

NOTES ON CERTAIN GENERA OF PARASITIC CYNIPIDAE
PROPOSED BY ASHMEAD WITH DESCRIPTIONS OF
GENOTYPES.

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In his classification of the superfamily Cynipoidea¹ Dr. W. H. Ashmead proposed several new generic names in his key, designating as the type in each case a new species which neither at that time nor since has received fuller description. Eight of these new genera were recognized by Ashmead in a collection of South American Hymenoptera made by H. H. Smith and since acquired by the Carnegie Museum of Pittsburgh. He had planned a paper on the South American Cynipoidea and drawn up a rough outline, but descriptions of species were never written out and the paper was never finished. Although his report on the Chalcidoidea of South America published by the Carnegie Museum states that the Cynipoidea have been returned except for a set of duplicates in his possession, the actual return seems not to have been carried out and the small collection of about 40 specimens has remained in the United States National Museum until the present time substantially as he left it. If these are the "duplicates," the bulk of the collection is not yet located. Without making a full report either on this collection or on the Cynipoidea of South America known to date it seems advisable to write out descriptions of these genotype species whose names are in the literature so that the collection may now be returned to the Carnegie Museum and publish figures of them so that they may be available to students of the South American fauna. Through the courtesy of Dr. W. J. Holland, director of the Carnegie Museum, an exchange has been arranged so that these genotypes, together with seven species of *Liopteron*, three of which were described by Ashmead, may remain in the United States National Museum, where is located probably the largest collection of American parasitic Cynipidae. The balance of the H. H. Smith Cynipid collection has now been returned to the Carnegie Museum. To this attempt to make the relationships of these South American genera better understood are appended a few notes on other genera correcting some errors in the Dalla Torre and Kieffer Monograph of 1910.²

¹ Psyche, 1903, vol. 10.

²Das Tierreich, Lief. 24.

The figures are by the author. Those of antennae and wings from balsam mounts by use of a projection microscope; the others are drawn to scale under a compound microscope by use of a filar micrometer and a two-thirds objective.

Subfamily ANACHARITINAE Dalla Torre.

Genus ACANTHAEGILIPS Ashmead.

Acanthægilips ASHMEAD, Psyche, vol. 8, 1897, p. 67.

Genotype.—*Acanthægilips brasiliensis* Ashmead. Monobasic (fig. 1).

This genus was founded on a single specimen (Cat. No. 23645, U.S.N.M.) from which the following notes have been made supplementing the original description. It was captured in April.

The head seen from in front is triangular, malar space two-thirds eye and with a fine groove, checks not margined. Mounted in bal-

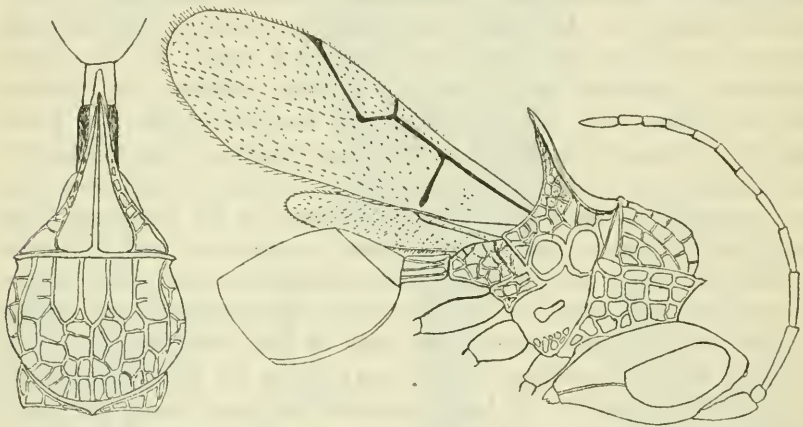


FIG. 1.—ACANTHAEGILIPS BRASILIENSIS ASHMEAD X 24.9. DORSAL VIEW OF THORAX. SIDE VIEW.

sam the first segment of antenna is longer than the third, which in turn is longer than the fourth, 5–12 gradually decreasing, last one and three-fourths times preceding. Truncature of pronotum with a short median tooth above, sides areolate. Mesoscutum broader than long, strongly arched. Scutellum with a median ridge running up the spine and with a triangular polished groove on either side, separated from mesoscutum by a distinct suture. Propodeum prolonged into a neck behind, its upper surface bearing two parallel carinae, between which are several transverse ridges and a median. Petiole of abdomen nearly twice as long as broad and longitudinally ridged. Radial cell three times as long as broad. Second segment of abdomen not distinctly tongue-shaped, not striate, three-fourths as long as the third, which occupies the remainder of the abdomen. Length, 2.85 mm.

Subfamily FIGITINAE Dalla Torre.

Genus KIEFFERIELLA Ashmead.

Kiefferia ASHMEAD, Psyche, vol. 10, 1903, p. 10 (not Mik 1895 in Diptera!).—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 369.

Kiefferiella ASHMEAD, Ent. News, vol. 14, 1903, p. 159; Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221.—DALLA TORRE and KIEFFER, Das Tierreich, 1910, Lief. 24, pp. 83, 887.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, p. 369.

Genotype.—*Kiefferiella rugosa* Ashmead. Monobasic.

Head and thorax very coarsely rugose, head not broadened behind the eyes, cheeks margined, malar space without groove, antennae of female filiform, third shorter than fourth, all flagellar segments long-cylindrical. Pronotum subtruncate in front, the truncation not margined, but with upturned sharp margin behind. Parapsides percurrent. Scutellum rounded behind; two large deep smooth pits at base separated by a narrow septum. Mesopleura separated from sternum by a carina. Wing with closed marginal cell, no areolet, pubescent and ciliate. Abdomen laterally compressed much as in *Ibalia*, longer than head and thorax, second tergite not tongue-shaped, bare, as long as third and fourth united. The character of "hairy eyes" is a very obscure one seen only with high magnification.

The genus may be readily recognized by the use of the Tierreich key.

KIEFFERIELLA RUGOSA Ashmead.

Kiefferia rugosa ASHMEAD, Psyche, vol. 10, 1903, p. 10 (sine desc.).

Kiefferiella rugosa ASHMEAD, Ent. News, vol. 10, 1903, p. 159 (sine desc.); Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, 1910, Lief. 24, p. 83.

