MÉXICO: "Sierra Madre," Seemann, probably 2189 (GH). **JALISCO:** Guadalajara, Pringle 5147 (GH TYPE). Zapotlán, Pringle 4386 (Ch, GH, Min, Mo, NY, UC, US). Tuxpan, Jones 597 (US); Purpus 518 (UC, US). **MÉXICO:** Temascaltepec, Hinton 457 (GH). **COLIMA:** Edw. Palmer 1153 in 1891 (GH, US).

The variable nature of *Ae. petraea* var. *petraea* is indicated by its dual appearance in the key. It is more or less intermediate between the extremes of the southern, small-flowered variety *madrensis* and the northern, large-flowered variety *grandiflora*. Its leaflets tend to be smaller than the species' average.

Most of the collections of this variety appear to be suffrutescent shoots from a woody root, perhaps regrowth after grazing or burning. The original description refers to the species as an annual. However, I believe that, given the opportunity, the plants would be shrubby.

59b. *Aeschynomene petraea* var. *madrensis* (Micheli) Rudd, comb. nov.

Aeschynomene madrensis Micheli, Mem. Soc. Phys. Genève 34: 255, pl. 8. 1903.

Aeschynomene pringlei Rose, Contr. U. S. Nat. Herb. 8: 312. 1905.

Leaves 6–24-foliolate, the leaflets about 5–15 mm. long, 3–8 mm. wide, the upper surface pubescent to glabrate, the lower pubescent; flowers about 5–8 mm. long; fruit with stipe 5–7 mm. long, the articles 8–12 mm. long, 5–7 mm. wide.

TYPE LOCALITY: "Sierra Madre, versant oriental" [vicinity of Río Coyuquilla], Guerrero, México, at 1,500 m. elevation. Type collected by Langlassé (No. 865), cited below.

DISTRIBUTION: México, Sierra Madre of Morelos, Michoacán, and Guerrero, in llanos and oak forests, at elevations of about 1,000 to 1,500 m. (fig. 9).

MÉXICO: **MORELOS:** Jojutla, Pringle 8709 (Ch, GH, Min, Mo, NY, UC, US TYPE of *Ae. pringlei*). **MICHOACÁN:** Coalcomán, Hinton 12950 (GH, NY, US), 13804 (GH). **GUERRERO:** "Sierra Madre," Langlassé 865 (GH, US, ISOTYPES). Taxco, R. Q. Abbott 79 (GH). Mesa Quisle, Mina, Hinton 11332 (GH, NY, US). Manchón, Mina, Hinton 11332 (GH, NY, US).

This variety is based on *Ae. madrensis*, which Standley (Contr. U. S. Nat. Herb. 23: 491. 1922) placed in synonymy under *Ae. petraea*. Occurring at the southern extreme of the species' known range, it is separable from the typical and other varieties by its smaller flowers, sometimes suggesting those of *Ae. paucifoliolata*. In other respects it falls well within the limits of the species.

Comparison of *Ae. pringlei* with *Ae. madrensis* reveals no important differences and the two are here placed in synonymy.

59c. *Aeschynomene petraea* var. *grandiflora* Rudd, var. nov.

Aeschynomene glomerata M. E. Jones, Contr. West. Bot. 15: 139. 1929.

A varietate typica floribus fructibusque majoribus differt.

Leaves about 12–40-foliolate, the leaflets mostly 10–25 mm. long, 4–10 mm. wide, moderately pubescent to subglabrous; flowers (8–) 10–15 mm. long; fruit with stipe 7–15 mm. long, the articles 10–12 mm. long, 7–9 mm. wide.

TYPE: In the U. S. National Herbarium, No. 360251, collected near Chacala, Durango, México, Feb. 23, 1899, by E. A. Goldman (No. 329). Duplicate at NY.

DISTRIBUTION: México, in Sinaloa and Durango, south to Jalisco, on rocky, grassy, oak slopes and in pine forest, at elevations up to about 1,800 m. (fig. 9).

MÉXICO: SINALOA: *Ortega*, in 1921 (US). Mazatlán, *Ortega* 5099 (US). Cerro Colorado, *Gentry* 5115 (Ch, GH, Mo, NY, UC, US). **DURANGO:** San Ramón, *Edw. Palmer* 129 in 1906 (US). **NAYARIT:** Acaponeta, *Jones* 23025 (Ch, GH fragment, UC photo of **TYPE** of *Ae. glomerata* ex Pom). **JALISCO:** San Sebastián, *Mexia* 1648 (US). Between Mascota and San Sebastián, *Nelson* 4058 (US). Talpa de Allende, *Nelson* 4033 (US). Ameca, *McVaugh* (Mich).

The large flowers and fruits of this group of specimens from the northern part of the species' range are distinctive. However, the differences seem to be in degree rather than in character, and it is believed that varietal status under *Ae. petraea* is correct.

The Jones collection from Nayarit was given specific status as *Ae. glomerata*, admittedly "near to *Ae. petraea*," and considered a synonym of *Ae. petraea* by Morton (Contr. U. S. Nat. Herb. 29: 100. 1945). I believe it to be a somewhat depauperate-flowered specimen of *Ae. petraea* var. *grandiflora*. There appears to have been some disturbance of growth in the floral axes of the material examined. The large, subglabrous leaflets, about twice the size of those found in typical *Ae. petraea*, correspond to those of the var. *grandiflora*.

60. *Aeschynomene egena* (Macbr.) Rudd, comb. nov.

Aeschynomene mollicula H. B. K. var. *egena* Macbr. Field Mus. Publ. Bot. 13: 443. 1943.

Shrub about 1 m. high; stems glabrous; stipules lanceolate-ovate, acute to acuminate, somewhat falcate or obliquely subcordate, 6–8 mm. long, 2–4 mm. wide at base, glabrous; leaves 4–5 cm. long, 10–20-foliolate; leaflets oblong-elliptic, obtuse, about 5–12 mm. long, 3–5 mm. wide, glabrous; inflorescences racemose, axillary, few-flowered, the axes glabrous or subglabrous, the bracts and bracteoles subcordate, acute, about 3 mm. long and 2 mm. wide, glabrous; flowers about 20 mm. long; calyx 6–8 mm. long, glabrous; standard about 20 mm. long, the claw about 5 mm. long, the blade suborbiculate,

about 15 mm. long and 13 mm. wide, entire; wings and keel about as long as the standard, the claws 3 mm. long, the blades about 17 mm. long, the wing blades about 5.5 mm. wide, the keel blades about 4 mm. wide; stamens 18–20 mm. long; fruit 5- or 6-articulate, the stipe about 15 mm. long, glabrous, the articles about 6 mm. long and 4 mm. wide (or possibly larger), somewhat pubescent along margin, otherwise glabrous; mature fruit and seeds not seen.

TYPE LOCALITY: Mountains between Tabaconas and Marañon rivers, Department of Cajamarca, Jaén, Perú, at 1,000–1,200 m. elevation. Type collected by Weberbauer (No. 6176), cited below.

DISTRIBUTION: Known only from the type collection (fig. 10).

PERÚ: CAJAMARCA: Between Ríos Tabaconas and Marañon, *Weberbauer* 6176 (Ch, GH TYPE, NY, US).

It is believed that this taxon merits specific status. The subglabrous, 5- or 6-articulate fruits with stipes about 15 mm. long are distinctive, and the flowers are by far the largest of the section *Ochopodium*. Unfortunately, it is thus far known from the type collection only.

61. *Aeschynomene interrupta* Benth. in Hook. Journ. Bot. 2: 56. 1840.

Shrub 1–3 m. tall; stems appressed-pubescent and also glandular-hispidulous when young, glabrate, with grayish brown bark when older; stipules deltoid, acute to acuminate, 2–4 mm. long, 1–2 mm. wide at base, pubescent to subglabrous; leaves 2–4 cm. long, 7–16-foliolate; leaflets oblong-elliptic, about 6–10 mm. long, 2.5–4 mm. wide, obtuse to subacute, entire, the upper surface glabrous, the lower surface subglabrous or thinly pubescent; inflorescences axillary, racemose, few-flowered, the bracts and bracteoles ovate, obtuse, about 1 mm. long, 0.5–1 m. wide, sparsely pubescent; flowers about 10–12 mm. long; calyx 3–4 mm. long, subglabrous; standard glabrous, about 10 mm. long, the claw 2 mm. long, the blade broadly cordate, about 8 mm. long and 10 mm. wide, sometimes retuse; wings and keel about as long as the standard, the wing blades 4.5–5 mm. wide, the keel blades about 1.5 mm. wide; fruit 1–3-articulate, the stipe 6–8 mm. long, the articles about 10 mm. long and 6 mm. wide, glabrous; seeds about 6 mm. long and 3 mm. wide, dark brown.

TYPE LOCALITY: "Rio Branco, British Guiana." Type collected by Schomburgk (No. 803), cited below.

DISTRIBUTION: Known only from the general region of the type collection, on inundated land along rivers, in gallery woods, and in fields (fig. 10).

BRITISH GUIANA: "Rio Branco," *Schomburgk* 803 (F. M. neg. 2147 ex B, Ch, fragment ex B, GH, US, ISOTYPES).

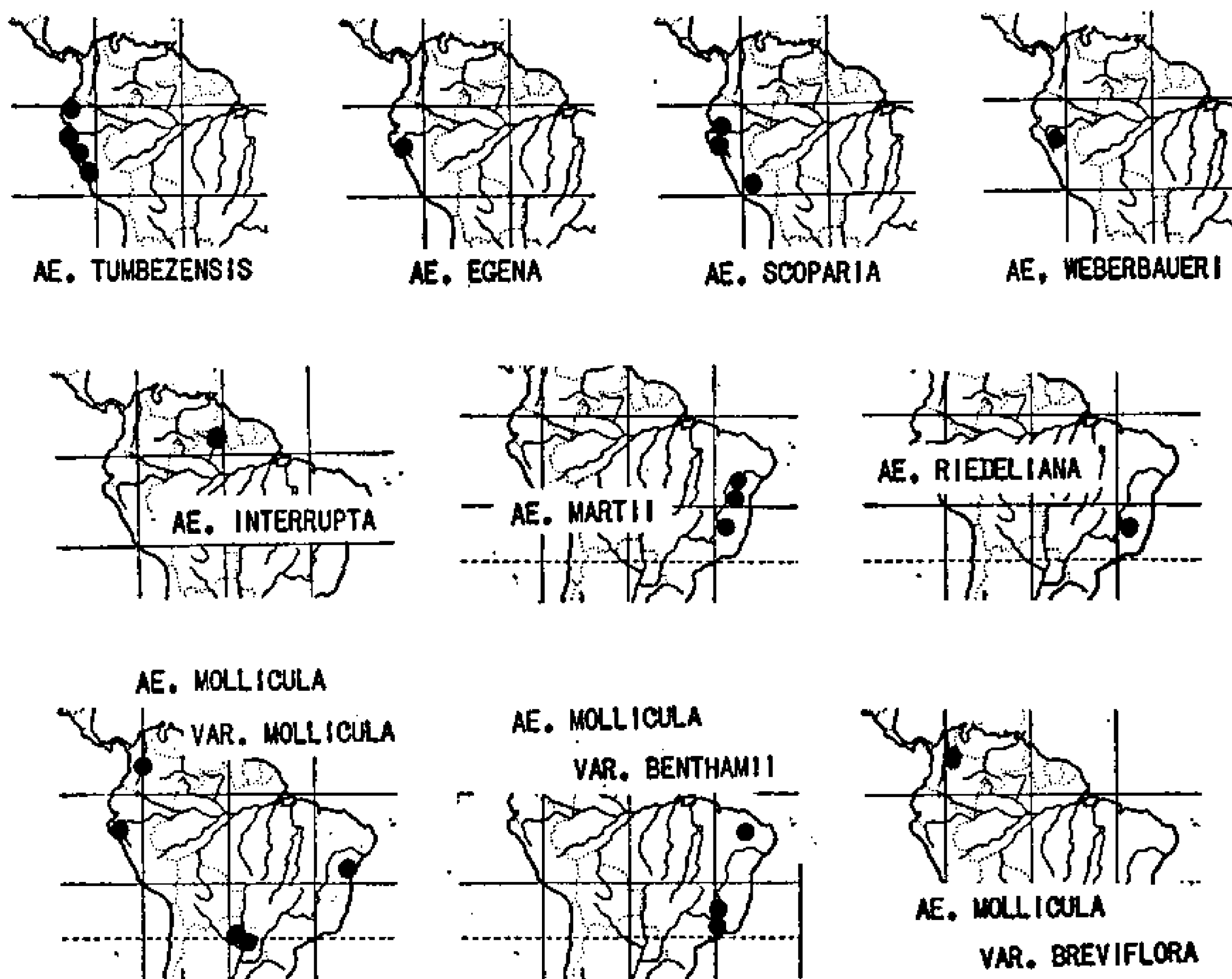


FIGURE 10. Distribution of the *Scopariae*: South American taxa.

BRAZIL: RIO BRANCO: Rio Cauamé, *Ducke* 1312 (NY, R, US), 35479 (US); *Kuhlmann* 3231 (US). São Marcos, *Luetzelburg* 20489 (R), 20490 (R), 20530 (R). Serra de Xiriry, *Luetzelburg* 20527 (R). Igarapé Agua Bôa, *Black* 51-13139 (US).

As indicated in the key, this species, apparently localized in the Rio Branco region of Brazil and British Guiana, is similar to another rather glabrous species, *Ae. tumbezensis* of Perú and Ecuador, but is distinguished from it most readily by its smaller fruit and deltoid stipules.

62. *Aeschynomene tumbezensis* Macbr. Field Mus. Publ. Bot. 8:101. 1930.

Shrub 1-3 m. tall; stem pubescent when young, glabrate, with grayish brown bark when older, sometimes also glandular-hispidulous; stipules lanceolate, acuminate, about 4-8 mm. long and 1 mm. wide, white-pubescent when young, glabrate, sparsely ciliate; leaves about 4-6 cm. long, 12-20-foliolate; leaflets oblong, 5-20 mm. long, 3-5 mm. wide, commonly about 10 mm. long and 3.5 mm. wide, thinly appressed-pubescent on both surfaces, entire, obtuse; inflorescences racemose, axillary, few-flowered; peduncles and pedicels strigillose or sometimes patent-pubescent and also hispidulous; bracts ovate, acute, 1-2 mm. long, about 1 mm. wide, subglabrous to moderately pubescent; flowers about 10 mm. long; calyx about 3 mm. long,

glabrous, ciliate; standard about 10 mm. long, the claw 3 mm. long, the blade suborbiculate-cordate, 7–8 mm. long, 8–10 mm. wide, entire, retuse, pubescent on the outer face; wings and keel about as long as the standard, the wing blades about 5 mm. wide, the keel blades about 2 mm. wide; stamens about 10 mm. long; legume 2–4-articulate, the stipe hispidulous, 8–10 mm. long, the articles about 10 mm. long and 8 mm. wide, glabrous, sometimes ciliate, reticulate-veiny; seeds about 4 mm. long and 2.5 mm. wide, brown.

TYPE LOCALITY: Tumbes, Perú, in mountains east of Hacienda Chicama, in deciduous brushwood, at 400–500 m. altitude. Type collected by Weberbauer (No. 7669), cited below.

DISTRIBUTION: Ecuador and Perú, at elevations up to about 2,000 m., in shrub land (fig. 10).

ECUADOR: MANABI: Bahía, *Mille* 1118 (Ch). Between La Salina and Chone,, *Acosta-Solís* 10630 (Ch). GUAYAS: "Cerro of Lantana," *Jameson* 586 (US). Between Guayaquil and Salinas, *Hitchcock* 20024 (GH, NY, US).

PERÚ: TUMBES: Chicama, *Weberbauer* 7669 (Ch TYPE). Between Zorritos and Tumbes, *Weberbauer* 7746 (Ch). PIURA: Cana Dulce watercourse, *Haught* F. 87 (Ch), 177 (Ch, NY, US). LA LIBERTAD: Quirripe-Membrillar, *López-Miranda* 926 (US). LIMA: *Pavón* 36 (Ch, fragment ex P). Santa Eulalia valley, *Goodspeed & Stork* 11478 (GH, Mo, UC). Valley of Río Rimac, *Goodspeed & Metcalf* 30218 (Mo, UC, US). Surco, *Soukup* 3743 (US). Chosica, *Ferreya* 583 (US). Between Lima and Oroya, *Ferreya* 1371 (US), 5326 (US).

Aeschynomene tumbezensis is characterized by the large, glabrous, flat-jointed fruits, possibly the largest of any South American species of this series. It somewhat resembles *Ae. egena* but has smaller flowers, and the fruits have shorter stipes.

It almost certainly was material of this species which Bentham referred to in his description of *Ae. platycarpa* when he stated "habitat in Columbiae et Peruviae . . ." However, no collections were cited from the Andes and a Riedel specimen from Brazil is considered the type.

Since I am convinced that the Andean and the Brazilian material represent two distinct taxa, I am reinstating Macbride's name *Ae. tumbezensis* for the former, which he himself reduced to synonymy under *Ae. platycarpa* (*Field Mus. Bot. Pub.* 13 (3): 443. 1943), and I am proposing a new epithet, *benthamii*, for the latter, which is being designated as *Ae. mollicula* var. *benthamii*.

