

EXPLANATION OF LETTERING.

- 1-9 = tergites.
I-X = sternites.
9pl = ninth pleuron.
an = anus.
bp = basal-piece.
cm1 = first connecting membrane.
cm2 = second connecting membrane.
ej = ejaculatory duct.
fg = flagellum.
g = accessory glands.
gi = genital invagination.
is = internal sac.
ll = lateral lobe.
ml = median lobe.
mo = median orifice.
ms = median strut.
pt = undifferentiated tg, ml, and is.
sp = spiculum.
te = testes.
tec = testicular cord.
tg = tegmen (pregenital tube = tg+ml+is).
tgs = tegminal strut.
vd = seminal ducts.
vs = seminal vesicle.

NEW SOUTH AMERICAN GALL MIDGES.

BY E. P. FELT,
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The following accounts are based mostly on a small collection generously donated to the State Museum by C. P. Alexander of Cornell University. The South American gall midge fauna, as shown by fragmental studies here and there, is extremely interesting. It is sincerely hoped that collectors working in that part of the world will, in the future, be able to give more attention to these midges.

Porricondyla parrishi sp. nov.

The species described below was collected by H. S. Parrish, December 27, 1912, at Bartica, British Guiana, and donated to the state collections by C. P. Alexander.

Male: Length, 1.5 mm. Antennæ probably one-half longer than the body, sparsely haired, dark straw; at least 11, and probably 16 segments, the fifth with a stem one-half longer than the cylindrical basal enlargement, which latter has a length one-half greater than its diameter, a thick subbasal whorl of short, stout setæ and a sparse subapical whorl of long, slender setæ; low circumfili occur at the basal third and apically; terminal segment wanting. Palpi; first segment subquadrate, with a length nearly twice its diameter, the second a little longer, more slender, the third about two and one-half times the length of the second, irregular, the fourth one-half longer than the third, more slender. Mesonotum reddish brown. Scutellum and postscutellum yellowish white. Abdomen rather sparsely haired, mostly dark brown dorsally, the pleuræ, venter and enlarged genitalia yellowish. Wings hyaline, the two branches of the fifth vein very short and approaching the condition found in *Colpodia*. Halteres mostly yellowish transparent. Coxæ pale yellowish, the legs mostly pale straw; claws stout, evenly curved, unidentate, the pulvilli about two-thirds the length of the claws. Genitalia; basal clasp segment rather short, broadly and triangularly oval; terminal clasp segment moderately long, somewhat swollen near the middle and tapering to a roundly toothed apex; dorsal plate moderately long, narrowly divided, the lobes moderately broad and broadly rounded; ventral plate long, deeply and triangularly emarginate, the broad lobes broadly rounded and sparsely setose apically.

Type: Cecid. 1603.

Johnsonomyia braziliensis sp. nov.

This midge is allied to the Guatemalan *J. cincta* Felt, from which it is easily separated by its smaller size, differences in coloration and in the structure of the palpi and ovipositor. The specimen is labeled Igarape-Assu, State of Pará, Brazil, February 4, 1912, and is a part of the Cornell University collections.

Female: Length, 4 mm. Antennæ as long as the body, thickly haired, yellowish transparent; at least 15, and probably 16 segments, the fifth with a stem nearly equal to the thickly haired, cylindric basal enlargement, which latter has a length about twice its diameter and a distinct constriction near the basal third; terminal segment missing. Palpi; first segment with a length about four times its diameter, the second a little longer, slightly thicker, the third a little shorter and more slender than the second, the fourth one-fourth longer than the third, more slender, all thickly haired. Eyes black, holoptic. Mesonotum mostly yellowish transparent, with variable light fuscous markings. Scutellum and postscutellum light fuscous yellowish. Abdomen sparsely clothed with long, whitish hairs, mostly yellowish orange, the dorsum of the third to the seventh segments brownish, the ovipositor pale yellowish. Wings subhyaline with an ill-defined, irregular, fuscous shade resting basally upon the crossvein and extending as a faint, oblique band across the wing, the distal half of the simple fifth vein being distinctly shaded; subcosta unites with the margin near the distal third, the third vein well beyond the apex and the fifth near the basal third; halteres yellowish transparent. Coxæ fuscous yellowish, the legs thickly haired, mostly whitish transparent, except that there is

a brownish shade at the apices of the tibiae; the simple claws stout, strongly curved apically, the pulvilli rudimentary. Ovipositor short, the terminal lobes irregularly quadrangular, obliquely truncate distally and apparently with a flattened, plate-like process at the basal third of presumably the ventral margin; dorsally there are a pair of thickly setose processes tapering to broadly rounded apices.