Female.—Black with sparse short white pubescence on head and thorax. Head broader than thorax, rugoso-punctate with radiating ridges about mouth, facial line 0.75 transfacial, interocular line 0.58 transfacial, and area 1.4 times as broad as high, malar space 0.7 eye, frons with two smooth impressions above antennae making an elevated triangle with ocelli at broad upper end, antennae said to be 13-segmented (now broken beyond eighth), first longer than third, second almost globular, third three times as long as broad, 4-6 subequal and each about 1.4 times third, eighth longer than third. Pronotum reticulate on sides. Mesoscutum as long as broad, rough with sharp transverse ridges running across the shallow parapsides, anterior lines very short, trace of median behind. Scutellum coarsely reticulate, half as long as mesoscutum, with hind margin vertically ridged and slightly overhanging. Propodeum with two square impressed areas side by side. Mesopleurae with two polished and two sculptured areas, separated from sternum by longitudinal ridge. Front wing with brown veins, radial cell three times as long as broad, cubitus reaching basal, areolet absent, clouded on marginal cell and on distal half of first and proximal part of third cubital cells, surface

pubescent, margin ciliate, not reaching to tip of abdomen. Hind tarsus longer than tibia, second and fifth subequal, claws weak and simple. Abdomen smooth and shining, strongly laterally compressed, longer than head and thorax, second tergite not tongue-shaped, not striate, bare, as long as third and fourth united, the latter subequal, fifth longer than fourth, sixth longer than fifth, seventh short and triangular, the last three being microscopically punctate on sides with a few white hairs near dorsal margin, ventral valves protruding posteriorly, hypopygium plowshare-shaped.

Length, 5.3 mm. Abdomen, 3.25 mm. by 1.45 mm. wide. Wing, 3.5 mm.

Described from one female.

Type.—Cat. No. 23454, U.S.N.M. Type female on tag and parts on slide.

Type locality.—Santa Cruz Mountains, California. C. F. Baker, collector.

Genus (THYREOCERA Ashmead=)FIGITES Latreille.

Thyreocera ASHMEAD, Trans. Amer. Ent. Soc., vol. 14, 1887, p. 154.—DALLA TORRE, Cat. Hym., vol. 2, 1893, p. 4.—KIEFFER in Andre Spec. Hym. Eur., vol. 7, 1902, p. 247, footnote.—DALLA TORRE and KIEFFER in Wytzman, Gen. Ins. Cynipidae, 1902, p. 7.—ASHMEAD, Psyche, vol. 10, 1903, p. 10.—DALLA TORRE and KIEFFER, Das. Tierreich, Lief. 24, 1910, pp. 95, 890.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 376.

Genotype.—*Figites laeviscutum* Provancher (= *nigrifemora* Ashmead).

This genus was distinguished from all other Figitinae by having "a small erect club on its disk posteriorly near the tip." It was proposed in September and *Thyreocera nigrifemora* Ashmead, described from one specimen from Ontario, was the only included species. In January of the same year, however, Provancher's description under the name of *Figites laeviscutum* had preceded Ashmead's³ so that the type must be known as *Thyreocera laeviscutum* Provancher. The specimen on which Ashmead founded the new genus is in the United States National Museum (Cat. No. 23607), and an examination shows that the erect club on the scutellum is nothing more than a small black cinder stuck on at that point. The specimen is a true *Figites* and should be placed in that genus and the name *Thyreocera* should disappear in synonymy.

Genus (FIGITODES Ashmead=)TRISCHIZA Foerster.

Figitodes, ASHMEAD, Trans. Amer. Ent. Soc., vol. 14, 1887, p. 150.—DALLA TORRE and KIEFFER, Wytzman Gen. Ins. Cynipidae, 1902, pp. 4, 8.—ASHMEAD, Psyche, vol. 10, 1903, p. 11.—DALLA TORRE and KIEFFER, Das. Tierreich, Lief. 24, 1910, pp. 98, 886.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 367.

Figitides, COCKERELL, Trans. Kansas Acad. Sci., vol. 16, 1899, p. 213.

This genus was first proposed by Ashmead in 1887 in a key separating it from *Figites*, but no species was mentioned. In 1896 he

³ Addit. faun. Canad. Hym., 1887, p. 170.

described a *Figitodes atricornis*⁴, which, being the first included species, must be the genotype. His subsequent designation in 1903,⁵ accepted by Rohwer and Fagan, of *Figites quinquelineata* Say as the type is therefore erroneous.

Examination of the type specimen of *atricornis* in the United States National Museum (Cat. No. 23069) shows it to be a *Trischiza* as was stated by Dalla Torre and Kieffer in 1902.⁶ *Figitodes* Ashmead thus becomes a synonym of *Trischiza* Foerster.

Subfamily EUCOILINAE Dalla Torre.

Genus ZAMISCHUS Ashmead.

Zamischus ASHMEAD, Proc. Ent., Soc. Wash., vol. 5, 1903, p. 221; Psyche, vol. 10, pp. 60, 68.—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, pp. 101, 891.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 378.

Genotype.—*Zamischus brasiliensis* Ashmead. Monobasic.

Propodeum produced posteriorly into a long tapering neck as long as hind coxae and the abdomen attached to this by an abnormally long slender petiole making a remarkably long and slender body. Petiole as long as rest of abdomen which is laterally compressed, without ring of hair at base, ovipositor exerted. Antennae of female nearly as long as body, third segment smooth, slightly bent, shorter than fourth, distal half of flagellum gradually broadened and laterally compressed as in genus *Peras* Westwood instead of being "gradually thickened toward apex" as stated by Ashmead. Venation of fore wing reduced to basal and one longitudinal vein, costal and margined cells confluent, areolet absent, surface sparsely pubescent, margin ciliate.

This remarkable genus is easily recognized in both the Ashmead and Tierreich keys. The origin of the abdomen and flattened antennae relate it to certain of the Liopterinae.

ZAMISCHUS BRASILIENSIS Ashmead.

Zamischus brasiliensis ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221 (sine desc.); Psyche, vol. 10, 1903, p. 60 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 101.

Female.—Black; legs, except hind coxae, flagellum and base of second tergite brownish. Head smooth and polished with scattered setigerous punctures, cheeks not margined, broader than thorax; seen from above elliptical, axial line three-fourths the transfacial; seen from in front facial and transfacial about equal; interocular space 0.44 transfacial and area 0.73 times as broad as high, malar space 0.4 eye and with fine groove, antennae arising above middle

⁴ Trans. Amer. Ent. Soc., vol. 23, p. 182.