63. *Aeschynomene martii* Benth. in *Mart. Fl. Bras.* 15 (1): 62. 1859.

Shrub about 2 m. tall; stems canescent when young, glabrate, brownish-barked when older; stipules deltoid-lanceolate, acuminate, 3–4 mm. long, 1–1.5 mm. wide at base, pubescent; leaves 1.5–2.5 cm. long, 15–30-foliolate; leaflets oblong, obtuse, 5–8 mm. long, 1.5–2 mm. wide, the upper surface subglabrous, the lower sparsely appressed-

pubescent to glabrous, prominently reticulate; inflorescences axillary, fasciculate, few-flowered, the bracts and bracteoles deltoid-ovate, acute, about 1 mm. long, 0.5-1 mm. wide, appressed-pubescent; flowers 11-14 mm. long; calyx 4-5 mm. long, sparsely pubescent, ciliolate; standard averaging about 12 mm. long, the claw 3 mm. long, the blade suborbiculate, retuse, about 9 mm. long and 10 mm. wide, pubescent on the outer face; wings and keel about as long as the standard, the wing blades about 4 mm. wide, the keel blades about 3.5 mm. wide; stamens about 12 mm. long; ovary about 5 mm. long, 3-ovulate, appressed-pubescent along the margins, otherwise glabrous, the stipe about 4 mm. long; mature fruit and seeds not seen.

TYPE LOCALITIES: In caatinga near Joazeiro, Bahia, and Serro Frio, Minas Gerais, Brazil. Syntypes collected by Martius.

DISTRIBUTION: Bahia and northern Minas Gerais, according to Bentham (fig. 10).

BRAZIL: BAHIA: Tamburi, *Ule* 7278 (K).

Although I have not seen either of the syntypes, I have seen a more recent specimen, which apparently is an authentic representation of the species. It was collected in the general region of the type collections and corresponds almost exactly with Bentham's original description and illustration in "Flora Brasiliensis".

This species is similar to *Ae. scoparia*, but differs most conspicuously in having longer, more glabrous leaflets and larger flowers.

64. *Aeschynomene riedeliana* Taub. *Flora* 72: 424. 1889.

Aeschynomene tijucensis Taub. ex Glaziou, *Bull. Soc. Bot. France*, Mem. 3b: 132. 1906.

Shrub about 1 m. high; stems densely patent-pubescent and also hispidulous; stipules lanceolate, acuminate, 5-6 mm. long, about 2 mm. wide at base, hispidulous; leaves about 7-15 cm. long, 25-36-foliolate; leaflets suborbiculate-elliptic, 6-18 mm. long, 5-12 mm. wide, obtuse to emarginate, the base subcordate, the upper and lower surfaces glabrous to moderately pubescent; inflorescences axillary, racemose, few-flowered, the axes pubescent and hispidulous, the bracts and bracteoles ovate-lanceolate, acute, about 2 mm. long and 1 mm. wide, hispidulous, ciliolate; flowers 8-10 mm. long; calyx 4-5 mm. long, ciliolate; petals 8-10 mm. long, clawed, the standard blade about 8 mm. wide, emarginate, pubescent on the outer face, the keel claws 2.5 mm. long; fruit 1-3-articulate, the stipe 6-8 mm. long, glabrous, the articles 5-7 mm. long, about 5 mm. wide, glabrous or nearly so, reticulate-veiny; seeds about 3 mm. long and 2.5 mm. wide, brown.

TYPE LOCALITY: Diamantina, Minas Gerais, Brazil, in gravel. Type collected by Riedel (No. 1223), cited below.

DISTRIBUTION: Known only from the general vicinity of the type collection.

BRAZIL: MINAS GERAIS: Diamantina, Riedel, Dec. 18, 1824 [annotated as "*Ae. tejuensis* Taub. n. sp.; probably = No. 1223"] (N. Y. neg. n. s. 2296 of ISOTYPE ex K; F. M. neg. 2154, presumably of TYPE ex B); Glaziou 19027 (Ch fragment ex P, R).

This species is rather distinctive because of its numerous subglabrous, suborbiculate leaflets and its fruits, which are among the smallest of the series.

Collected by Riedel at "Tijuco," correctly spelled Tejuco and now known as Diamantina, it was given the herbarium name of *Ae. tejuensis* by Taubert, i. e., a sheet collected by Riedel on Dec. 18, 1824, was so labeled. Later, Taubert published *Ae. riedeliana*, based on Riedel's collection No. 1223 of December 1824 but with no mention of the name *tejuensis*. A comparison of the description of *Ae. riedeliana* with a photograph of *Ae. tejuensis* and the fact that the sheet at Kew has both specific names convince me that these taxa are actually based on the same collection.

In 1906, Glaziou reported one of his collections to be "*Ae. tijuensis* Taub. n. sp. in herb. Berol., Kew, etc." Adding to this a minimum of Latin description, he thus validated Taubert's earlier unpublished species. Fortunately, it was by then a synonym of *Ae. riedeliana*, already legitimately published, and there need be no great concern for the orthographic problem of *tijuensis* vs. *tejuensis* or whether the Glaziou specimen rather than the Riedel specimen is more accurately designated and should be considered the type of *Ae. tijuensis*.

55. *Aeschynomene weberbaueri* Ulbr. Bot. Jahrb. 37: 554. 1906.

Shrub about 5 dm. tall; stems densely pilose and also glandular-hispidulous; stipules linear-lanceolate, about 5–10 mm. long, 1–2 mm. wide at base, densely pubescent; leaves 2–3 cm. long, 20–35-foliolate; leaflets oblong, acute, 4–6 mm. long, 1–2 mm. wide, densely pubescent and also ciliate with glandular hairs; inflorescences axillary, racemose, usually longer than the subtending leaves, the pedicels pubescent like the stems, the bracts lanceolate-ovate, acute, about 3 mm. long, 1–2 mm. wide, densely pubescent like the stipules and leaflets; flowers 10–12 mm. long; calyx 3–4 mm. long, pubescent; standard commonly about 12 mm. long, the claw 2.5 mm. long, the blade subcordate about 9.5 mm. long, 8–9 mm. wide; wings and keel about as long as the standard, the wing blades 5–6 mm. wide, the keel blades

1.5–2.5 mm. wide; stamens about 12 mm. long; fruit 3- or 4-articulate, the stipe 6–8 mm. long, glandular-hispidulous, the articles about 5 mm. long and 4 mm. wide, pubescent; seeds about 4.5 mm. long and 3 mm. wide, dark brown.

TYPE LOCALITY: East side of the Marañon valley, near Balsas Department of Amazonas, Perú. Type collected by Weberbauer (No. 4274), cited below.

DISTRIBUTION: Known only from the type locality (fig. 10).

PERÚ: AMAZONAS: Balsas, *Weberbauer* 4274 (Ch, fragment of TYPE ex B; F. M. neg. 2156 of TYPE ex B; USM); *Evinger & Hodge* 509 (US).

This species, known only from the type locality, suggests *Ae. scoparia* with excessive glandular development. However, *Ae. weberbaueri* differs in several characters, including larger flowers, large bracts, and somewhat wider and more pubescent fruits.

66. *Aeschynomene scoparia* H. B. K. Nov. Gen. & Sp. 6: 532. 1824.

Shrub 0.5–1.5 m. tall; stem silvery-sericeous when young, sometime also glandular, glabrate, brownish barked when older; stipules 5–(–10) mm. long, 1–2 mm. wide at base, lanceolate, attenuate, sericeous; leaves 1–3.5 cm. long, 15–30-foliolate; leaflets oblong, 2–6 mm. long 1.5–2 mm. wide, sericeous to subglabrous on both surfaces, entire obtuse, the base rounded to subcordate, the reticulations prominent on the less pubescent specimens; inflorescences axillary, racemose, the peduncles and pedicels sericeous and sometimes also beset with glandular hairs, the bracts and bracteoles obtuse to acute, 1–2 mm. long about 1 mm. wide, sericeous, sometimes ciliate; flowers 8–11 mm. long; calyx 3–5 mm. long, sericeous or nearly so; standard 8–11 mm. long the claw 2–4 mm. long, the blade cordate to reniform, about 6 mm. long, 8–9 mm. wide, entire, retuse, the outer face pubescent; wings and keel about as long as the standard, the wing blade 4–5 mm. wide at maximum, the keel blades about 2 mm. wide; stamens 7–10 mm. long; legume 2- or 3-articulate, the stipe (3–) 8–10 mm. long, the articles about 5 mm. long, 3.5–4 mm. wide, appressed-pubescent to glabrate; seeds about 4 mm. long and 2 mm. wide, dark brown.

TYPE LOCALITY: Near Huancabamba (as “Guanacabamba”) Piura, Perú. Type collected by Humboldt and Bonpland (No. 3543) cited below.

DISTRIBUTION: Andes of Ecuador and Perú, at elevations of about 1,700–2,600 m. (fig. 10).

ECUADOR: LOJA: Between Loja and San Pedro, *Rose, Pachano, & Rose* 23349 (GH, NY, US). Between San Pedro and Colaisaca, *Townsend* A. 76 (US).

PERÚ: PIURA: Huancabamba, *Humboldt & Bonpland* 3543 (Ch, fragment of TYPE ex P; Killip neg. 726 of TYPE ex P; F. M. neg. 2243 of ISOTYPE ex B); *Weberbauer* 6071 (GH). **CAJAMARCA:** Santa Cruz, *Weberbauer* 4118 (USM). Shumaya

Weberbauer 6276 (Ch, GH). Yamaluc, *Ferreya* 8449 (US). ANCASH: Río Tachachaca below Pampas, *Weberbauer* 7018 (GH, USM). HUANCAYELICA: Río Mantaro below Colcabamba, *Weberbauer* 6458 (GH, USM). APÚRIMAC: Abancay, *Weberbauer* 5910 (GH, US); *Vargas* 458 (Ch), 1989 (GH).

This species shows certain relationships with *Ae. weberbaueri* and with *Ae. mollicula*, particularly with varieties *breviflora* and *benthamii* of the latter. It has small leaflets and fruits similar to those of the former, but with less indument and glandular development. Its flowers closely resemble those of the shorter flowered varieties of *Ae. mollicula*, but the latter have longer leaflets and fruits with more or less spreading pubescence, in contrast to the appressed pubescence of *Ae. scoparia*. The flowers are conspicuously shorter and less showy than those of either *Ae. weberbaueri* or typical *Ae. mollicula*.

7. *Aeschynomene mollicula* H. B. K. Nov. Gen. & Sp. 6: 532. 1824.

Shrub or suffrutescent perennial, 1–2 m. high; stems densely sericeous or pilose to subglabrous, sometimes also hispid; stipules lanceolate, attenuate, 5–8 mm. long, 1–2 mm. wide at base, pubescent, sometimes glandular; leaves 3–6 cm. long, 18–40-foliolate, the axes pubescent like the stems; leaflets oblong, 8–15 mm. long, 1.5–4 mm. wide, obtuse to subacute, the base obliquely rounded to subcordate, the upper surface subglabrous to sericeous, the lower surface moderately pubescent to sericeous; inflorescences axillary, racemose or fasciculate, few-flowered; peduncles and pedicels pubescent like the stems, the bracts and bracteoles lanceolate to ovate, attenuate to acute, 1–4 mm. long, 0.5–1 mm. wide, pubescent; flowers 8–15 mm. long; calyx 3–6 mm. long, pubescent; standard 8–15 mm. long, the claw 2–3 mm. long, the blade suborbiculate to cordate, 6–12 mm. long, 10–14 mm. wide, entire, retuse, the outer face pubescent; wings and keel about as long as the standard, the wing blades 3–6 mm. wide, the keel blades 2–4 mm. wide at maximum; stamens 8–15 mm. long; fruit 3–7-articulate, the stipe about 4–6 mm. long, pubescent, sometimes glandular, glabrous toward the base, the articles 4–7 mm. in diameter, crisp-pubescent, sometimes glabrate; seeds 2–3 mm. long, about 2 mm. wide, brown.

a. *Aeschynomene mollicula* var. *mollicula*.

Aeschynomene mollicula H. B. K. Nov. Gen. & Sp. 6: 532. 1824.

Aeschynomene pauciflora Vog. Linnaea 12: 93. 1838.

Stems and floral axes with sericeous indument; leaves 20–40-foliolate, the leaflets subacute, subglabrous to moderately pubescent; bracts and bracteoles lanceolate, attenuate, 3–4 mm. long; flowers 11–15 mm. long, the calyx about 6 mm. long; fruit commonly 4–6-articulate, moderately pubescent at maturity.

TYPE LOCALITY: "Inter Paramo de Yamoca et villam Colasey, alt 750 hex. (Provincia Jaen de Bracamoros)," Perú. Type collected by Humboldt and Bonpland (No. 3586), cited below.

DISTRIBUTION: Colombia, Perú, Paraguay, and Brazil, at elevation of about 350–600 m. (fig. 10).

COLOMBIA: CUNDINAMARCA: Girardot, *Rusby & Pennell* 136 (GH, Mo, NY, US). Apulo, *Killip, Dugand, & Jaramillo* 38144 (Ch, US). Tocaima, *García Barriga* 13408 (US).

PERÚ: CAJAMARCA: Between the "Paramo de Yamoca" and "Colasey," *Humboldt & Bonpland* 3586 (Ch fragment of TYPE ex P; F. M. neg. 2241 of ISOTYPE ex B). Perico, *Raimondi* 9267 (USM).

BRAZIL: BAHIA: *Blanchet* 2401 (NY).

PARAGUAY: "Gran Chaco: Santa Elisa lat. S. 23°10'." *Hassler (Rojas)* 281 (K). **CONCEPCIÓN:** Estrella, *Fiebrig* 4342 (GH).

As indicated above, the typical variety of *Ae. mollicula* is most readily distinguished by its relatively large, often showy flowers, and the appressed, sericeous indument of the young stems. The slender acuminate bracts and bracteoles seem to furnish a reliable diagnostic character and, in general, the leaves are made up of more numerous leaflets.

Although the specimens cited are from rather scattered geographical locations, examination shows them to be essentially identical. A photograph of the type of *Ae. pauciflora* indicates the Brazilian species to be synonymous with *Ae. mollicula*, first known from Perú. In this case, as in many others, it appears that the lacunae in the distribution record reflect lack of collection and not necessarily lack of occurrence.

67b. *Aeschynomene mollicula* var. *breviflora* Rudd, var. nov.

A varietate typica floribus minoribus, bracteis bracteolisque ovatis acutis, fructibus 3-articulatis differt.

Stems and floral axes with pilose indument; leaves 18–24-foliolate, the leaflets predominantly obtuse, sericeous; bracts and bracteoles ovate, acute, 2–3 mm. long; flowers 8–10 mm. long, the calyx 3–4 mm. long; fruit commonly 3-articulate, rarely more, moderately pubescent at maturity.

TYPE: In the U. S. National Herbarium, No. 1355882, collected between Chinácota and La Esmeralda, Norte de Santander, Colombia, Mar. 19, 1927, by E. P. Killip and A. C. Smith (No. 20921). Duplicates at GH, NY.

DISTRIBUTION: Colombia, northern Cordillera Oriental, from Norte de Santander to Cundinamarca, at elevations of 400–1,800 m. (fig. 10).

COLOMBIA: SANTANDER: Between El Jaboncilla and Suratá, *Killip & Smith* 16455 (GH, NY, US). Bucaramanga, *Killip & Smith* 16278 (US). **CUNDINAMARCA:** Between Fusagasugá and Pandi, *Pennell* 2736 (GH, NY, US).

As indicated above and in the key, this variety differs from the typical one in several characters, most conspicuously in having smaller flowers.

67c. *Aeschynomene mollicula* var. *benthamii* Rudd, nom. et stat. nov.

Aeschynomene platycarpa Benth. in Mart. Fl. Bras. 15 (1): 63. 1859, non Michx. 1803, nec Raf. 1817.

Stems and floral axes subglabrous to moderately pubescent, sometimes also glandular-hispid; leaves 20–40-foliolate, the leaflets obtuse to subacute, sparsely pubescent to subglabrous; bracts and bracteoles ovate, acute, 1–2.5 mm. long, 0.5–1 mm. wide; flowers about 8–10 mm. long, the calyx 3–4 mm. long; fruit commonly 3-articulate, subglabrous at maturity.

TYPE LOCALITY: Near the Jequitinhonha River, Minas Gerais, Brazil. Type collected by Riedel (No. 591), cited below.

DISTRIBUTION: Eastern Brazil, in shady, rocky places (fig. 10).

BRAZIL: CEARÁ: *Allemão* 350 in part (R). Pacatuba, *Allemão* 350 in part (R). Cedro, *Löfgren* 1091 (R). MINAS GERAIS: Jequitinhonha River, *Riedel* 591 (Killip neg. 540 of TYPE ex K); Diamantina (as "Tejuco"), *Riedel* 1251 (F. M. neg. 2153 ex B; US). RIO DE JANEIRO: São Christovão, *Glaziou* 10506 (K).

