

# SPHENOCLEA ZEYLANICA AND CAPERONIA PALUSTRIS IN THE SOUTHERN UNITED STATES.

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## SPHENOCLEA ZEYLANICA.

In 1903, a plant was sent to the United States Department of Agriculture for determination from Gueydan, Louisiana, with the intimation that it was a threatening weed in rice fields. It proved to be *Sphenoclea zeylanica* Gaert. and since then has been reported from time to time.

This species was described under its native name, "pongati," and also illustrated by Rheede<sup>1</sup> as early as 1692 and the illustration alone is almost sufficient for the identification of the plant. Adanson<sup>2</sup> mentions it under this vernacular name, citing at the same time the figure by Rheede. In 1788, Gaertner<sup>3</sup> diagnosed the genus and gave a description of the only species under the name here accepted. The illustration by Gaertner shows a pentamerous flower and an ovary with 2 cells and a central placenta. The vernacular name "tembulwaenna" is also given. Jussieu<sup>4</sup> characterized the genus the following year under the name "Pongatium." This author cites Rheede's figure. He places the genus among *Plantae incertae sedis* and in addition to the generic diagnosis he observes as follows:

"Herba aquatica (*Rheede Mal. II. t. 24*); folia alterna; flores dense spicati terminales; horum tubus staminifer mox deciduus. Character ex sicco. Habitus Phytolaccae junioris. An affinis Samolo p. 97, aut Portulacaeis?"

In 1790, Loureiro<sup>5</sup> diagnosed the genus *Rapinia* and described one species, *R. herbacea*, which has been referred by nearly all the great authors to *Sphenoclea zeylanica*. Loureiro evidently referred the bract and two bractlets which subtend the flowers to the calyx, hence his diagnosis of the calyx: "Perianthium 8-partitum, inferum: laciniis subrotundis, concavis: bino ordine, exteriori brevioribus." In all other respects the account given of *Rapinia* agrees well with the characters of *Sphenoclea*. Loureiro appears to have been the first to notice the flowers, for he placed the plant in the class Pentandria and in the order Monogynia of Linnæus's simple, provisional, but very excellent method for determining plants.

In 1791, Retzius<sup>6</sup> described the plant under the name *Gaertnera pangati*. He distinguished the subtending bracts, which he describes

<sup>1</sup> Hort. Malabar. 11: 47. pl. 24.

<sup>2</sup> Hist. Nat. Sénég. 83. 1757.

<sup>3</sup> Fruct. & Sem. 1: 113. pl. 24. f. 5.

<sup>4</sup> Gen. Pl. 423. 1789.

<sup>5</sup> Fl. Cochinch. 1: 127. 1790.

<sup>6</sup> Obs. Bot. 6: 24. 1791.

as "spatulate and distinct," from the inferior 5-lobed calyx. Martius<sup>1</sup> placed the genus in an order Sphenocleaceae by itself, but just preceding the Campanulaceae. Lindley<sup>2</sup> made a suborder Sphenocleaceae, but expressing a doubt as follows:

"This remarkable plant is very much like a campanulaceous genus in structure; but its exalbuminous seeds, the absence of collecting hairs from its styles, and the round sessile anthers, seem to indicate the type of a different order; and the peculiar habit of the only known species seems to confirm the propriety of the separation."

An excellent account of the species has been given by Wight.<sup>3</sup> In his work we find a series of illustrations from the unopened flower to the characteristic spongy, pendulous placenta, the small, oblong seed 0.5 mm. long, and the minute embryo. Figure 10 of plate 138 shows the capsule after the dehiscence has taken place. In specimens at hand this feature is very conspicuous and the remains of the capsule as well as of the placenta can be seen almost with the naked eye. Both Gaertner and Retzius had noted the circumscissile capsule.

The following is a description of the species:

*Sphenoclea zeylanica* Gaert. Fruct. & Sem. 1: 113. pl. 24. f. 5. 1788; Schoenl. in Engl. & Prantl, Pflanzenfam. 4<sup>5</sup>: 61. 1889.

*Pongati* Rheede, Hort. Malabar. 11: 47. pl. 24. 1692; Adans. Hist. Nat. Sénég. 83. 1757.

*Rapinia herbacea* Lour. Fl. Cochinch. 1: 127. 1790.

*Gaertnera pangati* Retz. Obs. Bot. 6: 24. 1791.

*Pongatium indicum* Lam. Tabl. Encycl. 1: 444. 1791.

*Sphenoclea pongatium* DC. Prodr. 7: 548. 1839; Wight, Illustr. Ind. Bot. 2: 115. pl. 138. 1850.

*Pongati zeylanica* Kuntze, Rev. Gen. Pl. 2: 381. 1891.