⁵ Psyche, vol. 10, p. 11.

⁶ Wytzman's Gen. Ins. Cynipidae, p. 8, footnote.

of eye, said to be 13-segmented (now broken beyond 10), 3 longer than 1 plus 2, slightly curved, smooth, six times as long as broad and 0.73 length of fourth, 4-10 subequal, longitudinally ridged, from about the seventh on vertically compressed so that in side view the antennae are broadened toward apex, tenth two and one-half times its greatest width. Truncation of pronotum about 0.4 width of head and with two prominent triangular teeth above, its sides polished and produced posteriorly. Mesoscutum somewhat triangular, longer than broad, parapsides represented by rows of punctures, slightly sculptured posteriorly. Scutellum rounded behind, cup large, its surface convex and slightly punctured, tapering in front into septum between the two deep pits, disk punctate axillae longitudinally striate. Propodeum as long as width of head, its neck with two almost parallel carinae above and two less prominent ones on each side. Mesopleurae finely aciculate. Hind coxae cylindrical. Front wing with only the first cross vein and one longitudinal, the apical abscissa of subcosta, cubitus, median, areolet, and costal hinge wanting, radial cell long and narrow, open at base and at margin, cell to wing ratio 1:6, surface sparsely pubescent, margin ciliate. Petiole of abdomen longitudinally ridged, as long as rest of abdomen which is ovate, laterally compressed, bare at base, second tergite largest, ovipositor projecting at tip.

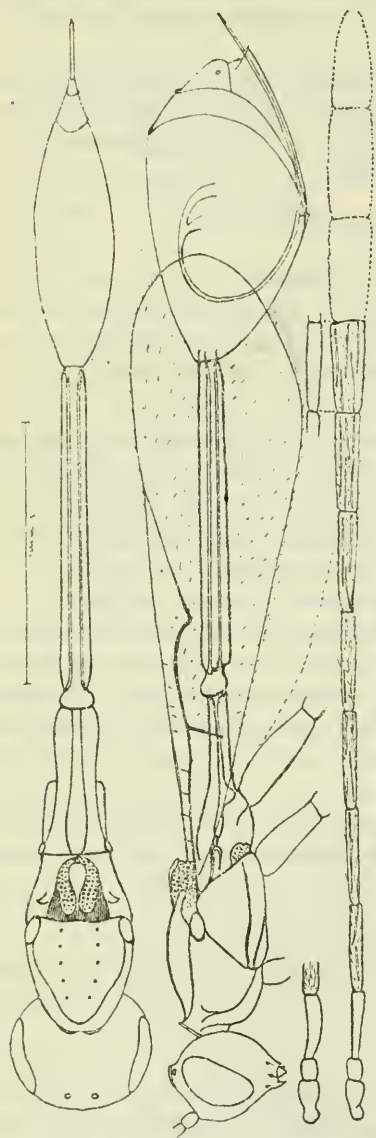


FIG. 2.—ZAMISCHUS BRASILIENSIS ASHMEAD.
DORSAL AND SIDE VIEW OF BODY AND ANTENNA.

Length, 4.1 mm. Antennae, about 3.8 mm. Wing, 2.4 mm. by 0.65 mm. Abdomen, including petiole, 2.5 mm.

Described from one female captured in November by H. H. Smith.

Type.—Cat. No. 23646, U.S.N.M. Body on tag. Wing and abdomen on slide.

Type locality.—Brazil; Santarem.

Genus DIEUCOILA Ashmead.

Dieucoila ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 222 (April 6).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, pp. 101, 884.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 364.

Dieucoela ASHMEAD, Psyche, vol. 10, 1903, pp. 65, 71. (April 15).—SHARP in Zool. Record, vol. 40, 1904, Insects, p. 244.

Genotype.—*Dieucoila subopaca* Ashmead. Monobasic.

Head broader than thorax, longer than broad, eyes bare, cheeks not margined, malar space less than half eye, antennae arising above middle of eyes and facial outline in side view angled at this point, 13-segmented in female, 15-segmented in male with third excavated, not longer than fourth and all flagellar segments cylindrical. Pronotum truncate. Mesoscutum without parapsides or carinae. Scutellum not ending in a spine, cup well raised, narrow, tapering gradually into a prominent median carina which separates the two large pits at base, axillae prominent but not ending in distinct teeth, disk alveolate, rounded or crenate behind. Front wing normal in shape and size, pubescent and ciliate, radial cell closed. Abdomen with hairy ring at base, only normally compressed.

Among the characters used by Ashmead to distinguish this genus was the peculiarity of the dull and sculptured head and thorax and this character alone has been used by Dalla Torre and Kieffer to separate it from all the rest of the *Eucoilinae*. The H. H. Smith South American collection also contained representatives of two other species with the habitus and other generic characters of this genus, and from them it is seen that the above mentioned sculpture is merely a specific character although both show traces of it on the head. The lack of a club in female antennae is evidently a specific character also. The genus is closely related to *Miteucoela* Kieffer whose genotype has a five segmented club and a body without sculpture. It is separated from *Aglaotomidea* Rohwer and Fagan by the lack of an abnormally long third antennal segment in the male.

DIEUCOILA SUBOPACA Ashmead.

Dieucoila subopaca ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 101.

Dieucoela subopaca ASHMEAD, Psyche, vol. 10, 1903, p. 65.