Bentham's *Ae. platycarpa* was a later homonym of *Ae. platycarpa* Michx. and, hence, illegitimate when published. There has been confusion as to the limitations of this taxon, since, in addition to the Brazilian collections, which include the type, Bentham stated in the original description: "Habitat in Columbiae et Peruviae pluribus locis." The Andean and the Brazilian specimens almost certainly represent two elements, the former probably *Ae. tumbezensis*, or possibly *Ae. mollicula* var. *mollicula*, and the Brazilian collections represent what is here designated as *Ae. mollicula* var. *benthamii*.

The Brazilian material is distinguished most readily from *Ae. tumbezensis* by its smaller, more numerous leaflets, smaller flowers, and fruits with shorter stipes and smaller, pubescent articles.

It is separated from typical *Ae. mollicula* by its smaller flowers and ovate bracts and bracteoles, as is also var. *breviflora*. From the latter it is distinguished by the rather sparse pubescence of its stems, exclusive of glandular hairs, and the almost glabrous mature fruits.

There is some difference in amount of glandular development among the specimens cited above—the Riedel collections show very little, the Glaziou sheet and others, considerable—but I believe that all represent the same taxon.

Excluded and doubtful taxa

Aeschynomene aristata Jacq. Pl. Rar. Hort. Schoenb. 2: 59. 1797=*Pictetia aculeata* (Vahl) Urb. Symb. Ant. 2: 294. 1900.

Aeschynomene bispinosa Jacq. Ic. Pl. Rar. 3: 13. 1792=*Sesbania bispinosa* (Jacq.) Spreng. ex Steud. Nom. ed. 2, 2: 572. 1841.

Aeschynomene brasila Schrank, Denkschr. Bot. Ges. Regensb. 2: 63. 1822.

A specimen of this entity has not been available and the description is inadequate to make a determination. Bentham does not refer to it in "Flora Brasiliensis" (15(1): 56-70. 1859).

Aeschynomene cassioides Ruiz and Pav. ex G. Don, as synonym=*Sesbania cassioides* G. Don, Gen. Syst. Gard. Bot. 2: 240. 1832.

Aeschynomene coarctata DC. ex Seckt, Flora Cordobensis 297. 1930, nomen nudum.

This species name was published without a description and there seems to be no way of knowing to what element it referred. Burkart (Darwiniana 3: 158. 1939) also has been unable to place it.

Aeschynomene coccinea L. f. Suppl. 330. 1781=*Sesbania grandiflora* (L. f.) Pers. Syn. Pl. 2: 316. 1807.

Aeschynomene crepitans Jacq. Fragm. Bot. 37, tab. 42, fig. 2. 1809.

Neither the illustration nor the description, based on a fruit "cum solo titulo arboris & sine specimine sicco," is sufficient to identify this entity with certainty. It seems most likely to be a member of the Mimosoideae.

Aeschynomene dentata Lag. Gen. & Sp. Nov. 22. 1816=*Adesmia muricata* (Jacq.) DC. var. *dentata* (Lag.) Benth. in Mart. Fl. Bras. 15(1): 54. 1859.

Aeschynomene divisa Nees & Mart. Nov. Act. Nat. Cur. 12: 31. 1826.

This is synonymous with *Ae. americana* according to the Kew Index (1: 50. 1893). However, the dipetalous standard that characterizes this species is apparently an abnormality not known to occur consistently in any one element of the genus, and the name would be rejected according to Art. 77 of the International Code of Botanical Nomenclature (1952).

Aeschynomene emerus Aubl. Pl. Guian. 2: 775. 1775=*Sesbania emerus* (Aubl.) Urban, Fedde Repert. Sp. Nov. 16: 149. 1919.

Aeschynomene equidiadelpa Larranaga, Escritos D. A. Larranaga 2: 234 (as *Eschynomenes oquidiadelpa*), 490 (as *oquidiadelpa*). 1923.

Only the description is available and it is inadequate for placing this taxon. Perhaps it is referable to *Ae. montevidensis*.

Aeschynomene falcata var. *glabra* Micheli, Bull. Herb. Boiss. 6, App. 1: 33. 1898. This may be a glabrous variation of *Ae. falcata*, but on the basis of the description alone, without access to the type, it is impossible to be certain of its identity.

Aeschynomene falcata var. δ *microphylla* Chod. & Hass. Bull. Herb. Boiss. II, 4: 882. 1904.

The type has not been available, and from the description alone it is difficult to be certain whether this taxon is really a variety of *Ae. falcata* or, perhaps, *Ae. histris*.

Aeschynomene falcata β *plurijuga* Benth. in Mart. Fl. Bras. 15 (1): 68. 1859.

This variety is inadequately typified, being based on what I believe to be two dissimilar species.

Aeschynomene frutescens (L.) Poir. in Lam. Encyc. 4: 451. 1797 = *Lespedeza capitata* Michx. Fl. Bor. Am. 2: 71. 1803.

Aeschynomene grandiflora L. Sp. Pl. ed. 2, 2: 1050. 1763 = *Sesbania grandiflora* (L.) Pers. Syn. 2: 316. 1807.

Aeschynomene herbacea Aubl. Pl. Guian. 2: 775. 1775.

The illustration to which this species is referred appears to be *Neptunia prostrata* (Lam.) Baillon, Bull. Soc. Linn. Paris 1: 356. 1883.

Aeschynomene hispidula Lag. Gen. & Sp. Nov. 22. 1816 = *Adesmia muricata* var. *hispidula* Macbr. Field Mus. Publ. Bot. 13: 406. 1943.

Aeschynomene incana G. F. W. Mey. ex DC. Prodr. 2: 332. 1825 = *Desmodium canum* (Gmel.) Schinz & Thellung, Mém. Soc. Neuchât. Sci. Nat. 5: 371. 1913.

Aeschynomene latifolia Spreng. Syst. Veg. 2: 322. 1826 = *Adesmia latifolia* (Spreng.) Vog. Linnaea 12: 74. 1838.

Aeschynomene latisiliquosa Hill ex Steud. Nom. ed. 2, 1: 31. 1840 = *Chaetocalyx latisiliqua* (Desv.) Macbr. Field Mus. Publ. Bot. 13: 446. 1943.

Aeschynomene littoralis Vog. Linnaea 12: 96. 1838.

This entity was not given a formal description as were others in the same paper. However, reference to the illustration of *Hedysarum hirtum* Vell., with the observation "sed legumine sessili," suggests that this might be *Ae. viscidula* Michx.

Aeschynomene longifolia Cav. Ic. 4: 8. 1797 = *Daubentoniopsis longifolia* (Cav.) Rydb. Am. Journ. Bot. 10: 497. 1923.

Aeschynomene longifolia Orteg. Hort. Matr. Dec. 70. 1800 = *Daubentoniopsis longifolia* (Cav.) Rydb. Am. Journ. Bot. 10: 497. 1923.

Aeschynomene martiusii Steud. Nom. ed. 2, 1: 31. 1840 = *Ae. brasila* Schrank, Denkschr. Bot. Ges. Regensb. 2: 63. 1822.

This species is based on *Ae. brasila*, which is inadequately described and cannot be identified.

Aeschynomene microphylla Desv. ex DC. Prodr. 2: 322. 1825.

The description of this species seems to relate to *Aeschynomene*, but a leaf fragment, ex Ch, which I have seen, is unlike any other material of the genus with which I am familiar, and I am unable to place it satisfactorily.

Aeschynomene mimosoides Willd. ex Sch. & Cham. Linnaea 5: 584. 1830.

From the description only, without access to the type, it is impossible to identify the species.

Aeschynomene miniata Orteg. Hort. Matr. Dec. 28. 1800 = *Daubentonia punicea* (Cav.) DC. Mém. Leg. 286. 1825.

Aeschynomene monadelpha Larrañaga, Escritos D. A. Larrañaga 2: 234 (as *Aeschynomene*), 490. 1923.

Only the description is available, and it is inadequate for identifying this species.

Aeschynomene monosperma Desv. Mém. Soc. Linn. Par. 4: 328. 1826.

No specimens were cited and the description is inadequate to identify this species positively. It may be referable to *Ae. histrix*.

Aeschynomene onobrychifolia Desv. Mém. Soc. Linn. Par. 4: 327. 1826 = *Adesmia bicolor* (Poir.) DC. Prodr. 2: 319. 1825.

Aeschynomene papposa Lag. Gen. & Sp. Nov. 23. 1816 = *Adesmia papposa* (Lag.) DC. Ann. Sc. Nat. Par. 4: 95. 1825.

Aeschynomene patagonica Hort. ex Steud. Nom. ed. 2, 1: 31. 1840, as synonym = *Adesmia muricata* (Jacq.) DC. Ann. Sci. Nat. Par. 4: 95. 1825.

Aeschynomene picta Cav. Ic. 4: 7. 1797 = *Sesbania sesban* (L.) Merr. Philipp. Jour. Sci. Bot. 7: 235. 1912.

Aeschynomene pimpinellaefolia Desv. Mém. Soc. Linn. Par. 4: 327. 1826=
Adesmia muricata var. *pimpinellifolia* (Poir.) Burkart, Darw. 3: 326. 1939.

Aeschynomene platycarpa Michx. Fl. Bor. Am. 2: 75. 1803=*Glottidium vesicarium* (Jacq.) Harper, Bull. Torr. Bot. Club 28: 472. 1901.

Aeschynomene sesban Jacq. Collect. ad Bot. 2: 283. 1788=*Sesbania bispinosa* (Jacq.) Spreng. ex Steud. Nom. ed. 2, 2: 572. 1841.

Aeschynomene sesban L. Sp. Pl. 714. 1753=*Sesbania sesban* (L.) Merr. Philipp. Journ. Sci. Bot. 7: 235. 1912.

Aeschynomene spicata Poir. in Lam. Encyc. 4: 452. 1797=*Desmodium canum* (Gmel.) Schinz & Thellung, Mém. Soc. Neuchât. Sci. Nat. 5: 371. 1913.

Aeschynomene ternata Spreng. ex DC. Prodr. 2: 314. 1825=*Pictetia spinifolia* (Desv.) Urb. var. *ternata* (DC.) Urb. Symb. Ant. 2: 296. 1900.

Aeschynomene triflora Poir. in Lam. Encyc. 4: 451. 1797=*Desmodium triflorum* (L.) DC. Prodr. 2: 334. 1825.

Aeschynomene trisperma Klotzsch in Schomb. Faun. & Fl. Guy. 1103. 1848.

This may be *Aeschynomene brasiliana* (Poir.) DC., which commonly has 3-articulate, 3-seeded fruits. The description, otherwise, is inadequate for positive identification of this taxon.

Aeschynomene versicolor Wender. Bot. Zeit. 1: 346. 1843.

This species was based on cultivated plants grown from seed which had been sent from México and from Abyssinia. "Beide waren identisch." The description suggests *Ae. americana*, but, actually, there is no certainty as to specific or generic identification.

Aeschynomene virgata Cav. Ic. 3: 47. 1797=*Daubentonia virgata* (Cav.) Rydb. N. Amer. Fl. 24: 208. 1924.

Mantodda Adans. Fam. 2: 508. 1763.

Neither the illustration nor the description of the plant on which this genus was based can with certainty be identified with any known species of *Aeschynomene*, although the Kew Index (1: 50. 1893) does place it in synonymy with *Aeschynomene*.

Rochea Scop. Introd. 296. 1777.

This genus was based on *Mantodda* and therefore is equally indefinite.

Segurola Larrañaga, Escritos D. A. Larrañaga. Atlas, pt. 1. pl. 93. 1927.

This genus was published without a diagnosis, but with illustrations of the flower and fruit that appear to be based on a specimen of *Aeschynomene montevidensis* Vog. However, since another item, "segurola chañal, sp. nov." appears to be an *Adesmia*, it is impossible to know the limits of this genus.

New taxa, new names, and new combinations

- Aeschynomene*, series *Americanae* Rudd, ser. nov.
Aeschynomene, series *Fluminenses* Rudd, ser. nov.
Aeschynomene, series *Indicae* Rudd, ser. nov.
Aeschynomene, series *Montevidenses* Rudd, ser. nov.
Aeschynomene, series *Pleuronerviae* Rudd, ser. nov.
Aeschynomene, series *Scopariae* Rudd, ser. nov.
Aeschynomene, series *Sensitivae* Rudd, ser. nov.
Aeschynomene, series *Viscidulae* Rudd, ser. nov.
Aeschynomene americana var. *flabellata* Rudd, var. nov.
Aeschynomene americana var. *glandulosa* (Poir.) Rudd, comb. et stat. nov.
Aeschynomene brasiliiana var. *venezolana* Rudd, var. nov.
Aeschynomene denticulata Rudd sp. nov.
Aeschynomene egena (Macbr.) Rudd, comb. et stat. nov.
Aeschynomene evenia var. *serrulata* Rudd, var. nov.
Aeschynomene fluminensis var. *tuberculata* (Griseb.) Rudd, comb. et stat. nov.
Aeschynomene foliolosa Rudd, sp. nov.
Aeschynomene guatemalensis (Standl. & Steyerl.) Rudd, comb. nov.
Aeschynomene hystrix var. *densiflora* (Benth.) Rudd, comb. et stat. nov.
Aeschynomene langlassei Micheli ex Rudd, sp. nov.
Aeschynomene magna Rudd, sp. nov.
Aeschynomene mollicula var. *benthamii* Rudd, nom. et stat. nov.
Aeschynomene mollicula var. *breviflora* Rudd, var. nov.
Aeschynomene paraguayensis Rudd, nom. et stat. nov.
Aeschynomene petraea var. *grandiflora* Rudd, var. nov.
Aeschynomene petraea var. *madrensis* (Micheli) Rudd, comb. et stat. nov.
Aeschynomene pratensis var. *caribaea* Rudd, var. nov.
Aeschynomene sensitiva var. *amazonica* Rudd, var. nov.
Aeschynomene sensitiva var. *hispidula* (H. B. K.) Rudd, comb. et stat. nov.
Aeschynomene unijuga (M. E. Jones) Rudd, comb. nov.
Aeschynomene villosa var. *longifolia* (Micheli) Rudd, comb. nov.
Aeschynomene villosa var. *mexicana* (Hemsl. & Rose) Rudd, comb. et stat. nov.

Collections of *Aeschynomene* cited

(The numbers associated with the specimens are, in most cases, those of the collectors. Some may be herbarium numbers and are so indicated if the fact is known)

ABBOTT, R. Q.

79. *petraea* var. *madrensis*
 407. *americana* var. *flabellata*
 467. *americana* var. *glandulosa*

ABBOTT, W. L.

517. *sensitiva* var. *sensitiva*
 539. *pratensis* var. *caribaea*
 651. *villosa* var. *villosa*
 875a. *evenia* var. *evenia*
 975. *evenia* var. *evenia*
 2945. *sensitiva* var. *sensitiva*

ABRAHAM, A. A.

88. *paniculata*

ACOSTA SOLIS, M.

10630. *tumbezensis*

AGUILAR, J. I.

1670. *ciliata*

ALAIN, BRO., AND KILLIP, E. P.

2081. *brasiliiana* var. *brasiliiana*
 2096. *pratensis* var. *caribaea*
 2139. *tenuis*
 2160. *brasiliiana* var. *brasiliiana*

ALLARD, H. A.

13414. americana var. americana
 13443. americana var. americana
 13837. americana var. americana
 14159. americana var. americana
 14254. elegans
 14602. villosa var. villosa
 14816. pratensis var. caribaea
 14930. villosa var. villosa

ALLEMÃO, BRO.

- 350, in part. marginata var. grandiflora
 in part. mollicula var. benthamii
 351, in part. rudis
 in part. scabra
 352, in part. evenia var. evenia
 in part. evenia var. serrulata
 in part. sensitiva var. sensitiva
 353, in part. marginata var. marginata
 in part. paniculata
 in part. rostrata
 354, in part. brasiliana var. brasiliana
 in part. histrix var. incana

ALLEN, P. H.

1104. americana var. glandulosa
 1283. americana var. glandulosa
 1295. americana var. glandulosa
 1976. sensitiva var. sensitiva
 4087. americana var. glandulosa
 6313. americana var. americana

ANDRÉ, E.

260. americana var. glandulosa
 2854. brasiliana var. brasiliana

ANTHONY, H. E., AND TATE, G. H.

52. americana var. glandulosa

APOLLINAR ÁNGEL, BRO.

753. americana var. glandulosa

APOLLINAR MARFA, BRO.

- s. n. americana var. glandulosa
 s. n. brasiliana var. brasiliana
 s. n. elegans

ARAQUE M., J., AND BARKLEY, F. A.

270. paniculata
 285. histrix var. histrix
 18. N. S. 144. americana var. glandulosa
 19. At. 074. fascicularis
 19. Bo. 198. ciliata
 19. Bo. 200. sensitiva var. sensitiva

ARCHER, W. A.

26. villosa var. villosa
 279. elegans
 336. falcata
 462. sensitiva var. hispidula
 652. americana var. americana
 675. americana var. americana
 676. villosa var. villosa
 681. sensitiva var. hispidula
 745. sensitiva var. hispidula
 758. elegans
 1006. villosa var. villosa
 4412. falcata
 7682. evenia var. serrulata

ARCHER, W. A., AND GEHRT, A.