Type: Cecid. 1593.

Ouradiplosis gen. nov.

The female referred to this genus presumably belongs in the trifili and is easily distinguished from all other Itonidinariae known to us, by the greatly produced, slender, terminal lobes.

Type: *O. aurata* sp. nov.

Ouradiplosis aurata sp. nov.

The midge described below is labeled Igarape-Assu, State of Pará, Brazil, January 26, 1912. The type is in the collections of Cornell University.

Female: Length, 3.5 mm. Antennae probably as long as the body, pale yellowish, sparsely haired, with at least 13 and probably 14 segments, the third and fourth free, the fifth with a stem one-third the length of the cylindrical basal enlargement, which latter has a length about three times its diameter, a thick subapical band of long, stout setae and low circumfili at the basal third and apically; terminal segment missing. Eyes holoptic. Palpi; the first segment globose, the second stout, with a length four times its diameter, the third longer than the second, more slender, the fourth three-fourths the length of the third, slender. Mesonotum a nearly uniform yellowish brown, the submedian lines sparsely haired, scutellum and post-scutellum brownish yellow, the abdomen yellowish brown. Wings with the membrane thickly clothed with golden brown hairs, giving a pronounced color, costa light straw, subcosta uniting with the margin just beyond the middle, the crossvein rudimentary, the third vein stout, especially from the crossvein and beyond, and joining the margin well beyond the apex; the fifth vein joining the posterior margin at the distal third, its straight branch shaded with fuscous hairs, uniting with the posterior margin at the basal third; halteres pale yellowish. Coxae, femora and tibiae pale yellowish orange, the tarsi wanting. Ovipositor short, the terminal lobes sparsely setose, slender and with a length nearly equal to that of the body segment; dorsad of the terminal lobes there is a flattened, hemispherical, sparsely setose, somewhat irregular median elevation.

Type: Cecid. 1594.

This large sized species, although the male is unknown, may be easily recognized by its marked coloration and the peculiar structure of the posterior extremity of the abdomen.

Delphodiplosis gen. nov.

The prolongation of the mouthparts and unidentate claws suggests a relationship with *Stomatosema* Kieff., from which it may be most easily separated by the smaller number of antennal segments. There is also no such curvature of the claws as is attributed to the European genus.

Type: D. cinctipes n. sp.

Delphodiplosis cinctipes sp. nov.

The strikingly colored midge described below was collected December 16, 1912, at Bartica, British Guiana, by Mr. H. S. Parrish and donated to the state collections by Mr. C. P. Alexander.

Female: Length, 3 mm. Antennæ nearly as long as the body, rather thickly white-haired, fuscous yellowish, the stems whitish; 14 segments, the fifth with a stem one-half the length of the cylindrical basal enlargement, which latter has a length two and one-half times its diameter; low circumfili at the basal fourth and apically and a thick subapical band of long, whitish setæ; terminal segment with an apical fingerlike process about one-half the length of the produced basal enlargement, which latter has a length fully four times its diameter. Palpi; the first segment rectangular, with a length nearly three times its diameter, the second more slender, with a length twice that of the first, the third a little shorter and more slender than the second, and the fourth a little longer and more slender than the third. Eyes holoptic, the mouthparts produced and about half the length of the diameter of the head. Mesonotum nearly smooth, shining dark brown. Scutellum and post-scutellum fuscous yellowish. Abdomen mostly dark yellowish brown, the pleuræ yellowish. Ovipositor yellowish orange. Wings hyaline, costa especially, and the membrane rather thickly clothed with narrow, dark brown scales, subcosta uniting with the anterior margin near the basal third, the third vein well beyond the apex, the fifth at the distal fourth, its branch near the basal third. Halteres and coxæ yellowish transparent, the anterior and midlegs with the femora, tibiæ and first and second tarsal segments mostly dark brown, the distal portion of the second tarsal segment and the others yellowish brown; posterior legs with the basal two-thirds of the femora and tibiæ white, a narrow band of white on the tibio-tarsal articulation, the second tarsal segment mostly fuscous yellowish, the other tarsal segments like the anterior tarsi; claws stout, evenly curved, unidentate, the pulvilli as long as the claws. Ovipositor short, when extended with a length less than half that of the abdomen, the terminal lobes sparsely setose, very long, slender, with a length fully six times the diameter, minor lobes short, less than one-fourth the length of the principal lobes and thickly clothed with short, stout setæ.

Type: Cecid. 1598.

Epihormomyia gen. nov.

The combination of characters presented by this female are so remarkable that it is assigned to a new genus, a position which we believe will be amply justified when the opposite sex is known.

Epihormomyia auripes sp. nov.