Female.—Reddish-brown, legs and flagellum yellowish. Head and thorax seemingly aciculate but the sculpture really consists of a

series of fine ridges, dull, not polished. Head broader than thorax, facial line 1.06 times transfacial, interocular line 0.4 transfacial and area two-thirds as broad as high, malar space 0.43 eye, radially striate about mouth, antennae arising above middle of eyes and facial outline in side view angled at that point, antennae 13-segmented, 3-6 slender, long-cylindrical and closely joined, 7-13 cylindrical but rounded at ends, becoming somewhat stouter but none broader than second, not forming a club, last three infuscated, third five times as

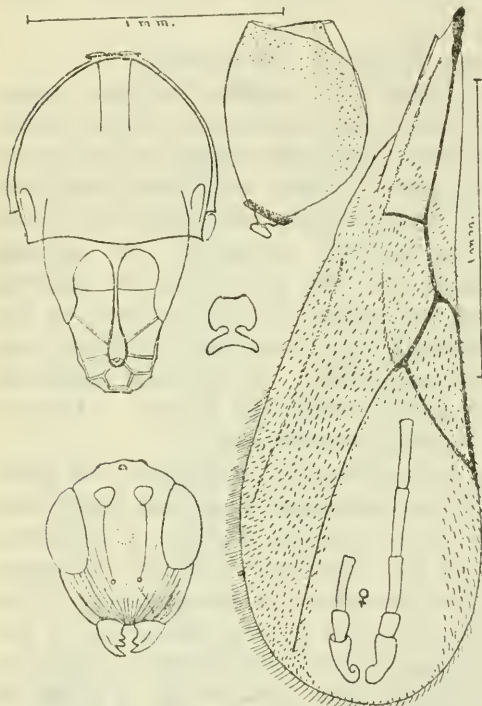


FIG. 3.—*DIEUOCOILA SUBOPACA* ASHMEAD, WING, ANTENNA AND FACE AT SAME MAGNIFICATION.

long as broad; relative lengths as 7:6:15:17:17:16:14:13:11:11:10:10:12. Pronotum with truncature 0.42 times width of head. Mesoscutum broader than long. Scutellum 0.74 length of mesoscutum, disk coarsely alveolate, rounded behind, cup narrow, tapering in front into a narrow septum which separates the two deep pits which are longer than broad, cup not as broad as a pit, and at its posterior end is a small pit in front of which is a prominent tooth making the cup in side view resemble the open mouth of a snake, axillae aciculate. Mesopleura separated from sternum by a sharp carina with a fainter carina above.

Hind tarsus longer than

tibia, claws simple. Veins in fore wing pale, radial cell closed and three times as long as broad, cell to wing ratio 1:4.7, no areolet, pubescent and ciliate, reaching far beyond tip of abdomen. Abdomen only normally compressed, longer than broad, truncate behind, second segment occupying whole length and with hairy ring at base.

Length, 1.8 mm. Wing, 2.3 mm. Antenna, about 2 mm.

Male.—Antennae 15-segmented, 3-5 equal, third excavated and longer than 1 plus 2, 6-14 gradually shorter, last slightly longer than preceding, distal half infuscated. Abdomen longer than broad, truncate behind.

Length, 1.5 mm. Wing, 1.95 mm. Antenna, over 2.5 mm.

Described from three specimens, one male and one female captured in September and one female in April.

Type.—Cat. No. 23652, U.S.N.M. Type female, allotype, one female paratype with parts on slide.

Type locality.—Brazil: Chapada (H. H. Smith, collector).

Genus ODONTEUCOILA Ashmead.

Odonteucoila ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 222; Psyche, vol. 10, 1903, pp. 64, 71.—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, pp. 102, 888.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 371.

Odontoeucoila (typographical error) ASHMEAD, Psyche, vol. 10, 1903, p. 64 last line.

Genotype.—*Odonteucoila chapadae* Ashmead. Monobasic.

Disk of scutellum rugose and prolonged into a tapering blunt spine extending horizontally backward but not reaching beyond hind end of propodeum. Cup narrow, not reaching three-fourths way back to end of scutellum, with the usual pit near hind margin and a slight elevation and a few punctures in front of it. Head broader than thorax, cheeks not margined, malar space less than half eye, antennae arising above middle of eyes, long, filiform, with the third segment shorter than fourth and 4-6 long-cylindrical, flagellum gradually thickened toward apex without distinct club. Wing with closed marginal cell, pubescent and ciliate. Abdomen with hairy ring at base.

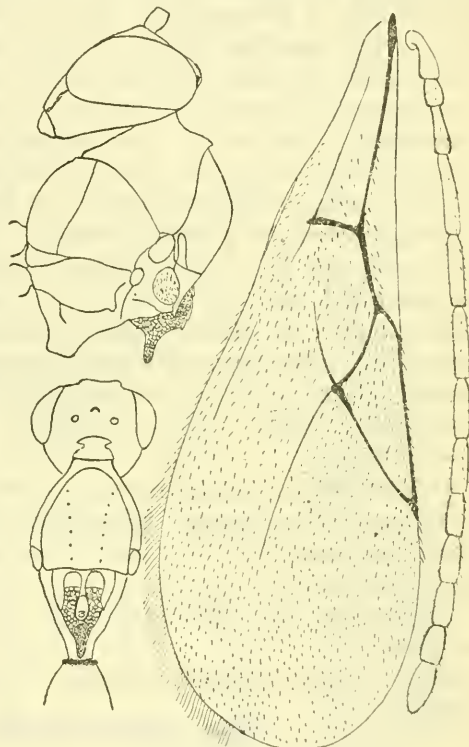


FIG. 4.—DETAILS OF *ODONTEUCOILA CHAPADAE* ASHMEAD.

Related to *Trissodontaspis* Ashmead whose cup extends to tip of scutellum and whose axillae form prominent teeth in either side. In the other two genera with scutellum ending in a spine (*Gonieucoila* Kieffer and *Acanthoeucoila* Ashmead), the spine is produced on the sloping surface of the cup in front of the usual pit and not made by a prolongation of the disk of the scutellum.

ODONTEUCOILA CHAPADAE Ashmead.

Odonteucoila chapadae ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, p. 222 (sine desc.); Psyche, vol. 10, 1903, p. 64 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 102.

Female.—Dark red, head and distal part of antennae infuscated, legs yellowish. Head polished, thorax micro-aciculate yet shining.

Head broader than thorax, seen from in front longer than wide, facial and transfacial lines equal, interocular space 0.42 transfacial and area 0.6 as broad as high, malar space 0.3 eye and with groove, eyes bare, antennae arising above middle of eyes, 13-segmented, 3 equal to 1 plus 2 and 0.56 length of 4, 5 and 6 equal and slightly shorter than 4, gradually shorter to 12 which is 1.6 times as long as broad, last 1.2 times preceding, gradually stouter from about 9 without distinct club. Pronotum truncate, truncation 0.39 width of head and emarginate above. Mesoscutum longer than broad, parapsides represented by a few setigeous punctures. Scutellum 0.83 length of mesoscutum, cup extending back slightly over half-way. Cup one-third width of disk and narrowed in front into a low septum between the two deep smooth pits. Surface of cup bears usual pit near hind margin with a slight elevation and a few punctures in front of it. Disk rugose or reticulate, tapering behind into a blunt horizontal spine. Carinae on propodeum angled in middle, inclosed space longer than broad. Mesopleura separated from abdomen by a distinct carina, another finer one about one-third way up. Fore wings hyaline, radial cell closed, 3.3 times as long as broad and cell to wing ratio 1:4.6, first abscissa of radius shorter than second, no areolet, pubescent and ciliate, extending beyond abdomen. Abdomen normally compressed, longer than broad, second tergite occupying whole length, hairy ring at base.