30. montevidensis

ARISTEGUIETA, L., AND PANNIER, F.

1078. americana var. americana

ARNOLDO, BRO. M.

1820. americana var. glandulosa
 1843. viscidula

ARSÉNE, BRO. G.

3114. americana var. flabellata
 3131. villosa var. longifolia
 3167. rudis
 6837. americana var. flabellata
 8579. villosa var. longifolia

ASPLUND, E.

5167. rudis
 5510. ciliata
 5646. pluriarticulata
 5692. americana var. americana
 5718. americana var. glandulosa

ATKINSON, I. VON R. DE

- 19291 (S. I. No.) montevidensis

BADILLO, V. M.

600. villosa var. villosa
 642. villosa var. villosa

BAILEY, L. H., AND BAILEY, E. Z.

253. americana var. americana
 293. americana var. americana
 300. sensitiva var. sensitiva
 763. ciliata
 1254. sensitiva var. sensitiva
 1347. histrix var. incana

BAKER, C. F.

- 143 (2278). *ciliata*
 199. *brasiliana* var. *brasiliana*
 694. *brasiliana* var. *brasiliana*
 s. n. *americana* var. *americana*

BAKER, C. F., AND ABARCA V., M.

4213. *evenia* var. *evenia*

BALANSA, B.

3090. *sensitiva* var. *sensitiva*

BALDWIN, J. T., JR.

3023. *oroboides*
 3072. *oroboides*
 4081. *paniculata*

BANG, M.

- 2082, in part. *brasiliana* var. *brasiliana*;
 in part. *elegans*
 2820. *falcata*

BANGHAM, W. N.

505. *sensitiva* var. *sensitiva*

BARCLAY, G.

- s. n. *villosa* var. *villosa*

BARKLEY, F. A.

- 18.A.231. *americana* var. *americana*

BARKLEY, F. A., AND GUTIERREZ V., G.

1752. *americana* var. *americana*

BARNES, C. R., AND LAND, W. J. G.

230. *fascicularis*
 293a. *villosa* var. *villosa*

BARNHART, J. H.

2183. *viscidula*
 2762. *viscidula*

BARROS, M.

767. *montevidensis*

BARTLETT, H. H.

11784. *paniculata*
 12351. *deamii*
 19271. *montevidensis*

BEECHEY, F. W.

- s. n. *paucifoliolata*

BERLANDIER, J. L.

990. *viscidula*
 2420. *viscidula*
 3137. *viscidula*

BERMÚDEZ G., L. A.

- 23, in part. *elegans*
 in part. *falcata*
 29. *villosa* var. *villosa*

BERMÚDEZ G., L. A., AND BARKLEY, F. A.

- 17.C.877. *elegans*

BERNOULLI, G.

1181. *americana* var. *glandulosa*

BERTERO, C. G.

- s. n. *evenia* var. *evenia*
 s. n. *pleuronervia*

BERTI Y ESCALENTE

513. *denticulata*

BILTMORE HERBARIUM

- 218a. *indica*
 218f. *indica*
 226a. *viscidula*
 226b. *viscidula*

BIOLLEY FIL, P.

3214. *villosa* var. *villosa*

BLACK, G. A., ET AL

- 48-2212. *sensitiva* var. *sensitiva*
 48-3489. *marginata* var. *marginata*
 48-3604. *marginata* var. *marginata*
 50-8841. *filosa*
 50-8933. *filosa*
 50-8962. *rudis*
 50-9138. *filosa*
 50-9217. *sensitiva* var. *sensitiva*
 50-9269. *evenia* var. *evenia*
 50-9372. *rudis*
 50-10259. *paniculata*
 50-10311. *ciliata*
 51-12269. *rudis*
 51-12497. *paniculata*
 51-12602. *histris* var. *incana*
 51-12622. *paniculata*
 51-12999. *histris* var. *densiflora*
 51-13076. *histris* var. *histris*

BLACK, G. A., ET AL—Continued

- 51-13139. interrupta
 51-13250. histrix var. densiflora
 51-13726. histrix var. incana
 51-13847½. pratensis var. caribaea
 51-14095. pratensis var. caribaea
 52-14196. brasiliana var. brasiliana
 52-14265. rudis
 52-14322. rudis
 52-14360. evenia var. evenia
 52-14398. pratensis var. caribaea
 52-14429. filosa
 52-14584A. americana var. glandulosa

BLANCHET, J. S.

946. evenia var. evenia
 1041. sensitiva var. sensitiva
 2401. mollicula var. mollicula
 2646. rostrata
 s. n. elegans
 s. n. histrix var. incana

BOLDINGH, I.

5215. viscidula

BOND, F. E.; GILLIN, T. S.; AND
BROWN, S.

120. evenia var. serrulata

BONPLAND, A.

1563. sensitiva var. hispidula
 s. n. sensitiva var. sensitiva

BOTTERI, M.

- 363, 572. villosa var. villosa
 663. scabra
 664. americana var. glandulosa
 665. villosa var. longifolia

BOURGEAU, E.

1860. scabra
 2210. rudis
 3169. villosa var. villosa
 3185. scabra
 3277. villosa var. longifolia

Box, H. E.

1245. americana var. glandulosa

BRANDEGEE, T. S.

141. nivea
 142. vigil
 s. n. americana var. glandulosa

- s. n. amorphoides
 s. n. fascicularis
 s. n. nivea
 s. n. scabra
 s. n. vigil
 s. n. villosa var. villosa
 s. n. viscidula

BRAY

- s. n. evenia var. serrulata

BRENES, A. M. (Herbarium)

3678. Brasiliana var. brasiliana
 4578 (363). villosa var. villosa
 4647 (432). americana var. glandulosa
 4688 (473). americana var. glandulosa
 4833 (618). elegans
 5027 (183). elegans
 5163a (317a). villosa var. villosa
 5856. americana var. glandulosa
 5856a. americana var. glandulosa
 5856b. americana var. glandulosa
 5960. americana var. glandulosa
 6450. elegans
 14336. americana var. glandulosa
 14611. americana var. glandulosa
 17236. americana var. glandulosa
 17308 (28). elegans
 17476 (15). elegans

BRINKER, R.

221. viscidula

BRINTON, J. B.

- s. n. virginica

BRITTON, N. L., ET AL

233. pratensis var. pratensis
 313. americana var. glandulosa
 489. americana var. americana
 613. americana var. glandulosa
 650. villosa var. villosa
 744. americana var. americana
 778. americana var. glandulosa
 975. brasiliana var. brasiliana
 1024. sensitiva var. sensitiva
 1056. sensitiva var. sensitiva
 1248. villosa var. villosa
 1467. portoricensis
 1498. ciliata
 1516. sensitiva var. sensitiva
 2051. villosa var. villosa

BRITTON, N. L., ET AL—Continued

2187. americana var. americana
 2295. americana var. americana
 2374. sensitiva var. sensitiva
 2508. brasiliana var. brasiliana
 2815. portoricensis
 3015. americana var. americana
 3041. viscidula
 4876. americana var. americana
 5875. portoricensis
 6164. villosa var. villosa
 6335. americana var. americana
 6436. villosa var. villosa
 6451. tenuis
 6645. portoricensis
 6672. sensitiva var. sensitiva
 6933. pratensis var. caribaea
 7086. tenuis
 7953. portoricensis
 8698. portoricensis
 8991. portoricensis
 9050. villosa var. villosa
 10001. viscidula
 10067. tenuis
 10077. sensitiva var. sensitiva
 10091. viscidula
 10118. tenuis
 12863. brasiliana var. brasiliana
 12891. americana var. americana
 13156. brasiliana var. brasiliana
 13175. villosa var. villosa
 14347. tenuis
 14472. viscidula
 15099. viscidula

BROADWAY, W. E. (Trinidad
 Herbarium)

140. americana var. americana
 153. brasiliana var. brasiliana
 156. sensitiva var. sensitiva
 460. brasiliana var. brasiliana
 636. brasiliana var. brasiliana
 2862. sensitiva var. sensitiva
 2862 bis. sensitiva var. sensitiva
 3667. sensitiva var. sensitiva
 3699. brasiliana var. brasiliana
 7527. americana var. americana
 7804. brasiliana var. brasiliana
 7842. americana var. americana
 s. n. americana var. americana
 s. n. sensitiva var. sensitiva

BUCHTIEN, O.

211. elegans
 791. brasiliana var. brasiliana
 4106, in part. elegans
 in part. falcata
 4107. elegans
 6122. elegans

BUCKLEY, S. B.

- s. n. viscidula

BUES, C.

- s. n. brasiliana var. brasiliana

BURCHELL, W. J.

1546. ciliata
 1614. sensitiva var. sensitiva
 1773. elegans
 5741. paucifolia
 6061-2. paucifolia
 7094-2. brasiliana var. brasiliana
 8050. paniculata
 8169. histrix var. incana
 8641. paniculata
 8754. histrix var. densiflora
 8801. sensitiva var. sensitiva
 8844. racemosa
 8907. brasiliana var. brasiliana
 9487. sensitiva var. sensitiva
 9647. brasiliana var. brasiliana

BURKART, A.

3630. rudis
 4887. rudis
 5876. denticulata
 7348. histrix var. incana
 7357. histrix var. incana
 8181. denticulata
 8191. montevidensis
 14040. denticulata
 14188. falcata
 15219. falcata
 15236. falcata
 15344. echinus
 16196. elegans
 16260. americana var. americana
 16262. villosa var. villosa
 16325. sensitiva var. sensitiva
 16837. villosa var. villosa
 16881. histrix var. incana
 16885. paniculata
 16903. evenia var. evenia

BURKART, A.—Continued

16910. *americana* var. *americana*
 16931. *sensitiva* var. *sensitiva*
 16960. *americana* var. *americana*
 16961. *evenia* var. *evenia*
 16971. *evenia* var. *evenia*
 17131. *viscidula*
 17185. *evenia* var. *evenia*
 17203. *filosa*
 17215. *histris* var. *histris*
 17220. *viscidula*
 17367. *fascicularis*

CABRERA, A. L.

730. *montevidensis*
 1999. *montevidensis*
 3217. *montevidensis*

CALDERÓN, S.

56. *americana* var. *glandulosa*
 69. *villosa* var. *villosa*
 1038. *histris* var. *histris*
 1039. *viscidula*
 1043. *paniculata*
 1211. *paniculata*
 1263. *americana* var. *americana*
 1291. *americana* var. *flabellata*
 1767. *elegans*
 2470. *nicaraguensis*

CAMP, W. H.

- E-2962. *villosa* var. *villosa*

CANBY, W. M.

1516. *virginica*
 s. n. *virginica*

CÁRDENAS, M.

1391. *sensitiva* var. *sensitiva*
 4453. *rudis*

CARDONA, F.

650. *histris* var. *incana*
 1004. *paniculata*

CARLSON, M. C.

1950. *compacta*

CARTER, A., ET AL

2299. *nivea*
 2907. *nivea*

CHAPMAN, A. W.

- s. n. *indica*
 s. n. *viscidula*

CHAVES, D.

250. *americana* var. *glandulosa*

CLAUSSEN, P.

757. *elegans*

CLAYCOMB, G. B.

- s. n. *indica*

CLAYTON, J.

614. *virginica*

CLOS, E. C.

2133. *montevidensis*

COCKRELL, T. D. A.

- s. n. *americana* var. *glandulosa*

COLLINS, G. N.; KEARNEY, T. H.; AND
KEMPTON, J. H.

128. *nivea*

COMBS, R.

408. *viscidula*
 409. *pratensis* var. *caribaea*
 620. *americana* var. *americana*

COMMERSON, P.

- s. n. *brasiliensis* var. *brasiliensis*
 s. n. *falcata*

COMMONS, A.

- s. n. *virginica*

CONZATTI, C.

3743. *americana* var. *glandulosa*

COOPER, G. P., III

67. *sensitiva* var. *sensitiva*

COOPER, J. J. (J. D. Smith Herbarium)

5756. *americana* var. *glandulosa*

CORNELIO (VOGL), PADRE

10. *americana* var. *americana*
 39. *elegans*
 43. *americana* var. *americana*
 605. *elegans*

CORRELL, D. S., AND CORRELL, H. B.

10527. *indica*

CORY, V. L.

11069. *indica*

15080. *viscidula*

19863. *indica*

20362. *viscidula*

20512. *viscidula*

20515. *indica*

50911. *indica*

COWELL, J. F.

173. *ciliata*

CRAWFORD, J.

s. n. *virginica*

CRUEGER H. (Trinidad Herbarium)

1006. *brasiliana* var. *brasiliana*

CUATRECASAS, J.

1940. *fascicularis*

3853. *histris* var. *histris*

4044. *histris* var. *incana*

4248. *histris* var. *histris*

4472. in part. *evenia* var. *serrulata*

in part. *pratensis* var. *caribaea*

7697. *foliolosa*

10506. *americana* var. *glandulosa*

16192. *sensitiva* var. *sensitiva*

19754. *ciliata*

19758. *villosa* var. *villosa*

22856. *americana* var. *glandulosa*

22960. *falcata*

23040. *rudis*

23085. *americana* var. *glandulosa*

CURRAN, H. M.

208. *sensitiva* var. *sensitiva*

218. *montevidensis*

CURTISS, A. H.

241. *tenuis*

300. *pratensis* var. *caribaea*

606. *indica*

607. *viscidula*

4236. *viscidula*

4237. *indica*

4238. *viscidula*

4239. *viscidula*

4901. *viscidula*

5155. *indica*

s. n. *histris* var. *incana*

s. n. *indica*

DAHLGREN, B. E., AND SELLA, E.

187. *rudis*

DANIEL, BRO.

499. *falcata*

528. *elegans*

1008. *americana* var. *americana*

1187. *elegans*

4264. *villosa* var. *villosa*

DARROW, R. A., AND HASKELL, H. S.

2063. *villosa* var. *villosa*

DAVES, W. W.

s. n. *indica*

DAWE, M. T.

556. *filosa*

DAWSON, G.

343. *montevidensis*

DEAM, C. C.

26. *deamii*

137. *americana* var. *glandulosa*

DEGENER, O.

5179. *viscidula*

DE LA CRUZ, J. S.

3213. *sensitiva* var. *sensitiva*

DEMAREE, D.

30686. *viscidula*

33521. *indica*

33887. *indica*

34099. *indica*

DODGE, C. W., ET AL

8604. *americana* var. *glandulosa*

16913. *rudis*

17378. *americana* var. *glandulosa*

DOYLE, C. B.

37. *compacta*

DROUET, F.

2290. *filosa*
 2293. *evenia* var. *serrulata*
 2428. *viscidula*
 2497. *filosa*
 2557. *sensitiva* var. *sensitiva*
 2702. *rudis*

DRYANDER, FRAU E.

326. *villosa* var. *villosa*

DUCKE, A.

1312. *interrupta*
 1681. *marginata* var. *marginata*
 16065 (Herb. No.). *brasiliana* var. *brasiliana*
 35479 (Herb. No.) *interrupta*
 s. n. *histris* var. *densiflora*
 s. n. *paniculata*

DUGAND, A.

3131. *americana* var. *americana*

DUNLAP, V. C.

343. *americana* var. *glandulosa*

DUSÉN, P.

1965. *sensitiva* var. *sensitiva*
 2435. *falcata*
 2546. *falcata*

DUSS, PÉRE

1062. *sensitiva* var. *sensitiva*
 1063, in part. *americana* var. *americana*
 in part. *villosa* var. *villosa*
 2645, in part. *americana* var. *glandulosa*
 in part. *villosa* var. *villosa*
 2655. *sensitiva* var. *sensitiva*
 3923. *viscidula*
 4163. *villosa* var. *villosa*

EARLE, F. S.

641. *tenuis*

EGGERS, H. F. A.

202. *americana* var. *americana*
 5940. *americana* var. *glandulosa*
 6728. *sensitiva* var. *sensitiva*
 13076. *sensitiva* var. *sensitiva*
 14775. *pluriarticulata*
 s. n. *americana* var. *americana*

EKMAN, E. L.

1721. *denticulata*
 1722. *falcata*
 1724. *montevidensis*
 1725. *montevidensis*
 2792. *americana* var. *americana*
 6455. *americana* var. *americana*
 8341. *brasiliana* var. *brasiliana*
 9799. *villosa* var. *villosa*
 10573. *sensitiva* var. *sensitiva*
 11877. *pratensis* var. *caribaea*
 12032. *filosa*
 12437. *fluminensis* var. *fluminensis*
 13296. *villosa* var. *villosa*
 14705. *fluminensis* var. *fluminensis*
 17879. *fluminensis* var. *tuberculata*
 18246. *sensitiva* var. *sensitiva*
 H. 1005. *pleuronervia*
 H. 2328. *villosa* var. *villosa*
 H. 2616. *evenia* var. *evenia*
 H. 2682. *sensitiva* var. *sensitiva*
 H. 8280. *pratensis* var. *caribaea*
 H. 13178. *americana* var. *americana*
 H. 13938. *villosa* var. *villosa*

ELIAS, BRO.