Herbaceous plant 1 meter high or more; stem branching, from a thick cluster of roots, 1.5 cm. in diameter at the base; leaves mostly oblanceolate, thin, light green, 9 cm. in length or less, tapering to a petiole 1 cm. long; flowers in terminal spikes, 3 to 6 cm. long, the flower subtended by one bract and 2 bractlets (?), these broad, rhombic towards the apex; calyx 5-cleft, the lobes rounded, persistent and inclosing the mature fruit; corolla minute, whitish, 5-lobed; stamens 5, sessile in the sinuses with the corolla lobes alternating; anthers 2-locular, round, dehiscing longitudinally; ovary 2-celled, the style short, the stigmas 2; ovules very numerous on a spongy, central placenta; mature capsule circumscissile, about 3 mm. in diameter; seed oblong, minute, of a light brown color.

The following North American specimens have been examined:

LOUISIANA: Gueydan (in the rice fields), *Pipes*; Crowley, *Aldrich*; southwest Louisiana, *Dodson*; Markville, *W. L. McAtee*.

I have also seen specimens from the Lower Orinoco, collected by Doctor Rusby and from Porto Rico, collected by Heller, by Underwood and Griggs, and by Sintenis.

Recent authors do not seem to have taken cognizance of this weed, although it was already established in Louisiana and other Southern States in Doctor Gray's time. This author gave an account of the plant in the Synoptical Flora of North America.<sup>4</sup>

<sup>1</sup> Consp. Regn. Veg. 31. 1835.

<sup>2</sup> Nat. Syst. ed. 2. 238. 1836.

<sup>3</sup> Illustr. Ind. Bot. 2: 115. pl. 138. 1850.

<sup>4</sup> 2<sup>1</sup>: 10. 1886.



CAPERONIA PALUSTRIS ST. HIL.

## CAPERONIA PALUSTRIS.

*Caperonia palustris* is another plant which has not been noticed very often, but in this country it appears to be of recent introduction. It was described and illustrated by Martyn<sup>1</sup> prior to 1737 (probably in 1735 or 1736). Seeds were introduced into England in 1731, when they were sent to the Chelsea Garden by Houstoun. Its first mention in literature, therefore, precedes the appearance of Linnæus's *Hortus Cliffortianus* (1737). Martyn's description is sufficient for the identification of the plant; his illustration of it is unmistakably the species in question. The description given by Martyn reads:

"*Ricinoides palustre*, foliis oblongis serratis; fructu hispido. Houstoun.

"Caulis huic viridis, pilis albicantibus hirsutus, striatus, concavus, foliis vestitus oblongis, serratis, quatuor uncias longis, tres uncias latis, & nervis donatis conspicuis, a costa media ad latera tendentibus, & in serris foliorum singulis desinentibus. Ex alis foliorum prodeunt pediculi, Flores masculinos longa serie gestantes, exiguos pentapetalos, candidos; infra quos conspiciuntur foeminiini, quibus succedunt Fructus hispidi."

The plate is reproduced herewith to illustrate the excellent work which was done in the dawn of modern botany. According to recent authors<sup>2</sup> the species appears to inhabit Cuba, Haiti, Guadeloupe, Martinique, the territory from Mexico to Guiana, and tropical Africa. Its characters may be given as follows:

*Caperonia palustris* St. Hil. Hist. Pl. Brés. 245. 1824.

PLATE 103.

*Ricinoides palustre*, foliis oblongis serratis fructu hispido. Mart. Hist. Pl. Rar. 173. pl. 38. 1728; DC. Prodr. 15<sup>2</sup>: 755. 1866.

*Croton palustre* L. Sp. Pl. 1004. 1753.

*Caperonia castanaefolia* auct., not St. Hil. loc. cit.

*Androphoranthus glandulosus* Karst. Fl. Columb. 2: 15. pl. 101. 1862.

Plants annual, monoecious, of a light green aspect, about 50 cm. high; stem branching, striate, more or less beset with whitish acicular hairs; leaves on petioles 1 cm. or more in length, varying in outline from oval to linear-lanceolate, prominently nerved, sharply serrate or serrulate, the blades sometimes 15 cm. in length, sparingly pilose; peduncles pubescent, sometimes glandular, axillary, about 10 cm. in length; flowers remotely spicate, the staminate uppermost, bracted; bracts ovate, about 1 mm. long; staminate flowers minute; sepals 5, ovate-acute, 2 mm. long; petals obovate, clawed, slightly exceeding the calyx; stamens 10 or less in number, included; pistillate flowers somewhat larger; calyx cleft nearly to the base; lobes unequal, glandular-ciliate; petals minute or none; ovary sessile, 3-locular; styles short, cleft into numerous filiform lobes; mature capsule hispid with glandular hairs, 1 cm. or less in diameter; seeds subglobose (1 in each cell), about 3 mm. in diameter, minutely alveolate, of a light brown color.

The only North American specimens seen are from Gueydan, Louisiana.

EXPLANATION OF PLATE 103.—Reproduction of Martyn's plate 38, as cited.

<sup>1</sup> Hist. Pl. Rar. 38. pl. 38. The title page of Martyn's work bears the date of 1728, the time when the first fascicle was published.

<sup>2</sup> Urban, Symb. Antill. 4: 344. 1903.