Length, 1.9 mm. Wing, 2.05 mm. Antenna, 1.9 mm. Abdomen, 0.9 mm.

Described from one specimen. Ashmead stated that the male has 15-segmented antennae. There were once in the collection two other specimens now lost from the tags and one or both of these may have been males.

Type.—Cat. No. 23647, U.S.N.M. Type female on tag and parts on slide.⁷

Type locality.—Brazil: Chapada. Collected by H. H. Smith in August.

Genus *TRISSODONTASPIS* Ashmead.

Trissodontaspis ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 222; Psyche, vol. 10, 1903, pp. 65, 71.—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, pp. 102, 891.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 377.

Genotype.—*Trissodontaspis rufipes* Ashmead. Monobasic.

Head broader than thorax, cheeks not margined, antennae filiform, flagellar segments all long-cylindrical, third smooth, slightly curved and shorter than fourth. Truncation of pronotum deeply emarginate above making two triangular teeth. Mesoscutum without parapsides or carinae and like head and axillae polished. Scutellum with prominent median carina which is dilated posteriorly into a narrow cup whose distal portion including the pit is vertical—

⁷ After drawing was completed the body was unfortunately lost from tag.

hence the cup resembles a funnel. The axillae form prominent slightly upturned teeth on either side of the two large pits making the scutellum tridentate from above, the median being the longest and formed of the cup and disk together and truncate at end. The disk is margined postero-laterally and rugose-punctate. Propodeum as long as scutellum. Wing with closed marginal cell, pubescent, ciliate. Abdomen with a ring of hairs at base.

TRISSODONTASPIS RUFIPES Ashmead.

Trissodontaspis rufipes ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 222 (sine desc.); Psyche, vol. 10, 1903, p. 65 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 102.

Female.—Polished black, legs and abdomen red, the latter infuscated on median dorsal line. Head broader than thorax, with scattered setigeous punctures on face, facial and transfacial equal, interocular space 0.47 transfacial and area 0.8 as broad as high, malar space 0.42 eye with a very fine groove, eyes with sparse microscopic hairs, cheeks not margined, antennae arising above middle of eyes, 13-segmented, flagellum of long-cylindrical segments, third segment slightly curved, smooth, equal to 1 plus 2, slightly shorter than 4, 6-8 longest, 9-12 decreasing, the last 1.15 times preceding. Pronotum truncate, truncation 0.44 width of head with deep angular notch above, usual lateral indentations and tuft of pubescence on either side.

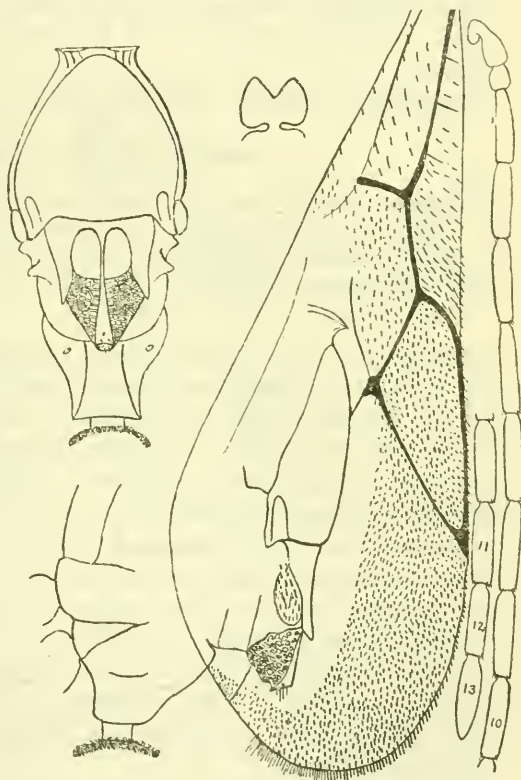


FIG. 5.—DETAILS OF *TRISSODONTASPIS RUFIPES* ASHMEAD.

Mesoscutum as broad as long, no parapsides and but few punctures. Scutellum two-thirds as long as mesoscutum, cup reaching to tip; two large smooth pits longer than broad at base separated by a septum which runs back as a longitudinal ridge becoming broader and bearing four punctures on its top and trun-

cate like a funnel at the end. The disk rugoso-punctate, margined on sides and prolonged so as to form with above cup a blunt spine. On outer edge of each pit the axilla forms a prominent tooth which reaches a little beyond middle of scutellum. Propodeum somewhat prolonged into a neck, the carinae converging in front. Mesopleura separated from sternum by distinct carina with a finer ridge just above it. Metapleura pubescent with bare spot above. Wings dusky, reaching beyond abdomen, radial cell closed, three times as long as broad, cell to wing ratio 1:3.8, first abscissa of radius shorter than second, no areolet, surface pubescent, margin ciliate. Abdomen longer than broad, normally compressed, obliquely truncate behind, second tergite occupying 0.7 and with ring of hairs at base.

Length, 3.35 mm. Antenna, 3.8 mm. Wing, 3.15 mm.

Described from one specimen, captured in April.

Type.—Cat. No. 23649, U.S.N.M. Type female on tag and parts on slide.

Type locality.—Brazil: Chapada (H. H. Smith).

Genus ZAEUCOILA Ashmead.

Zaeucoila ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 222 (April 6).—

DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, pp. 102, 891.—

ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 378.

Zaeucoila ASHMEAD, Psyche, vol. 10, 1903, pp. 66, 71 (April 15).—SHARP in Zool. Record, vol. 40, 1904, Insects, p. 244.

Genotype.—*Zaeucoila unicarinata* Ashmead. Monobasic.