529. *ciliata*
 624. *pratensis* var. *caribaea*
 723. *americana* var. *americana*
 946. *fascicularis*
 1358. *fascicularis*

EMRICK, G. M.

93. *americana* var. *glandulosa*

EMYGDIO, L.

393. *sensitiva* var. *sensitiva*
 394. *ciliata*

ERVENDBERG, L. C.

16. *villosa* var. *villosa*

EUGENIO (LEITE), PADRE J.

542. *falcata*
 686. *americana* var. *americana*
 1877. *falcata*

EVINGER, E. L., AND HODGE, W. H.

509. *weberbaueri*

FARIS, J. A.

s. n. americana var. americana

FASSETT, N. C.

28335. americana var. glandulosa

FENDLER, A.

99. ciliata
 100. sensitiva var. sensitiva
 287. elegans
 288, in part. americana var. americana
 in part. villosa var. longifolia
 289. villosa var. villosa
 294. brasiliana var. brasiliana
 1779. americana var. americana
 1780. villosa var. villosa
 1781. brasiliana var. brasiliana
 1791. paniculata
 2212. sensitiva var. sensitiva

FERGUSON, A. M.

s. n. viscidula

FERNALD, M. L., AND LONG, B.

8724. virginica
 9343. virginica
 9344. virginica
 9580. virginica
 11052. virginica
 11053. virginica
 11354. virginica
 11355. virginica
 11578. virginica
 11579. virginica
 11580. virginica
 11581. virginica
 11597. virginica
 12672. virginica
 12673. virginica
 13058. virginica
 13358. virginica
 13957. virginica

FERREYRA, R.

583. tumbezensis
 1371. tumbezensis
 5126. sensitiva var. amazonica
 5326. tumbezensis
 5922. americana var. glandulosa
 8449. scoparia

FERRIS, R. S.

5817. villosa var. villosa
 6037. amorphoides
 6041. americana var. glandulosa

FIGBRIG, K.

52. sensitiva var. sensitiva
 210. montevidensis
 653. falcata
 678. histrix var. incana
 807. denticulata
 1321. rudis
 1321a. denticulata
 1442. sensitiva var. sensitiva
 1457. fluminensis var. fluminensis
 4059. magna
 4121. americana var. glandulosa
 4270. montevidensis
 4330. falcata
 4340. magna
 4342. mollicula var. mollicula
 4387. echinus
 5010. parviflora
 5109. paniculata
 5220. histrix var. histrix
 5646. montevidensis
 6136. montevidensis

FISHER, G. L.

147. indica
 35266. sensitiva var. sensitiva

FISHLOCK, W. C.

126. sensitiva var. sensitiva

FOCKE, H. C.

670. brasiliana var. brasiliana
 966. paniculata
 s. n. sensitiva var. sensitiva

FOREST DEPARTMENT OF BRITISH
 GUIANA

WB-19. paniculata
 WB-22. histrix var. incana
 WB-114. histrix var. incana

FOX, W. B.

3200. indica

FREDHOLM, A.

5348. viscidula
 5960. viscidula
 6340. indica

FRÓES, R. L., ET AL

1793. sensitiva var. sensitiva
 24710. evenia var. serrulata
 27105. ciliata
 27121. fluminensis var. fluminensis
 27136. brasiliana var. brasiliana
 27191. rudis
 27198. rudis
 27304. filosa
 27396. histrix var. histrix
 27864. brasiliana var. brasiliana
 27869. marginata var. marginata

FUERTES, PADRE M.

1667. villosa var. villosa
 1688. villosa var. villosa

GALEOTTI, H.

3158. villosa var. longifolia
 3184. paniculata

GALVIS V., A.

- s. n. elegans

GARBER, A. P.

- s. n. indica
 s. n. viscidula

GARCÍA-BARRIGA, H.

138. elegans
 145. villosa var. villosa
 4492. brasiliana var. brasiliana
 6313. rudis
 6367. villosa var. villosa
 6413. ciliata
 7515. brasiliana var. brasiliana
 13408. mollicula var. mollicula

GARCÍA, J.

167. elegans

GARDNER, G.

25. elegans
 976. sensitiva var. sensitiva
 1271. histrix var. incana
 1542. americana var. glandulosa
 2095. histrix var. incana
 2097. brevipes
 2098. marginata var. marginata
 2099. marginata var. grandiflora
 3682. elegans

GARGANTA FÁBREGA, M. DE

1077. americana var. glandulosa

GARNIER, BRO. ANTONIO

48. fascicularis
 A. 249. americana var. glandulosa
 3073. americana var. glandulosa

GARRONI, P.

69. paniculata

GAUMER, G. F.

495. fascicularis
 511. fascicularis
 955, in part. americana var. americana
 in part. americana var. glandulosa
 1126. fascicularis
 1529. fascicularis
 1808. fascicularis
 1819. fascicularis
 2092. americana var. glandulosa
 2093. americana var. americana
 2094. americana var. americana
 2095. americana var. glandulosa
 23282. fascicularis
 23614. fascicularis

GEHRIGER, W.

518. elegans

GEHRT, G.

4022. paniculata

GENTLE, P. H.

975. paniculata
 1365, in part. deamii
 in part. rudis
 1479. sensitiva var. sensitiva
 3884. paniculata
 4188. histrix var. incana

GENTRY, H. S.

1737. villosa var. villosa
 1799. villosa var. longifolia
 1838. fascicularis
 3704. nivea
 3748. nivea
 4821. fascicularis
 4938. fascicularis
 5114. amorphoides
 5115. petraea var. grandiflora
 5590. unijuga
 5687. unijuga

GENTRY, H., S.—Continued

6656. *armorhoides*
s. n. *villosa* var. *villosa*

GIBBES, L. R.

s. n. *indica*

GINÉS, BRO.

2877. *americana* var. *glandulosa*

GLASSMAN, S. F.

2051. *scabra*
2185. *scabra*

GLAZIOU, A. F. M.

4210. *sensitiva* var. *sensitiva*
6503. *elegans*
8628. *evenia* var. *serrulata*
8629. *sensitiva* var. *sensitiva*
8630. *sensitiva* var. *sensitiva*
8631. *pratensis* var. *caribaea*
8632. *selloi*
8634. *ciliata*
10506. *mollicula* var. *benthamii*
12571. *filosa*
12573. *parviflora*
12575. *histris* var. *densiflora*
19027. *riedeliana*
20921. *paucifolia*
20923. *paniculata*

GODFREY, R. K.

6321. *indica*
8207. *indica*
50161. *indica*
50879. *indica*

GOLDMAN, E. A.

59. *villosa* var. *villosa*
242. *fascicularis*
329. *petraea* var. *grandiflora*
496. *fascicularis*
497. *rudis*

GOLL, G. P.

15. *americana* var. *americana*
168. *americana* var. *americana*
371. *americana* var. *americana*
455. *villosa* var. *villosa*
819. *americana* var. *americana*
928. *americana* var. *americana*

GONZÁLEZ (see ORTEGA)

GOODING, E. G. B.

82. *americana* var. *americana*

GOODSPEED, T. H., ET AL.

11478. *tumbezensis*
30218. *tumbezensis*

GRANT, V.

571. *americana* var. *glandulosa*
750. *brasiliansa* var. *brasiliansa*
874. *brasiliansa* var. *brasiliansa*
895. *rudis*

GREENMAN, J. M.

477. *fascicularis*
480. *fascicularis*
5048. *americana* var. *glandulosa*

GURGEL, J. T. A.

s. n. *falcata*

HAENKE, T.

1279. *compacta*
1543. *fascicularis*
1613. *compacta*
s. n. *americana* var. *americana*
s. n. *pluriarticulata*
s. n. *scabra*

HAHN, L.

828. *villosa* var. *villosa*

HALE, J.

s. n. *rudis*

HARPER, R. M.

518. *indica*
1498. *viscidula*

HARRIS, W.

6625. *americana* var. *glandulosa*
6957. *americana* var. *glandulosa*

HARTWEG, T.

649. *rudis*

HARVEY, D. R.

5197. *americana* var. *glandulosa*

HASSLER, E. (including T. ROJAS)

86. *americana* var. *glandulosa*
400. *montevidensis*
792. *sensitiva* var. *sensitiva*

HASSLER, E. (including T. ROJAS)—Con.

911. *sensitiva* var. *sensitiva*
 1651. *denticulata*
 2757. *histris* var. *histris*
 2758. *parviflora*
 2773. *rudis*
 2815. *americana* var. *glandulosa*
 2816. *mollicula* var. *mollicula*
 2893. *rudis*
 3947. *parviflora*
 4587. *montevicensis*
 4806. *falcata*
 4816. *montevicensis*
 5814. *echinus*
 6360. *falcata*
 6694. *paraguayensis*
 7726. *denticulata*
 8125. *montevicensis*
 8128. *paniculata*
 10753. *sensitiva* var. *sensitiva*
 10955. *histris* var. *densiflora*
 11021. *echinus*
 11764. *sensitiva* var. *sensitiva*
 12017. *paniculata*
 12314. *montevicensis*

HAUGHT, O.

- F-62. *pluriarticulata*
 F-87. *tumbezensis*
 F-163. *pluriarticulata*
 158. *pluriarticulata*
 177. *tumbezensis*
 261. *pluriarticulata*
 1403. *americana* var. *glandulosa*
 2271. *histris* var. *incana*
 3823. *fascicularis*
 6274. *falcata*
 6371. *brasiliensis* var. *brasiliensis*
 6579. *fascicularis*

HAUTHAL

24. *histris* var. *histris*

HAYES, S.

184. *ciliata*
 488. *americana* var. *glandulosa*
 767. *americana* var. *glandulosa*

HELLER, A. A. (some with MRS. HELLER)

22. *portoricensis*
 185. *villosa* var. *villosa*
 234. *americana* var. *americana*

441. *sensitiva* var. *sensitiva*
 598. *americana* var. *americana*
 665. *sensitiva* var. *sensitiva*
 4589. *sensitiva* var. *sensitiva*
 6135. *americana* var. *americana*
 6365. *americana* var. *americana*
 6414. *sensitiva* var. *sensitiva*

HENZ, E.

35534. *falcata*

HERIBERTO, BRO.

225. *fascicularis*
 255. *americana* var. *glandulosa*
 292. *rudis*
 296. *pratensis* var. *caribaea*
 439. *fascicularis*

HERMANN, F. J.

10412. *virginica*
 11206. *falcata*
 11283. *sensitiva* var. *sensitiva*

HERNANDEZ X., E.

- X-614. *elegans*

HERTER, W. G.

82859. *montevicensis*

HESS, W. E.

5703. *portoricensis*

HEYDE, E. T.

311. *americana* var. *americana*
 391. *villosa* var. *longifolia*

HEYDE, E. T., AND LUX, E. (J. D. Smith Herbarium)

3710. *scabra*
 4160. *americana* var. *glandulosa*
 4172. *villosa* var. *longifolia*
 6097. *scabra*
 6099. *villosa* var. *longifolia*
 6103, in part. *americana* var. *americana*
 in part. *americana* var. *glandulosa*

HICKEN, C. M.

- s. n. *rudis*

HIERONYMUS, G.

- s. n. *histris* var. *incana*

HINDS, R. B., OR SINCLAIR, A.

- s. n. *villosa* var. *villosa*

HINTON, G. B., ET AL

457. *petraea* var. *petraea*
 1619. *americana* var. *flabellata*
 1764. *paucifoliolata*
 1930. *scabra*
 1984. *americana* var. *flabellata*
 1997. *paucifoliolata*
 2057. *americana* var. *flabellata*
 2234. *americana* var. *flabellata*
 4582. *histris* var. *densiflora*
 4784. *paucifoliolata*
 4957. *scabra*
 5044. *paniculata*
 5992. *americana* var. *flabellata*
 6104. *hintonii*
 6654. *americana* var. *flabellata*
 6679. *scabra*
 6708. *paucifoliolata*
 6938. *paucifoliolata*
 7059. *paucifoliolata*
 7872. *compacta*
 8608. *villosa* var. *villosa*
 9503. *americana* var. *flabellata*
 9667. *scabra*
 9668. *americana* var. *americana*
 9669. *villosa* var. *longifolia*
 10395. *petraea* var. *madrensis*
 10644. *hintonii*
 10747. *villosa* var. *longifolia*
 10922. *americana* var. *glandulosa*
 11247. *hintonii*
 11332. *petraea* var. *madrensis*
 11396. *paniculata*
 11604. *americana* var. *glandulosa*
 11662. *scabra*
 11670. *unijuga*
 12915. *villosa* var. *villosa*
 12950. *petraea* var. *madrensis*
 13287. *americana* var. *flabellata*
 13804. *petraea* var. *madrensis*
 14604. *palmeri*
 14653. *americana* var. *glandulosa*
 15243. *americana* var. *flabellata*
 16060. *paucifoliolata*
 16106. *rudis*
 16163. *paucifoliolata*

HIORAM, BRO.

- s. n. *americana* var. *americana*

HITCHCOCK, A. S.

51. *viscidula*
 341. *viscidula*

342. *viscidula*
 343. *viscidula*
 344. *indica*
 345. *indica*
 346. *indica*
 347. *indica*
 16640. *sensitiva* var. *sensitiva*
 16728. *sensitiva* var. *sensitiva*
 19942. *americana* var. *glandulosa*
 20024. *tumbezensis*
 20073. *pluriarticulata*
 s. n. *americana* var. *americana*
 s. n. *indica*
 s. n. *rudis*
 s. n. *viscidula*

HODGE, W. H.

588. *sensitiva* var. *sensitiva*
 589. *sensitiva* var. *sensitiva*

HOEHNE, F. C. (including Comissão RONDON in part)

86. *elegans*
 375 (1871). *racemosa*
 4569. *paniculata*
 4806. *histris* var. *densiflora*
 4883. *histris* var. *densiflora*
 4884. *histris* var. *densiflora*
 6615. *paucifolia*
 6727. *paniculata*

HOEHNE, F. C., AND GEHRT, A.

17348. *sensitiva* var. *sensitiva*
 17491. *elegans*

HOLDRIDGE, L. R.

998. *pleuronervia*

HOLM, T.

63. *villosa* var. *villosa*
 208. *sensitiva* var. *sensitiva*
 s. n. *americana* var. *americana*

HOLT, E. G.

70. *indica*

HOLT, E. G., AND GEHRIGER, W.

197. *evenia* var. *serrulata*

HOLTON, I. F.

985. *ciliata*
 986. *ciliata*
 991. *villosa*^p var. *villosa*

- HOLWAY, E. W. D.
5220. villosa var. longifolia
- HORNE, F. W.
9119. portoricensis
- HOSTMANN, F. W.
637a. brasiliiana var. brasiliiana
705. sensitiva var. sensitiva
820a. paniculata
1074. histrix var. histrix
s. n. sensitiva var. sensitiva
- HOTCHKISS, N.
7187. virginica
- HOWARD, R. A.
5535. tenuis
- HUBER, J.
286. evenia var. evenia
s. n. histrix var. histrix
- HUMBOLDT, A., AND BONPLAND, A.
3543. scoparia
3546. mollicula var. mollicula
- HUNTER, A. A., AND ALLEN, P. H.
737. americana var. glandulosa
- HUNZIKER, A. T.
708. histrix var. incana
- IDROBO, J. M., ET AL
75, in part. brasiliiana var. brasiliiana
664. foliolosa
- JAHN, A.
673. americana var. glandulosa
- JAMESON, W.
586. tumbezensis
- JENMAN, G. S.
3741. histrix var. histrix
- JENNINGS, O. E.
19. tenuis
248. tenuis
- JIMÉNEZ, J. DE J.
946. villosa var. villosa
1071. villosa var. villosa
1150. pratensis var. caribaea
1286. sensitiva var. sensitiva
1705. americana var. americana
1813. americana var. americana
- JOB, M. M.
770. denticulata
- JOBERT, C., AND Schwacke, C. A. W.
158. brasiliiana var. brasiliiana
612. sensitiva var. amazonica
1074. brevipes
1175. histrix var. incana
- JOHNSON, E. P.
s. n. ciliata
- JOHNSON, F. W.
s. n. americana var. glandulosa
s. n. villosa var. villosa
- JOHNSON, H.
1302. sensitiva var. sensitiva
- JOHNSTON, I. M.
832. americana var. glandulosa
937. americana var. glandulosa
1201. americana var. glandulosa
3713. nivea
- JOHNSTON, J. R.
59. villosa var. villosa
149. villosa var. villosa
175. sensitiva var. sensitiva
520. portoricensis
966. sensitiva var. sensitiva
1059. americana var. glandulosa
1486. ciliata
- JONES, M. E.
597. petraea var. petraea
22504. americana var. glandulosa
23025. petraea var. grandiflora
23052. amorphoides
24053. vigil
24254. nivea
72219. villosa var. villosa

JÖNSSON, G.

1090a. falcata

JOOR, J. F.

1 n. indica

1 n. viscidula

JÖRGENSEN, P.

1696, in part. denticulata

in part. rudis

1220, in part. americana var. glandulosa

in part. denticulata

1595. falcata

1631. montevidensis

1205, in part. denticulata

in part. sensitiva var. sensitiva

1206. sensitiva var. sensitiva

1619. americana var. glandulosa

17595. falcata

KEARNEY, T. H.