Short, robust. Head not broader than thorax, cheeks margined, antennae in male with first segment of flagellum slightly longer than second, all flagellar segments oblong-oval, twice as long as broad (not "about thrice" as stated by Ashmead with "first joint of flagellum not longer than second"). Pronotum truncate. Mesoscutum shorter than broad, polished, with a low median ridge which is widest in front and tapers gradually to a point at or near hind margin, short grooves just over fore wings. Scutellum rounded behind, cup large, almost circular, over half as wide as disk, reaching nearly as far back as disk, pits at base large and deep, disk rugose. Mesopleura separated from sternum by carina. Radial cell short, closed, wing surface pubescent and margin ciliate. Abdomen with ring of hairs at base.

Separated from *Moneucoela* Dalla Torre and Kieffer, *Friveniella* Kieffer, and *Rhabdeucoela* Kieffer, which all have a median longitudinal ridge on mesoscutum, by the short and closed radial cell.

ZAEUCOILA UNICARINATA Ashmead.

Zaeucoila unicarinata ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 222 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 103.

Zaeucoila unicarinata ASHMEAD, Psyche, vol. 10, 1903, pp. 66, 71.

Male.—Black, legs and flagellum piceous. Head as broad as thorax, with scattered setigerous punctures on polished face, interocular space 0.45 transfacial and area 0.8 as broad as long, malar space less than half eye and with striate line to mouth, eyes bare, cheeks margined, occiput concave, antennae 15-segmented, third slightly bent, in balsam slightly longer than fourth, rest ellipsoidal, twice as long as broad, the last slightly longer than preceding. Pronotum truncate, truncation 0.6 transfacial, arcuately emarginate above. Mesoscutum 0.6 as long as broad, without parapsides, polished, a low smooth but distinct median ridge tapers gradually from front margin to a point at or near scutellum, two short grooves just above fore wings. Scutellum nearly as long as mesoscutum, with two transverse pits at base, cup large, 0.69 width of disk, oval, surface slightly concave with a depression in center surrounded by 6–7 punctures, disk rugose, rounded behind. Carinae on propodeum slightly bent outward, converging to a polished median area above the foramen. Mesopleura smooth, separated from sternum by a carina, traversed by a longitudinal carina. Wing with heavy veins about the short closed radial cell, which is 1.6 times as long as broad, cell to wing ratio 1:4.5, first cubital cell and course of median vein slightly clouded, surface pubescent, margin ciliate, reaching beyond tip of abdomen. Abdomen longer than broad, slightly shorter than thorax, normally compressed, only second tergite visible, with hairy ring at base.

Length, 1.3 mm. Wing, 1.5 mm. Antenna, 1.68 mm.

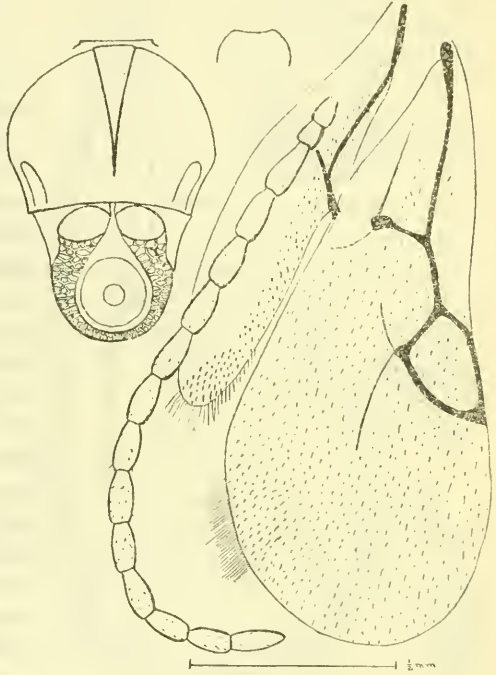


FIG. 6.—DETAILS OF ZAEUCOILA UNICARINATA ASHMEAD.

Described from one specimen collected in August.

Type.—Cat. No. 23650, U.S.N.M. Type male on tag and parts on slide.

Type locality.—Brazil: Rio de Janeiro (H. H. Smith, collector).

Genus *PROMIOMERA* Ashmead.

Promiomera ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221 (April 6).—

DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, pp. 104, 889.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, p. 373.

Promiomocra ASHMEAD, Psyche, vol. 10, 1903, pp. 63, 70 (April 15).—SHARP in Zool. Record, vol. 40, Insects, p. 244.

Genotype.—*Promiomera filicornis* Ashmead.

Head broader than thorax, cheeks not margined, malar space less than half eye, antennae of male filiform, third slightly bent and not over half length of second, rest of flagellar segments long, cylindrical. Pronotum truncate. Mesoscutum smooth and polished without grooves or carinae. Scutellum with two pits at base, cup high and circular, half as wide as disk and not reaching back to its hind margin; disk areolate, rounded behind. Mesopleura separated from sternum by carina. Wing with closed radial cell, pubescent, ciliate. Abdomen with

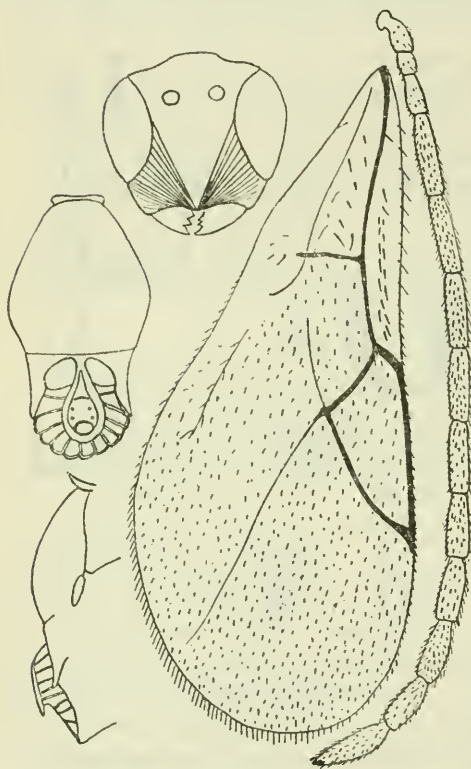


FIG. 7.—DETAILS OF *PROMIOMERA FILICORNIS* ASHMEAD. ring of hairs at base.

PROMIOMERA FILICORNIS Ashmead.

Promiomera filicornis ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221 (sine desc.).—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 104 (sine desc.)

Promiomocra filicornis ASHMEAD, Psyche, vol. 10, 1903, pp. 63, 70.

Male.—Red, head infuscated. Head broader than thorax; seen from in front facial line 0.8 transfacial, interocular space 0.44 transfacial and area 0.79 as broad as long, malar space 0.36 eye, face covered with striae radiating from mouth upward except on a median V-shaped polished area, eyes bare; seen from above axial line 0.54 transfacial, occiput slightly truncate but cheeks not margined, antennae arising above middle of eyes, 13-segmented, flagellum

segments all long-cylindrical, third slightly bent, not longer than first and only half as long as fourth, 5-7 equal and 3.5 times as long as broad, 8-12 gradually shorter, last equal to fourth. Pronotum truncate, truncation 0.4 width of head and emarginate above, usual notches below with pubescent patches on front margin on sides. Mesoscutum as long as broad, smooth, polished. Scutellum 0.72 length of mesoscutum, cup large, circular, reaching back 0.85 of its length, depressed in front into septum between the two smooth deep pits; cup with a thin whitish rim, a shallow circular depression on top in which is a transverse pit near hind margin and a few punctures; disk areolate, crenate behind and margined, overhanging metathorax. Propodeum face perpendicular, carinae angled. Mesopleura smooth, separated from sternum by a carina and crossed obliquely by a longitudinal ridge. Hind tibia equal to tarsus, claws simple. Front wing hyaline, veins brownish, radial cell closed, 2.6 times as long as broad, cell to wing ratio 1:4, first abscissa of radius about half of second, areolet wanting, cubitus not reaching basal, surface pubescent, margin ciliate, reaching beyond tip of abdomen. Abdomen polished, normally compressed, longer than broad, second tergite occupying entire length, with ring of hairs at base.

Length, 2.1 mm. Wing, 2.6 mm. Antenna, 3.1 mm.

Described from one specimen collected in August.

Type.—Cat. No. 23651, U. S. N. M. Type male on tag and parts on slide.

Type locality.—Brazil: Chapada (H. H. Smith).

Genus TROPIDEUCOILA Ashmead.

Tropideucoila ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 377.

Tropideucoila ASHMEAD, Psyche, vol. 10, 1903, pp. 61, 68.—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, p. 240.

Genotype.—*Tropideucoila rufipes* Ashmead. Monobasic.

Robust. Head not broader than thorax, cheeks margined, malar space less than half eye and with groove, antennae arising above middle of eyes, stout, submoniliform, third not distinctly longer than fourth, 5-12 long oval, not twice as long as broad. Mesoscutum with five longitudinal carinae which do not converge and meet before reaching scutellum but remain distinct and parallel and well separated clear to base of scutellum, the four broad grooves between them shallow and polished, short grooves over fore wings. Scutellum with two pits at base, cup large, half width of disk, longer than broad; disk sculptured and truncate. Mesopleura separated from sternum by carina. Wing with open radial cell, pubescent and ciliate. Abdomen *with* (not without, as stated by Ashmead) a narrow circle of hairs at base, normally compressed.

Related to *Trisseucoela* Kieffer, from which it is separated by the ring of hairs at base of abdomen.

TROPIDEUCOILA RUFIPES Ashmead.

Tropideucoila rufipes ASHMEAD, Proc. Ent. Soc. Wash., vol. 5, 1903, p. 221 (sine desc.).

Tropideucoila rufipes ASHMEAD, Psyche, vol. 10, 1903, p. 61 (sine desc.).—
DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 240.

Female.—Black, antennae rufous, infuscated toward apex, legs brownish. Head almost as broad as thorax, polished, bare except for a transverse pubescent line below each lateral ocellus; seen from

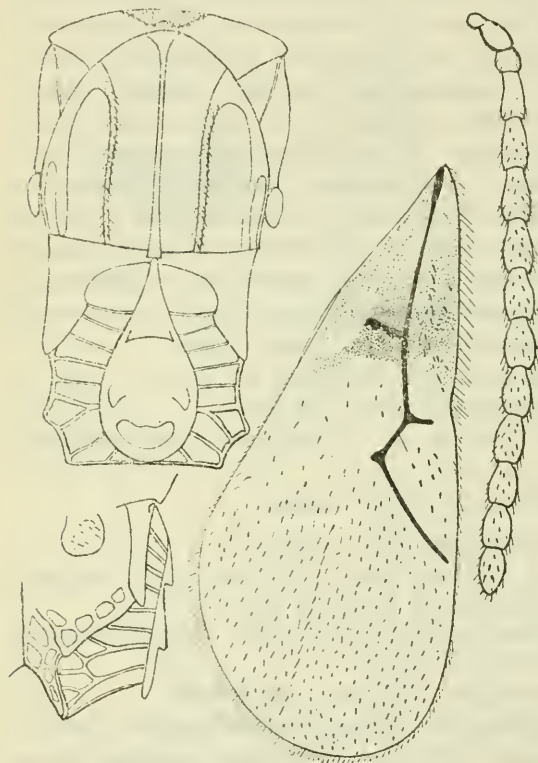


FIG. 8.—TROPIDEUCOILA RUFIPES ASHMEAD.

in front facial line 0.92 transfacial with a notch at vertex above median ocellus, interocular line 0.44 transfacial and area 0.7 as broad as long, malar space 0.36 eye with a few striae to mouth, eyes bare, antennae arising above middle of eyes, stout, 13-segmented, third slightly shorter than fourth, both tapering slightly toward base, 5–12 subequal, oblong-oval, last scarcely longer than preceding, 3–6 gradually stouter, 7–10 about 1.6 times as long as broad, slightly tapering beyond 10; seen from above head is transverse, axial line 0.54 transfacial, cheeks margined behind eyes. Pronotum

truncate, truncation margined, undulate above with two pubescent spots on top, 0.7 as wide as head, sides areolate. Mesoscutum broader than long, with five longitudinal carinae, the three dorsal ones and the four broad shallow polished grooves being conspicuous in top view, the median ridge is narrow and bare but abruptly broadened at front and gradually enlarging slightly behind, parapsidal ridges percurrent, almost parallel, bearing setigerous punctures, lateral ridges bare and broader than median, a short groove over each fore wing. Scutellum 0.9 as long as mesoscutum, cup large, high, half as wide as disk, longer than broad, tapering in front into a septum between the two large transverse pits; surface of cup bears

a reniform impression behind, two low teeth near middle and a transverse ridge near front (best seen in profile), margin of cup thin; disk areolate, prominent ridges running up under cup, truncate behind with a prominent notch and two teeth at each hind corner, sides margined. Mesopleura polished, separated from sternum by carina, with two longitudinal ridges above. Hind tarsus shorter than tibia, claws simple. Basal third of wing dusky, rest hyaline, apical abscissa of subcosta bent up perpendicular to front margin, radial cell open, neither vein quite reaching margin, one and seven-eighths times as long as broad, cell to wing ratio 1:3.5, areolet, cubitus and median wanting, surface pubescent and margin ciliate, reaching beyond tip of abdomen. Abdomen smooth and polished, slightly longer than broad, second tergite occupying whole length, with narrow fringe of hairs at base, normally compressed.