1250. indica

KEARNEY, T. H., AND PEEBLES, R. H.

14462. villosa var. villosa

KEGEL, H.

184 (Martius 1144). sensitiva var. sensitiva

1281. histrix var. histrix

KELLERMAN, W. A.

13409. sensitiva var. sensitiva

17555. elegans

KENOYER, L. A.

1386. sensitiva var. sensitiva

KERBER, E.

157. scabra

KILLIP, E. P., ET AL

13367. villosa var. villosa

15513. ciliata

15513a. ciliata

11560. ciliata

14139. fascicularis

14188. americana var. americana

14204. fascicularis

14274. fascicularis

14559, in part. americana var. americana.

in part. americana var. glandulosa.

14574. sensitiva var. sensitiva

16278. mollicula var. breviflora

16337. paniculata

16345. falcata

16455. mollicula var. breviflora

20912. elegans

20921. mollicula var. breviflora

30397. marginata var. marginata

32341. pratensis var. caribaea

33017. ciliata

33048. rudis

33229. ciliata

34373. sensitiva var. sensitiva

34501. sensitiva var. sensitiva

37245. paniculata

37605. pratensis var. caribaea

37649. brasiliiana var. brasiliiana

27651. histrix var. histrix

38144. mollicula var. mollicula

39070. ciliata

39794. falcata

41210. pratensis var. pratensis

41300. tenuis

41615. tenuis

41633. brasiliiana var. brasiliiana

42537. brasiliiana var. brasiliiana

42552. tenuis

42561. pratensis var. caribaea

42686. tenuis

42763. tenuis

42894. viscidula

42934. brasiliiana var. brasiliiana

42946. tenuis

43115. viscidula

43167. pratensis var. caribaea

KLUG, G.

329. sensitiva var. sensitiva

KRAPOVICKAS, A.

2704. montevidensis

KRUG, H., AND ZAGATTO, O.

2260. elegans

KUHLMANN, J. G. (some herbarium numbers)

205. fluminensis var. fluminensis

353. oroboides

KUHLMANN, J. G. (some herbarium numbers)—Continued

354. oroboides
2021. ciliata
2983. sensitiva var. sensitiva
3231. interrupta

KUNTZE, O.

332. sensitiva var. sensitiva
410. villosa var. villosa
1338. brasiliana var. venezolana
14556. villosa var. longifolia
s. n. americana var. glandulosa
s. n. elegans
s. n. falcata
s. n. histrix var. densiflora
s. n. montevidensis

KUYLEN, H.

- s. n. deamii

LANGLASSÉ, E.

84. sensitiva var. hispidula
431. fascicularis
455. villosa var. villosa
474. paucifoliolata
476. americana var. americana
492. scabra
758. villosa var. longifolia
847. langlassei
865. petraea var. madrensis

LANGMAN, I. K.

3323. palmeri
3338. palmeri

LANKASTER, C. H.

312. elegans

LASSER, T.

633. villosa var. villosa
857. americana var. americana
880. americana var. americana

LEEDS, B. F.

- s. n. viscidula

LEGRAND, C. D.

494. montevidensis

LEHMANN, F. C.

- B. T. 1056. scabra
3408. villosa var. villosa
5548. villosa var. villosa
5549. sensitiva var. hispidula

LEITE (see EUGENIO)

LEMMON, MR. AND MRS. J. G.

30. villosa var. villosa

LEÓN, BRO., ET AL

457. americana var. americana
1298. viscidula
4202. rudis
4713. villosa var. villosa
5360. viscidula
5817. tenuis
5891. pratensis var. caribaea
5947. fluminensis var. tuberculata
6968. viscidula
7202. sensitiva var. sensitiva
7382. tenuis
7470. viscidula
8975. evenia var. evenia
9640. pratensis var. caribaea

LEONARD, E. C. (including with G. M. LEONARD)

7040. americana var. americana
7294. americana var. americana
7364. americana var. americana
7421. pleuronervia
7563. americana var. americana
8138. villosa var. villosa
8503. villosa var. villosa
8732. villosa var. villosa
8818. pleuronervia
9262. villosa var. villosa
9606. americana var. americana
11376. americana var. americana
11587. americana var. americana
12182. villosa var. villosa
14012. americana var. americana
15185. pleuronervia
15738. pleuronervia

LEPRIEUR

- s. n. histrix var. histrix
s. n. sensitiva var. sensitiva

LE SUEUR, H.

205. rudis
1354. fascicularis

LETTERMAN, G. W.

- s. n. indica

LEWTON, F. L.

- s. n. viscidula

LIEBMANN, F. M.

4710. acapulcensis
4712. viscidula
4724. americana var. glandulosa
4725. compacta
4726. pinetorum
4727. purpusii

LIGHTHIPE, L. H.

227. viscidula
499. indica

LLOYD (F. E. ?)

1050. americana var. glandulosa

LLOYD, F. E., and TRACY, S. M.

180. indica
193. indica

LÖFGREN, A.

397. evenia var. evenia
405. marginata var. grandiflora
658. histrix var. densiflora
737. americana var. americana
856. evenia var. evenia
1091. mollicula var. benthamii

LONG, B.

10818. virginica
44943. virginica
51232. virginica

LÓPEZ-Miranda, A.

883. scabra
926. tumbezensis

LORENTZ, P.

- 89a. montevidensis

LUETZELBURG, P. VON

1404. filosa
2558. sensitiva var. sensitiva
12526. filosa
20489. interrupta
20490. interrupta
20527. interrupta
20530. interrupta
21115. filosa
21128. paniculata
21371. paniculata
21945. paniculata
21948. histrix var. incana

LUNA, A.

922. brasiliana var. brasiliana

LUNDELL, C. L. (including with
A. A. LUNDELL)

1114. americana var. glandulosa
1266. rudis
1340. fascicularis
3413. fascicularis
4400. viscidula
6886. paniculata
7340. fascicularis

LUTZ, B.

- s. n. sensitiva var. sensitiva

MACBRIDE, J. F.

2706. sensitiva var. sensitiva
5483. brasiliana var. brasiliana

MACEDO, A.

240. sensitiva var. sensitiva
1638. filosa
1717. histrix var. densiflora
1724. falcata
2296. paniculata

MACKENZIE, K. K.

410. indica

MAGUIRE, B., AND STAHEL, G.

23731. histrix var. histrix
25041. histrix var. histrix

MALME, G. O.

679. denticulata
1350. paniculata

MALME, G. O.—Continued

1548. *sensitiva* var. *sensitiva*
 1819. *sensitiva* var. *sensitiva*
 1820. *fluminensis* var. *fluminensis*
 3242. *histris* var. *histris*

MARIE-VICTORIN, BRO., AND ALAIN, BRO.

123. *viscidula*

MARKGRAF, F. (with A. C. BRADE AND MELLO-BARRETO)

- 3280 (Brade & Mello-Barreto No. 12089)
paucifolia

MARTÍNEZ-CALDERÓN, G.

550. *americana* var. *americana*

MARTIUS, K. F. P. VON (Herbarium)

1114. *sensitiva* var. *sensitiva*
 1145. *evenia* var. *serrulata*
 1146. *sensitiva* var. *sensitiva*
 s. n. *brevipes*
 s. n. *filosa*

MARULANDA-CAICEDO, L.

- 47.A. *villosa* var. *villosa*
 48.A. *brasiliana* var. *brasiliana*

MASON, H. L.

13982. *fascicularis*

MATTHEWS, A.

1579. *brasiliana* var. *brasiliana*
 3272. *elegans*

MATUDA, E.

44. *ciliata*
 53. *americana* var. *glandulosa*
 2121. *ciliata*
 2164. *americana* var. *glandulosa*
 4101. *villosa* var. *villosa*
 5677. *compacta*
 15683. *compacta*
 16755. *ciliata*

MAURICE, BRO.

726. *elegans*

MAXON, W. R., AND KILLIP, E. P.

- 62a. *americana* var. *glandulosa*

McFARLIN, J. B.

5568. *viscidula*
 6243. *viscidula*
 11116. *viscidula*

McLEAN (J. P. ?)

- s. n. *americana* var. *americana*

McVAUGH, R.

12168. *petraea* var. *grandiflora*
 14252. *unijuga*

MELL, C. D. (including with R. C. MELL)

219. *sensitiva* var. *sensitiva*
 2201. *compacta*

MELLO-BARRETO, H. L.

5777. *elegans*
 5778. *elegans*
 5781. *paniculata*
 6052. *paucifolia*
 6576. *elegans*
 10351. *paniculata*
 10355. *paucifolia*
 10360. *elegans*

MEXIA, Y.

141. *amorphoides*
 660. *amorphoides*
 738. *villosa* var. *villosa*
 743. *americana* var. *glandulosa*
 943. *amorphoides*
 954. *americana* var. *glandulosa*
 1018. *rudis*
 1375. *unijuga*
 1648. *petraea* var. *grandiflora*
 4348. *sensitiva* var. *sensitiva*
 5676. *paniculata*
 6665. *brasiliana* var. *brasiliana*

MEYER, T.

3554. *denticulata*

MILLE, L.

42. *americana* var. *glandulosa*
 1118. *tumbezensis*
 s. n. *americana* var. *glandulosa*

MILLSAUGH, C. F.

1887. *americana* var. *glandulosa*

MOHR, C.

s. n. indica
s. n. rudis
s. n. virginica
s. n. viscidula

MOLDENKE, H. N.

136. indica

MOLINA R., A.

679. nicaraguensis
723. scabra
1412. scabra
1552. fascicularis
1664. standleyi
2663. americana var. glandulosa

MONTEIRO DA COSTA, R. C.

256. sensitiva var. sensitiva

MONTES, J. E.

2487. falcata

MOORE, S.

194. oroboides
1005. sensitiva var. sensitiva

MORELLO, J.

410. rudis

MORALES R., J.

1148. americana var. glandulosa

MORONG, T.

191. sensitiva var. sensitiva
310. montevidensis
400, in part. falcata
in part. montevidensis
778. falcata

MORTON, C. V.

5646. sensitiva var. sensitiva
7128. scabra

MÜLLER, F.

92. falcata
145. scabra
s. n. elegans
s. n. villosa var. villosa

MULVANIA, M.

s. n. americana var. americana

MURRILL, W. A.

s. n. viscidula

MUTIS, J. C.

4923. histrix var. histrix
4925. paniculata

MYERS, J. G.

2924. rostrata

NASH, G. V.

306. americana var. americana
593. viscidula
1054. indica
1847. viscidula

NEALLEY, G. C.

s. n. evenia var. evenia

NELSON, E. W.

2630. compacta
2737. pinetorum
2751. pinetorum
2802. rudis
2851. pinetorum
2864. scabra
3116. americana var. americana
3572. brasiliiana var. brasiliiana
4033. petraea var. grandiflora
4038. unijuga
4058. petraea var. grandiflora

NELSON, E. W., AND GOLDMAN, E. A.

7226. nivea
7329. nivea
7365. vigil

NETO, L.

s. n. paniculata

NOVAES, J. DE C.

247. selloi

O'DONELL, C. A.

7. evenia var. evenia

OERSTED, A. S.

67. *histris* var. *histris*
 4701. *nicaraguensis*
 4702. *nicaraguensis*
 4715. *villosa* var. *villosa*
 4716. *villosa* var. *villosa*

O'NEILL, H., AND BLANTON, F. S.

6767. *viscidula*

ORCUTT, C. R.

3262. *pinetorum*
 3813. *americana* var. *americana*
 3815. *americana* var. *glandulosa*
 3951. *americana* var. *glandulosa*
 4502. *amorphoides*
 4546. *villosa* var. *villosa*
 6479. *brasilliana* var. *brasilliana*

ORTEGA, J. G(ONZÁLEZ)

586. *amorphoides*
 4056. *unijuga*
 4393. *fascicularis*
 4422. *fascicularis*
 4666. *amorphoides*
 4853. *amorphoides*
 5091. *villosa* var. *villosa*
 5099. *petraea* var. *grandiflora*
 6397. *amorphoides*
 6588. *fascicularis*
 s. n. *petraea* var. *grandiflora*

OSTEN, C.

251. *montevidensis*
 5370. *montevidensis*
 22169. *histris* var. *incana*

OTERO, J. I.

219. *sensitiva* var. *sensitiva*

PADILLA, S. A.

472. *americana* var. *glandulosa*
 539. *americana* var. *americana*

PALMER, EDWARD

- 102, in 1894-95. *americana* var. *glandulosa*
 106, in 1894-95. *paucifoliolata*
 106a, in 1894-95, in part. *palmeri*
 110, in 1890. *nivea*
 126, in 1894-95. on *acapulcensis*
 128, in 1874. *viscidula*
 129, in 1874. *indica*

- 129, in 1906. *petraea* var. *grandiflora*
 178, in 1885. *fascicularis*
 204, in 1897. *rosei*
 264, in 1894-95. *villosa* var. *villosa*
 283, in 1894-95. *paniculata*
 414, in 1886. *amorphoides*
 491, in 1886. *villosa* var. *villosa*
 575, in 1896. *rudis*
 775a, in 1890. *rudis*
 808, in 1890. *fascicularis*
 818, in 1890. *nivea*
 901, in 1890. *americana* var. *americana*
 903, in 1890. *amorphoides*
 1050, in 1878-79. *villosa* var. *villosa*
 1102, in 1891. *villosa* var. *villosa*
 1153, in 1891. *petraea* var. *petraea*
 1668, in 1891. *fascicularis*
 1702, in 1891. *amorphoides*
 1740, in 1891, in part. *americana* var. *americana*
 in part. *villosa* var. *villosa*
 s. n., in 1891. *americana* var. *glandulosa*

PALMER, E. J.

9774. *viscidula*

PALMER, W., AND RILEY, J. H.

48. *tenuis*
 449. *tenuis*
 1111. *tenuis*

PARKER, C. F.

- s. n. *virginica*

PARKER (C. S. ?)

- s. n. *sensitiva* var. *sensitiva*

PARKS, H. B.

5075. *viscidula*

PARODI, D.

100. *echinus*

PARODI, L. R.

9892. *rudis*

PAUL, BRO.

568. *pratensis* var. *caribaea*
 593. *americana* var. *glandulosa*

PAVON, J.

36. *tumbezensis*

PEARCE, R.

n. evenia var. evenia

PECK, M. E.

12. americana var. glandulosa
 15. histrix var. incana
 13. paniculata
 14. paniculata
 10. deamii
 11. sensitiva var. sensitiva
 10. filosa

PEDERSEN, T. M.

16. histrix var. incana
 19. denticulata
 19. montevidensis

PENNELL, F. W., ET AL

81. sensitiva var. sensitiva
 34. elegans
 36. mollicula var. breviflora
 85. falcata
 108. paniculata
 37. elegans
 11. paniculata
 70. falcata
 95. brasiliana var. brasiliana
 95a. falcata.
 153a. falcata
 59. americana var. glandulosa
 37. sensitiva var. sensitiva
 38. ciliata
 19. ciliata
 53. sensitiva var. sensitiva
 19. americana var. americana
 12. sensitiva var. sensitiva
 19. sensitiva var. sensitiva
 34. elegans
 12. elegans
 19. villosa var. villosa
 19. sensitiva var. hispidula

PEREZ-ARBELÁEZ, E. (some herbarium numbers?)

1. falcata
 1. fascicularis
 1. americana var. glandulosa
 16. villosa var. villosa
 16. fascicularis

PEREZ-A., E., AND CUATRECASAS, J.

4. falcata

PERBOTTET, G. S.

s. n. brasiliana var. brasiliana

PERSAUD, A. C.

319. sensitiva var. sensitiva

PICKEL, B.

43. evenia var. evenia
 338. sensitiva var. sensitiva
 905. ciliata
 1035, in part. histrix var. densiflora
 in part. histrix var. histrix
 3049. elegans
 3089. scabra
 3695, in part. histrix var. densiflora
 in part. histrix var. histrix
 3728. ciliata
 s. n. evenia var. evenia

PIETERS, A. J.

89. viscidula

PIPER, C. V.

5182. sensitiva var. sensitiva
 5189. brasiliana var. brasiliana
 5190. americana var. glandulosa

PIRES, J. MURÇA, ET AL

140. sensitiva var. sensitiva
 623. evenia var. serrulata
 1256. evenia var. evenia
 1324. ciliata
 1989. paniculata
 2362. histrix var. histrix
 4310. rudis

PITTIER, H.