Length, 1.75 mm. Wing, 1.9 mm. Antenna, 1.8 mm.

Described from one specimen collected in April.

Type.—Cat. No. 23648, U.S.N.M. Type female on tag and parts on slide.

Type locality.—Brazil: Chapada (H. H. Smith).

Genus ACANTHEUCOELA Ashmead.

Acantheucoela ASHMEAD, Trans. Ent. Soc. London, 1900, p. 333.—DALLA TORRE and KIEFFER, Wytsman Gen. Ins. Cynipidae, 1902, p. 36.—ASHMEAD, Psyche, vol. 10, 1903, pp. 67, 72.—DALLA TORRE and KIEFFER, Das Tierreich, Lief. 24, 1910, p. 248.—ROHWER and FAGAN, Proc. U. S. Nat. Mus., vol. 53, 1917, p. 359.

Genotype.—*Acantheucoela armata* (Cresson). Monobasic.

In both of the Dalla Torre and Kieffer papers mentioned above this genus is placed at the end of the Eucoilinae and not numbered as if it were either doubtfully included in this subfamily or its relationships uncertain. The genus was founded on a single specimen from Cuba and originally described as *Cynips? armatus* Cresson and now in the collection of the American Entomological Society in Philadelphia. The United States National Museum has one specimen of this species, compared with the type by Mr. H. L. Viereck, collected in May, 1910, by H. A. Ballou on Montserrat, in the Lesser Antilles. From this specimen the following notes on generic characters and drawings (fig. 9) have been made. The head is longer than broad, cheeks margined, malar space with groove, shallow sculptured grooves from upper corners of clypeus upward along inner margins of eyes to level of antennae. Sides of pronotum with longitudinal ridges. Mesoscutum with faint parallel anterior lines. Mesopleura separated from sternum by a carina and traversed by a longitudinal ridge.

Acantheucoela belongs in the Eucoilinae and is closely related to *Gonieucoela* Kieffer, which may prove to be a synonym of it. In

both of these genera the scutellum is angled so that it presents a dorsal and a nearly vertical or backward-looking surface, both deeply hollowed out. The cup is situated at the angle where these two slopes meet and it itself arched so that the posterior part bearing the usual pit faces backward. Just in front of this depression is the spine, which projects back horizontally. The spine is thus produced on the dorsal surface of the cup and does not involve the disk, which

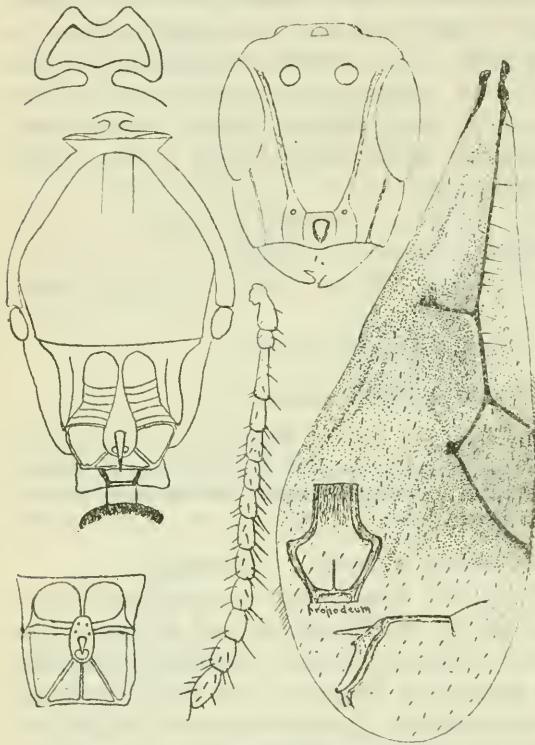


FIG. 9.—DETAILS OF ACANTHEUCOELA ARMATA (CRESSON).

is rounded behind or truncate. In *Acantheucoela* the carinae on propodeum are parallel anteriorly, suddenly diverging about middle to twice former distance apart and then gradually converging to former distance apart at posterior margin. In *Gonieucoela* the ridges are said to approach in front of middle and diverge toward either end. In *Acantheucoela* the pits of scutellum are normal, rounded, not reaching over halfway to base of spine on cup, and the disk behind the cup bears three ridges to posterior margin. In *Gonieucoela* the pits are quadrangular, reaching whole length of dorsal slope of scutellum, that is to base of spine and behind the cup there are two carinae diverging to hind margin.

Genus DICERATASPIS Ashmead.

Genotype.—*Dicerataspis grenadensis* Ashmead.

The genus *Dicerataspis* was founded by Ashmead on a unique female, described in 1896⁸, which was said to have the abdomen bare at the base. Later⁹ he described the male from two specimens, one of which is in the United States National Museum. It has a distinct hairy ring at base of the second tergite. Through the kind-

⁸ Proc. Zool. Soc. London (1895) p. 744.

⁹ Trans. Ent. Soc. London (1900) p. 246.

ness of Mr. James Waterston I am able to state that the genotype female in the British Museum also has this hairy ring at the base of the abdomen. These hairs are fine and although close together stand up straight so that when viewed from certain positions the girdle might be easily overlooked as it has not the glistening white, woolly, or felt-like appearance characteristic of certain genera. In order that the genus may be recognized it should be transferred to a different section of the Dalla Torre and Kieffer key where it will stand close to *Piezobria* Foerster whose scutellum is emarginate behind and hence only obscurely two-toothed. The posterior angles of the scutellum of *Dicerataspis* are prolonged into distinct teeth. *Dicerataspis* is also closely related to the neotropical genus *Dissodontaspis* Kieffer, described in 1909¹⁰, which may prove a synonym of it.

¹⁰ Bull. Soc. Hist. nat. Metz vol. 26, p. 59.