576. ciliata
 838. sensitiva var. hispidula
 2112. americana var. glandulosa
 2647. sensitiva var. sensitiva
 4548. evenia var. evenia
 4549. pratensis var. caribaea
 4611. rudis
 4863. histrix var. incana
 4918. pratensis var. caribaea
 5092. americana var. glandulosa
 6814. sensitiva var. sensitiva
 6871. americana var. glandulosa
 6908. brasiliana var. brasiliana
 6946. ciliata
 7044. sensitiva var. sensitiva

PITTIER, H.—Continued

7292. *elegans*
 7392. *villosa* var. *longifolia*
 9422. *brasiliانا* var. *brasiliانا*
 9441. *sensitiva* var. *sensitiva*
 9762. *elegans*
 10571. *histris* var. *incana*
 10734. *fascicularis*
 11220. *sensitiva* var. *sensitiva*
 11233. *americana* var. *americana*
 11233a. *brasiliانا* var. *venezolana*
 11321. *evenia* var. *serrulata*
 11324. *brasiliانا* var. *brasiliانا*
 11599. *elegans*
 11621. *brasiliانا* var. *venezolana*
 12866. *villosa* var. *villosa*
 13149. *brasiliانا* var. *brasiliانا*
 13540. *sensitiva* var. *sensitiva*
 13607. *brasiliانا* var. *brasiliانا*
 14471. *histris* var. *histris*
 14482. *brasiliانا* var. *brasiliانا*
 15160. *pratensis* var. *caribaea*

POLLARD, C. L.

1165. *indica*

PORTER, T. C.; SMITH, A. H.; AND
LEIDY, J.

- s. n. *virginica*

PRINGLE, C. G.

725. *villosa* var. *longifolia*
 2515. *americana* var. *flabellata*
 2996. *fascicularis*
 3832. *fascicularis*
 4386. *petraea* var. *petraea*
 4556. *scabra*
 4613. *amorphoides*
 5147. *petraea* var. *petraea*
 5181. *rudis*
 5627. *viscidula*
 5645. *compacta*
 8580. *compacta*
 8709. *petraea* var. *madrensis*
 8861. *villosa* var. *mexicana*
 8862. *villosa* var. *mexicana*
 9093. *scabra*
 11399. *fascicularis*
 11891. *villosa* var. *mexicana*

PRIOR, R. C. ALEXANDER

- s. n. *americana* var. *glandulosa*

PULLE, A. A.

185. *histris* var. *histris*
 500. *paniculata*

PURDIE, W.

- s. n. *ciliata*

PURPUS, C. A.

426. *scabra*
 518. *petraea* var. *petraea*
 1898. *paniculata*
 1899. *elegans*
 1904.' *purpusii*
 1904-1, *purpusii*
 2328, in part. *americana* var. *glandulosa*
 in part. *villosa* var. *villosa*
 3507. *compacta*
 5885. *americana* var. *glandulosa*
 6634. *villosa* var. *villosa*
 6635. *pinetorum*
 7162. *acapulcensis*
 7179. *compacta*
 8384. *purpusii*
 9064. *pinetorum*
 9147. *pinetorum*
 9148. *elegans*
 10813. *villosa* var. *villosa*
 10819. *elegans*
 10854. *paniculata*
 10875. *paniculata*
 11088. *americana* var. *glandulosa*
 13004. *paniculata*
 14305. *purpusii*
 14328. *fascicularis*
 16269. *fascicularis*
 16353. *fascicularis*
 16409. *purpusii*
 s. n. *compacta*
 s. n. *elegans*
 s. n. *paniculata*
 s. n. *villosa* var. *villosa*

QUAINTANCE, A. L.

1167. *viscidula*

QUESTEL, A.

489. *americana* var. *glandulosa*
 641. *sensitiva* var. *sensitiva*
 2481. *americana* var. *glandulosa*
 4245. *americana* var. *glandulosa*
 4468. *americana* var. *americana*
 5104. *americana* var. *americana*

RAIMONDI, A.

9267. *mollicula* var. *mollicula*

RAGONESE, A. E.

3299. *rudis*

RAMBO, B.

35024, in part. *elegans*

in part. *falcata*

46876. *falcata*

RAMIREZ, R.

5. *sensitiva* var. *hispidula*

RAPP, S.

s. n. *indica*

REED, H. R.

s. n. *evenia* var. *serrulata*

REGNELL, A. F.

II.88. *elegans*

III.416. *marginata* var. *marginata*

REITZ, R.

4314. *elegans*

REKO, B. P.

4441. *amorphoides*

RENSON, C.

11. *americana* var. *americana*

RHOADES, W.

s. n. *indica*

RICKSECKER, A. E.

133. *americana* var. *glandulosa*

RICKSECKER, MRS. J. J.

44. *americana* var. *glandulosa*

RIEDEL, L.

123. *fluminensis* var. *fluminensis*

124. *sensitiva* var. *sensitiva*

125. *elegans*

126. *ciliata*

134. *brasiliana* var. *brasiliana*

502. *oroboides*

591. *mollicula* var. *benthamii*

722. *paucifolia*

742. in part. *evenia* var. *serrulata*

in part. *histris* var. *histris*

769. *parviflora*

832. *paniculata*

897. *marginata* var. *marginata*

924. *fluminensis* var. *fluminensis*

943. *podocarpa*

1223. *riedeliana*

1251. *mollicula* var. *benthamii*

1559. *elegans*

2160. *sensitiva* var. *sensitiva*

2393. *paniculata*

2926. *paucifolia*

4268. *paucifolia*

ROBERTSON, J.

s. n. *americana* var. *glandulosa*

RODRIGO, A. P.

746. *montevidensis*

RODRÍGUEZ

768. *montevidensis*

ROJAS, T. (see HASSLER)

ROLFS, P. H.

104. *viscidula*

RONDON, CORONEL (COMISSÃO RONDON)

2009 (6801). *foliolosa*

ROSE, J. N., ET AL

1487. *simulans*

1616. *simulans*

2482. *fascicularis*

2859. *amorphoides*

2859a. *amorphoides*

2937. *fascicularis*

2972. *villosa* var. *mexicana*

3522. *americana* var. *glandulosa*

4300. *elegans*

4702. *compacta*

5853. *compacta*

7394. *fascicularis*

7402. *villosa* var. *villosa*

7542. *villosa* var. *mexicana*

10014. *compacta*

11238. *compacta*

12734. *fascicularis*

13655. *americana* var. *glandulosa*

13655a. *villosa* var. *villosa*

14287. *villosa* var. *villosa*

16461. *vigil*

21657. *villosa* var. *longifolia*

ROSE, J. N., ET AL.—Continued

23349. scoparia
23997. americana var. glandulosa

ROVIROSA, J. N. (herbarium numbers?)

384. americana var. glandulosa
443. ciliata
446. sensitiva var. sensitiva
766. deamii

RUDD, V. E.

332. brasiliana var. brasiliana
366. pratensis var. caribaea
433. americana var. americana
736. virginica
775. virginica

RUGEL, F.

- 129b. americana var. glandulosa
176. viscidula

RUIZ, H., AND PAVON, J.

- s. n. scabra

RUNYON, R.

1956. evenia var. evenia
2859. evenia var. evenia

RUSBY, H. H.

826. A. fluminensis var. fluminensis
1035. elegans
1036. brasiliana var. brasiliana
1037. sensitiva var. sensitiva
1038. histrix var. densiflora
1447. sensitiva var. sensitiva
1604. sensitiva var. sensitiva
1786. A. fluminensis var. fluminensis

RUSBY, H. H., AND PENNELL, F. W.

83. americana var. glandulosa
136. mollicula var. mollicula
295. falcata
461. brasiliana var. brasiliana
1085. falcata
1087. brasiliana var. brasiliana
1089. paniculata
1114. brasiliana var. brasiliana
1146. falcata
1166. americana var. glandulosa

RUSBY, H. H., AND SQUIRES, R. W.

196. sensitiva var. sensitiva

SAER

374. americana var. americana

SAGOT, P.

133. brasiliana var. brasiliana

SALZMANN, P.

- s. n. ciliata
s. n. elegans
s. n. histrix var. densiflora
s. n. paniculata
s. n. sensitiva var. sensitiva

SAMPAIO, A. J. DE

142. elegans
1031. ciliata
2974. brasiliana var. brasiliana
4654. elegans
4964. sensitiva var. sensitiva
6800. elegans
7317. paniculata
7535. sensitiva var. sensitiva
8535. selloi
8908. evenia var. evenia

SAMUELS, J. A.

473. histrix var. histrix

SANTOS, N.

- s. n. falcata

SARGENT, F. H.

- B.5. americana var. americana
243. sensitiva var. sensitiva
529. indica
3278. villosa var. villosa

SCALA, A. C.

172. montevidensis
178. montevidensis
187. montevidensis

SCHIEDE, C. J. W., AND DEPPE, F.

633. villosa var. villosa
s. n. elegans

SCHIMPF, H. J. F.

1063. americana var. glandulosa

SCHIPP, W. A.

64. sensitiva var. sensitiva
628. histrix var. incana
660. paniculata
666. americana var. glandulosa

SCHLIM, L.

205. villosa var. villosa

SCHOMBURGK, R.

181. paniculata
187. histrix var. histrix
603. sensitiva var. sensitiva
803. interrupta
822. histrix var. histrix
846. histrix var. densiflora

SCHOTT, A. C. V. (herbarium numbers?)

276. fascicularis
863. americana var. glandulosa
864. fascicularis
s. n. fascicularis

SCHRAMM, F. E.

s. n. americana var. glandulosa

SCHREITER, R.

5365. evenia var. evenia

SCHULTES, R. E., ET AL.

6168. sensitiva var. amazonica
8205. sensitiva var. amazonica
8276. ciliata
8480. ciliata

SCHULZ, A. G.

1150. falcata
1166. rudis
3017. denticulata
3265. sensitiva var. sensitiva

SCHULZ, E. D.

417. viscidula

SCHWACKE, C. A. W. (see also JOBERT)

80. rudis
s. n. elegans
s. n. falcata

SEEMANN, B. C.

203. pratensis var. caribaea
216. histrix var. incana
486. americana var. glandulosa
2189. petraea var. petraea
s. n. americana var. glandulosa

SELER, C., AND SELER, E.

1180. villosa var. longifolia
2051. pinetorum

3873. fascicularis
3905. fascicularis
4208. villosa var. longifolia
4228. compacta
4237. scabra
4240. americana var. flabellata

SELLOW, F.

s. n. elegans
s. n. histrix var. incana
s. n. montevidensis
s. n. paniculata
s. n. paucifolia
s. n. podocarpa
s. n. selloi
s. n. sensitiva var. sensitiva

SEMPLE, A. T.

211. americana var. americana

SESSÉ, M., AND MOCIÑO, J. M.

1938. amorphoides
1940. fascicularis
1941. fascicularis
1942. fascicularis
1943. villosa var. villosa
1944. villosa var. villosa
1945. scabra
1946. scabra
1947. americana var. flabellata
1948, in part. americana var. glandulosa
in part. villosa var. villosa
1948 bis. scabra
1948 ter. amorphoides

SHAFFER, J. A.

20. villosa var. villosa
107. evenia var. evenia
259. villosa var. villosa
261. americana var. americana
287. tenuis
368. americana var. americana
554a. brasiliana var. brasiliana
2527. americana var. americana
3441. sensitiva var. sensitiva
7690. villosa var. villosa
8937. brasiliana var. brasiliana
10388. americana var. glandulosa
10505. tenuis
10692. tenuis
10711. viscidula

SHAFER, J. A.—Continued

10839. *pratensis* var. *caribaea*
 10842. *fluminensis* var. *tuberculata*
 10991. *viscidula*
 11231. *pratensis* var. *caribaea*
 11732. *tenuis*
 12046. *americana* var. *glandulosa*
 12362. *sensitiva* var. *sensitiva*

SHANNON, W. C.

561. *americana* var. *glandulosa*

SHATTUCK, O.

624. *sensitiva* var. *sensitiva*

SHIMEK, B., AND SMITH, C. L.

42. *fascicularis*
 135. *deamii*

SHREVE, F.

1297. *virginica*
 7088. *nivea*

SIEBER, F. W.

- s. n. (Kohaut). *americana* var. *americana*
 13736 (Herb. No.). *ciliata*

SILVA, A.

106. *evenia* var. *evenia*

SINCLAIR, A.

- s. n. *villosa* var. *villosa*

SINTENIS, P.

79. *villosa* var. *villosa*
 94. *sensitiva* var. *sensitiva*
 94b. *sensitiva* var. *sensitiva*
 374. *americana* var. *glandulosa*
 374b. *americana* var. *glandulosa*
 1103. *sensitiva* var. *sensitiva*
 1990. *americana* var. *americana*
 2006. *sensitiva* var. *sensitiva*
 2957. *villosa* var. *villosa*
 2967. *americana* var. *americana*
 3064. *americana* var. *americana*
 3818. *indica*
 3883. *villosa* var. *villosa*
 5525. *villosa* var. *villosa*
 5560. *americana* var. *americana*

5605. *indica*
 5720. *villosa* var. *villosa*
 5897. *sensitiva* var. *sensitiva*
 6657. *portoricensis*

SKINNER, G. U.

- s. n. *americana* var. *glandulosa*

SKUTCH, A. F.

1465. *elegans*
 1499. *americana* var. *glandulosa*
 1598. *villosa* var. *longifolia*
 2464. *pratensis* var. *caribaea*
 2946. *brasiliiana* var. *brasiliiana*
 2955, in part. *americana* var. *americana*
 in part. *americana* var. *glandulosa*

SMALL, J. K., ET AL

741. *viscidula*
 1589. *viscidula*
 1960. *pratensis* var. *pratensis*
 2564. *pratensis* var. *pratensis*
 3023. *pratensis* var. *pratensis*
 3024. *pratensis* var. *pratensis*
 3091. *pratensis* var. *pratensis*
 6429. *viscidula*
 6510. *viscidula*
 6563. *viscidula*
 6735. *viscidula*
 8818. *indica*
 11534. *pratensis* var. *pratensis*

SMITH, A. C.

2247. *sensitiva* var. *sensitiva*
 2459. *paniculata*

SMITH, C. L.

992. *americana* var. *glandulosa*
 s. n. *americana* var. *glandulosa*

SMITH, C. P.

3196. *virginica*

SMITH, H. H. (including with G. W. SMITH)

217. *sensitiva* var. *sensitiva*
 270. *fascicularis*
 273. *rudis*
 642. *americana* var. *americana*
 708, in part. *brasiliiana* var. *brasiliiana*
 in part. *elegans*
 713. *americana* var. *glandulosa*

SMITH, J. D.

774. *sensitiva* var. *sensitiva*
 283. *americana* var. *glandulosa*
 308. *scabra*

SMITH, L. B., ET AL.

321. *evenia* var. *serrulata*
 313. *evenia* var. *evenia*
 700. *sensitiva* var. *sensitiva*
 774. *paniculata*
 775. *elegans*
 100. *sensitiva* var. *sensitiva*
 125. *paniculata*
 103. *evenia* var. *evenia*
 334. *paucifolia*

SMITH, L. C.

22. *compacta*
 23, in part. *villosa* var. *longifolia*
 in part. *villosa* var. *villosa*
 52. *compacta*

SMITH, S. G.

200. *americana* var. *glandulosa*
 264. *brasiliansa* var. *brasiliansa*

SNEIDERN, K. VON

163. *sensitiva* var. *hispidula*
 166. *elegans*

SOTO H., G.

33. *falcata*

SOUKUP, J.

743. *tumbezensis*

SOUSA BRITTO

4. *brasiliansa* var. *brasiliansa*

SPEGAZZINI, R. A.

0049. *denticulata*

SPRAGUE, T. A.

22. *sensitiva* var. *sensitiva*

SPRUCE, R.

334. *rudis*
 n. *brasiliansa* var. *brasiliansa*
 n. *histris* var. *densiflora*
 n. *paniculata*
 n. *rudis*
 n. *sensitiva* var. *sensitiva*

STANDLEY, P. C., ET AL

(First series, 1921-1941)

19526. *americana* var. *glandulosa*
 19706. *brasiliansa* var. *brasiliansa*
 19829. *scabra*
 20367. *nicaraguensis*
 20426. *paniculata*
 20438. *brasiliansa* var. *brasiliansa*
 20666. *fascicularis*
 20967. *americana* var. *glandulosa*
 21165, in part. *americana* var. *glandu-*
losa
 in part. *villosa* var. *villosa*
 21689. *fascicularis*
 22033. *americana* var. *glandulosa*
 22075. *americana* var. *glandulosa*
 22434. *villosa* var. *villosa*
 22686. *villosa* var. *villosa*
 23251. *americana* var. *glandulosa*
 23494. *americana* var. *americana*
 23602. *villosa* var. *villosa*
 23930. *elegans*
 24289. *americana* var. *glandulosa*
 24359. *americana* var. *glandulosa*
 25153. *brasiliansa* var. *brasiliansa*
 25267. *villosa* var. *villosa*
 25275. *brasiliansa* var. *brasiliansa*
 25405. *americana* var. *glandulosa*
 25518. *americana* var. *glandulosa*
 25540. *americana* var. *glandulosa*
 25586. *brasiliansa* var. *brasiliansa*
 25768. *americana* var. *glandulosa*
 25776. *americana* var. *glandulosa*
 25938. *pratensis* var. *caribaea*
 26042. *brasiliansa* var. *brasiliansa*
 26442. *brasiliansa* var. *brasiliansa*
 26579. *americana* var. *glandulosa*
 26619. *villosa* var. *villosa*
 26787. *americana* var. *glandulosa*
 26806. *brasiliansa* var. *brasiliansa*
 26865. *americana* var. *glandulosa*
 26921. *americana* var. *glandulosa*
 27110. *americana* var. *glandulosa*
 27268. *americana* var. *glandulosa*
 27369. *brasiliansa* var. *brasiliansa*
 27643. *americana* var. *glandulosa*
 27724. *brasiliansa* var. *brasiliansa*
 27818. *pratensis* var. *caribaea*
 28022. *brasiliansa* var. *brasiliansa*
 28066. *americana* var. *glandulosa*
 28325. *americana* var. *glandulosa*
 28735. *americana* var. *glandulosa*

STANDLEY, P. C., ET AL—Continued

- | | |
|---|----------------------------------|
| 28847. americana var. glandulosa | 59807. americana var. glandulosa |
| 28893. villosa var. villosa | 60431a. ciliata |
| 29059. americana var. glandulosa | 60712. americana var. americana |
| 29092. pratensis var. caribaea | 61690. elegans |
| 29111. brasiliansa var. brasiliansa | 64442. villosa var. longifolia |
| 29163. villosa var. villosa | 64668. villosa var. longifolia |
| 29182. americana var. glandulosa | 66706. ciliata |
| 29295. brasiliansa var. brasiliansa | 71035. villosa var. longifolia |
| 29399. villosa var. villosa | 71462. elegans |
| 29477. americana var. glandulosa | 72079. scabra |
| 29747. brasiliansa var. brasiliansa | 72136. sensitiva var. sensitiva |
| 30046. americana var. glandulosa | 72191. sensitiva var. sensitiva |
| 30069. brasiliansa var. brasiliansa | 72263. paniculata |
| 30270. ciliata | 72361. elegans |
| 30514. pratensis var. caribaea | 72677. americana var. glandulosa |
| 30516. ciliata | 73714. americana var. americana |
| 30753. pratensis var. caribaea | 73717. americana var. glandulosa |
| 31560. americana var. glandulosa | 73773. fascicularis |
| 31780. americana var. glandulosa | 73836. americana var. glandulosa |
| 31866. brasiliansa var. brasiliansa | 74022. fascicularis |
| 31964. pratensis var. caribaea | 74194. fascicularis |
| 32083. brasiliansa var. brasiliansa | 74520. fascicularis |
| 32206. americana var. glandulosa | 74552. americana var. americana |
| 32686. americana var. glandulosa | 74724. fascicularis |
| 33280. americana var. glandulosa | 74853. elegans |
| 34760. villosa var. longifolia | 74931. paniculata |
| 35480. elegans | 75101. viscidula |
| 35851. americana var. glandulosa | 75195. fascicularis |
| 40770. pratensis var. caribaea | 75271. americana var. glandulosa |
| 53528. sensitiva var. sensitiva | 75330. paniculata |
| 53583. americana var. glandulosa | 75333. villosa var. villosa |
| 53593. sensitiva var. sensitiva | 75394. americana var. glandulosa |
| 53639. americana var. glandulosa | 75395. elegans |
| 53707. sensitiva var. sensitiva | 75406. viscidula |
| 54020. americana var. glandulosa | 75409. villosa var. longifolia |
| 55227. americana var. glandulosa | 75481. americana var. americana |
| 56005. villosa var. villosa | 75579. elegans |
| 56632. sensitiva var. sensitiva | 75611. paniculata |
| 57942. villosa var. villosa | 75642. americana var. glandulosa |
| 58226. elegans | 75653. fascicularis |
| 58239. brasiliansa var. brasiliansa | 75840. americana var. americana |
| 58610. elegans | 75855. americana var. americana |
| 59053. villosa var. longifolia | 76004. scabra |
| 59099. villosa var. villosa | 76136. fascicularis |
| 59313. americana var. glandulosa | 76172. paniculata |
| 59614. americana var. glandulosa | 76194. viscidula |
| 59682. brasiliansa var. brasiliansa | 76285. americana var. glandulosa |
| 59714. americana var. glandulosa | 76333. paniculata |
| 59777. in part. americana var. glandulosa | 76339. rudis |
| | 76387. scabra |
| | 76391. villosa var. longifolia |
| | 76404. americana var. glandulosa |
| in part. villosa var. villosa | 76532. elegans |

STANDLEY, P. C., ET AL—Continued

- 77166. villosa var. longifolia
- 77478. elegans
- 77614. fascicularis
- 77790. americana var. glandulosa
- 78888. americana var. americana
- 79482. americana var. americana
- 79863. villosa var. villosa
- 82367. villosa var. villosa
- 82370. guatemalensis
- 82530. villosa var. villosa
- 89295. sensitiva var. sensitiva
- 89383. brasiliana var. brasiliana
- 89616. sensitiva var. sensitiva
- 89766. villosa var. longifolia

(Second series, 1947—)

- 205. brasiliana var. brasiliana
- 313. elegans
- 316. elegans
- 540. brasiliana var. brasiliana
- 830. nicaraguensis
- 854. paniculata
- 1036. nicaraguensis
- 1088. brasiliana var. brasiliana
- 1262. brasiliana var. brasiliana
- 1338. nicaraguensis
- 1467. scabra
- 1562. nicaraguensis
- 1822. scabra
- 2094. elegans
- 2245. scabra
- 3145. fascicularis
- 3145a. nicaraguensis
- 3208a. fascicularis
- 3898. elegans
- 4002. scabra
- 4038. scabra
- 4353. nicaraguensis
- 4530. elegans
- 4633. scabra
- 4711a. brasiliana var. brasiliana
- 4990. scabra
- 5738. nicaraguensis
- 5821. brasiliana var. brasiliana
- 5976. sensitiva var. sensitiva
- 6815a. villosa var. villosa
- 8883. sensitiva var. sensitiva
- 9125. sensitiva var. sensitiva
- 10589. sensitiva var. sensitiva
- 12185. scabra
- 12259. elegans
- 12348. scabra

- 12657. histrix var. histrix
- 14665. villosa var. villosa
- 14926. standleyi
- 15598. nicaraguensis
- 18196. brasiliana var. brasiliana
- 24569. americana var. flabellata
- 27456. villosa var. villosa
- 27718. americana var. glandulosa
- 27721. villosa var. villosa
- 28244. brasiliana var. brasiliana
- 28919. brasiliana var. brasiliana
- 28946. fascicularis

STARRY, D. E.

- 256. sensitiva var. sensitiva

STEERE, W. C.

- 2275. fascicularis

STEHLÉ, H.

- 203. americana var. glandulosa
- 271. americana var. glandulosa
- 497. sensitiva var. sensitiva
- 1491. americana var. glandulosa
- 1639. americana var. glandulosa
- 2153. americana var. americana
- 3526. sensitiva var. sensitiva

STEINBACH, J.

- 5280. paniculata
- 5283. falcata
- 5334. pratensis var. caribaea
- 5398. denticulata
- 5402. histrix var. densiflora
- 5505. pratensis var. caribaea
- 5521. americana var. glandulosa
- 5589. americana var. glandulosa
- 6692. falcata
- 6803. sensitiva var. sensitiva
- 6960. paniculata
- 7046. brasiliana var. brasiliana
- 7375. sensitiva var. sensitiva
- 7995. parviflora

STEVENS, E. P.

- s. n. histrix var. incana
- s. n. paniculata
- s. n. sensitiva var. sensitiva

STEVENSON, J. A. (including with J. R. JOHNSTON)

- 207, in part. americana var. americana
- in part. sensitiva var. sensitiva

STEVENSON, J. A. (including with J. R. JOHNSTON)—Continued

380. americana var. americana
1263. villosa var. villosa
1310. portoricensis

STEYERMARK, J. A.

29007. paniculata
29071. fascicularis
29313. viscidula
29468. americana var. glandulosa
29500. compacta
30107. americana var. glandulosa
30190. paniculata
30302a. americana var. glandulosa
30442. americana var. flabellata
30860. villosa var. villosa
30861. villosa var. villosa
30864. paniculata
31117. nicaraguensis
31199. brasiliana var. brasiliana
31268. paniculata
31370. histrix var. histrix
31374. brasiliana var. brasiliana
31376. histrix var. histrix
31823. rudis
31878. rudis
32214. brasiliana var. brasiliana
32501. villosa var. villosa
38027. sensitiva var. sensitiva
38028. ciliata
38440. villosa var. villosa
39599. deamii
39697. sensitiva var. sensitiva
42983. villosa var. longifolia
43729. villosa var. villosa
44360. americana var. glandulosa
45136. americana var. glandulosa
48153. villosa var. longifolia
49584. elegans
50750. viscidula
51388. rudis
52167. americana var. glandulosa
52172. ciliata
57530. brasiliana var. brasiliana
57611. paniculata
57623. histrix var. histrix
60967. sensitiva var. sensitiva

STORK, H. E.

3223. sensitiva var. sensitiva

SVENSON, H. K.

11329. pluriarticulata

SWALLEN, J. R.

10790. elegans
10816. elegans
10827. brasiliana var. brasiliana
10856. brasiliana var. brasiliana
10872. fascicularis
10894. nicaraguensis
10964. elegans
10974. elegans
10983. scabra
10983a. americana var. glandulosa
10994. elegans
10997. paniculata
11067. villosa var. villosa
11158. scabra
11182. elegans
11207. brasiliana var. brasiliana
11209. brasiliana var. brasiliana
11262. brasiliana var. brasiliana
11283. elegans
11337. paniculata
11355. brasiliana var. brasiliana
11374. paniculata
11415. elegans

TAMAYO, F.

261. villosa var. longifolia
766. americana var. americana
898. americana var. americana
1475. brasiliana var. brasiliana
2157. brasiliana var. venezolana
2422. elegans
2663. histrix var. histrix
2779. pratensis var. caribaea

TATE, G. H. H.

10. filosa
30. histrix var. incana

TATNALL, E.

- s. n. virginica

TAYLOR, A. A.

121. tenuis

TAYLOR, N.

394. pratensis var. caribaea

TEJERA, E.

152. histrix var. incana

TEODORO, BRO.

3936. *falcata*
4931. *paniculata*

TERRY, MRS. R. A.

1263. *elegans*

THARP, B. C.

3137. *indica*
4716. *viscidula*
s. n. *evenia* var. *evenia*
s. n. *indica*
s. n. *viscidula*

THIEME, C.

5213. *sensitiva* var. *sensitiva*
5217. *paniculata*

TIDESTROM, I.

7686. *virginica*

TONDUZ, A. (Some Herbarium Pittier numbers)

840. *elegans*
3075. *americana* var. *glandulosa*
3806. *brasiliansa* var. *brasiliansa*
4557, in part. *elegans*
in part. *histris* var. *densiflora*
4708. *americana* var. *glandulosa*
4990. *brasiliansa* var. *brasiliansa*
4994. *brasiliansa* var. *brasiliansa*
7284. *americana* var. *glandulosa*
7323. *americana* var. *glandulosa*
13560. *fascicularis*
13573. *americana* var. *glandulosa*
13591. *villosa* var. *villosa*

TORO, R. A.

316. *sensitiva* var. *hispidula*
369. *elegans*
415. *villosa* var. *villosa*
1327. *elegans*

TORRES-ROJAS, R.

207. *elegans*

TOWNSEND, C. H. T.

- A. 76. *scoparia*

TRACY, S. M., ET AL

174. *viscidula*
193. *indica*
4338. *indica*

4438. *indica*
6460. *viscidula*
s. n. *americana* var. *americana*
s. n. *viscidula*

TRAILL, J. W. H.

133. *sensitiva*
135. *histris* var. *densiflora*

TRIANA, J.

4219. *sensitiva* var. *hispidula*

TÜRCKHEIM, H. VON

376. *villosa* var. *longifolia*
2561. *americana* var. *americana*
8196. *americana* var. *glandulosa*
8506. (II 865). *americana* var. *glandulosa*
8665. (II 1127). *sensitiva* var. *sensitiva*
II 2038. *elegans*

TWEEDIE, J.

- s. n. *elegans*
s. n. *falcata*
s. n. *montevidensis*

UHLER, F. M.

73. *indica*

ULE, E.

2477. *parviflora*
7278. *martii*
7783. *filosa*
7784. *paniculata*
7785. *histris* var. *densiflora*
7787. *fluminensis* var. *fluminensis*
8154. *histris* var. *incana*
8156. *americana* var. *americana*
8157. *paniculata*
s. n. *elegans*

UNDERWOOD, L. M.

- s. n. *viscidula*

UNDERWOOD, L. M., AND GRIGGS, R. F.

66. *sensitiva* var. *sensitiva*
935. *sensitiva* var. *sensitiva*

URIBE-URIBE, L.

1594. *brasiliansa* var. *brasiliansa*

VALERIO R., J.

52. scabra
 297. scabra
 672. brasiliana var. brasiliana
 831. elegans
 1060. scabra
 1067. scabra
 1255. scabra
 1256. americana var. glandulosa
 1359. nicaraguensis
 1391. paniculata
 1411. fascicularis
 1412. americana var. glandulosa
 1441. americana var. glandulosa
 1442. americana var. glandulosa
 1471. brasiliana var. brasiliana
 1529. brasiliana var. brasiliana
 1728. villosa var. villosa
 1729. elegans
 2502. scabra
 2642. scabra
 2938. sensitiva var. sensitiva
 3088. elegans
 3434. rudis
 3526. americana var. glandulosa
 3554. nicaraguensis
 3787. nicaraguensis

VALERIO, M.

261. americana var. glandulosa
 859. pratensis var. caribaea
 922. pratensis var. caribaea
 1143. elegans

VALEUR, E. J.

384. pratensis var. caribaea

VAN HERMANN, H. A.

39. americana var. americana
 39 bis. americana var. americana
 224. americana var. americana
 224a. sensitiva var. sensitiva

VAN SEVERÉN, A.

28. sensitiva var. sensitiva

VARGAS C., C.

458. scoparia
 1989. scoparia

VASCONCELLOS, J.

218. sensitiva var. sensitiva

VELEZ, I.

3314. sensitiva var. sensitiva

VENTURI, S.

72. rudis
 75. rudis
 709. denticulata
 1640. denticulata
 2791. denticulata
 5604. denticulata
 9144. falcata

VIDAL, J.

- s. n. ciliata
 s. n. sensitiva var. sensitiva

WALSH, J. J.

- s. n. evenia var. serrulata

WARMING, E.

82. histrix var. histrix
 3011. parviflora
 3017. paucifolia
 s. n. elegans
 s. n. warmingii

WATSON, S.

18. sensitiva var. sensitiva

WEBBER, H. J.

2. viscidula

WEBERBAUER, A.

4118. scoparia
 4274. weberbaueri
 5910. scoparia
 6071. scoparia
 6176. egena
 6276. scoparia
 6458. scoparia
 7018. scoparia
 7669. tumbezensis
 7746. tumbezensis

WEDDELL, H. A.

2113. leptostachya

WEDEL, H. VON

1531. americana var. glandulosa
 1616. americana var. glandulosa
 2973. americana var. glandulosa

WERDERMANN, E.

2214. pratensis var. caribaea
2259. americana var. glandulosa

WEST, E.

- s. n. americana var. americana

WETMORE, A.

165. americana var. americana

WETMORE, R. H., AND ABBE, E. C.

215. sensitiva var. sensitiva

WHITEHOUSE, E.

44284. viscidula

WIEGAND, K. M., AND MANNING, W. E.

1580. viscidula

WIGGINS, I. L.

11382. nivea
11430. nivea

WILKES EXPEDITION

- s. n. ciliata
s. n. evenia var. serrulata
s. n. sensitiva var. sensitiva

WILLIAMS, LL.

1343. sensitiva var. amazonica
1398. sensitiva var. sensitiva
5846. histrix var. histrix
7961. sensitiva var. sensitiva
8489. deamii
8943. deamii
10566. americana var. americana

WILLIAMS, L. O., ET AL.

6413. paniculata
10568. paniculata
10570. nicaraguensis
10643. brasiliana var. brasiliana
11540. nicaraguensis
12297. nicaraguensis
15723. villosa var. longifolia

WILLIAMS, R. S.

25. falcata
102. histrix var. incana
130. pratensis var. caribaea
186. elegans
359. americana var. glandulosa
389. falcata

WILSON, N.

173. americana var. americana

WILSON, P.

1285. americana var. glandulosa
1741. viscidula
9272. villosa var. villosa

WOODSON, R. E., JR.; ALLEN, P. H.;
AND SEIBERT, R. J.

1768. pratensis var. caribaea

WOODWORTH, R. H., AND VESTAL, P. A.

401. sensitiva var. sensitiva

WRIGHT, C.

- 123, in part. brasiliana var. brasiliana
in part. viscidula
124. americana var. americana
1590, in part. americana var. americana
in part. villosa var. villosa
2304, in part. pratensis var. caribaea
in part. sensitiva var. sensitiva
2305. fluminensis var. tuberculata
2306. tenuis
3531. evenia var. evenia
s. n. deamii
s. n. viscidula

WRIGHT, S.

- s. n. rudis

WURZLOW, E. C.

- s. n. indica

YEPES A., S.

281. sensitiva var. hispidula

ZEHNTNER

42. viscidula
135. viscidula
140. rostrata
141. evenia var. evenia
807. viscidula
s. n. brevipes

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