This beautiful species was collected by Mr. H. S. Parrish, March 19, 1913, at Mallali, Demerara River, British Guiana, and donated to the state collections by C. P. Alexander.

Female: Length, 5 mm. Antennæ extending to the sixth abdominal segment, rather sparsely haired, mostly brownish yellow; 14 segments, the third to the ninth distinctly binodose, the tenth and eleventh slightly so, the remainder with a subcylindric basal enlargement, the third and fourth segments fused, the fifth having the stems with a length one and one-half and two and one-half times their diameters, respectively, the basal enlargement subglobose and without circumfili, the distal enlargement cylindric, with a length about three and one-half times its diameter and low circumfili, united by a longitudinal thread, basally and apically; near the middle there is a scattering band of long, slender, curved setæ; the twelfth segment with a stem about one-half the length of the subcylindric basal enlargement, which latter has a length fully four times its diameter, the fourteenth segment with a reduced, fusiform, apical process about one-fourth the length of the subcylindric basal enlargement, which latter has a length four times its diameter and tapers distally. Palpi; first segment subquadrate, the second with a length nearly three times its diameter, the third one-half longer than the second, more slender. Eyes holoptic. Mesonotum not greatly produced as in *Hormomyia*, yellowish orange. Scutellum and postscutellum yellowish. Abdomen mostly dark brown, the long ovipositor dark yellowish brown. Wings hyaline, narrow, with a length about three times the width, subcosta uniting with the margin at the basal third, the third vein well beyond the apex, the fifth at the distal third, its branch near the basal third; halteres pale yellowish. Coxæ dark brown, the legs mostly golden yellow, except the basal third of the anterior and posterior femora, the basal three-fourths of the mid-femora and the ventral line on the midtibiæ, these being dark brown; claws on the two tarsi remaining and free from the basal portion of the leg, stout, strongly curved, unidentate, the pulvilli about one-third the length of the claws. Ovipositor stout, about half the length of the abdomen when extended, the terminal lobes sparsely setose, short, broadly and irregularly rounded, minor lobes short, obliquely triangular.

Type: Cecid. 1599.

Lestodiplois picturata sp. nov.

This midge, collected by H. S. Parrish and donated by C. P. Alexander, is labeled Bartica, British Guiana, December 27, 1912. It is a very strongly marked form and apparently typical of the genus.

Female: Length, 1.2 mm. Antennæ as long as the body, rather thickly haired, mostly pale yellowish, darker basally; 14 segments, the fifth with a stem three-fourths the length of the cylindric basal enlargement, which latter has a length two and one-half times its diameter; terminal segment produced, the basal enlarge-

ment with a length five times its diameter and apically a spindle-shaped, fingerlike process. Palpi; the first segment irregularly ovate, the second with a length five times its diameter, the third as long as the second, the fourth one-fourth longer than the third. Eyes holoptic. Mesonotum reddish brown, the submedian lines yellowish. Scutellum and postscutellum yellowish brown. Abdomen rather thickly haired, mostly dark brown, the incisures dorsally lighter, the venter darker, the ovipositor pale yellowish. Wings strongly marked with dark brown and white patches as follows; on the basal third of the third vein an irregularly, quadrangular, whitish area slightly restricted distally on the third vein and divided by it; at the distal fourth, between the third vein and costa, there are two irregular, transverse, whitish bands, the outer one nearly broken and almost forming a V; caudad of the third vein, near its distal fourth and nearly opposite the irregular, transverse bands mentioned above, are two irregular, angulate, whitish spots close to the third vein; along the fifth vein, near the middle and at its distal fourth, are two ill-defined whitish, angulate areas extending on both sides of the vein; in the anal area there is a lunate, whitish area extending from the fifth vein along its branch to the posterior margin, and basally thereof, a pyriform, whitish area; halteres whitish transparent. Coxæ reddish brown, femora dark straw; tibiæ and tarsi mostly pale straw, the distal tarsal segments darker; claws moderately stout, strongly curved, simple, the pulvilli rudimentary. Ovipositor short, the terminal lobes sparsely setose and narrowly oval.

Type: Cecid. 1597.

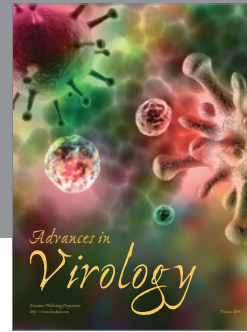
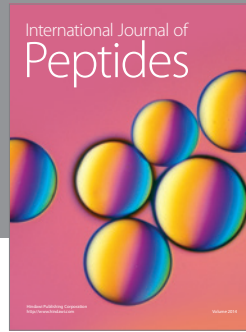
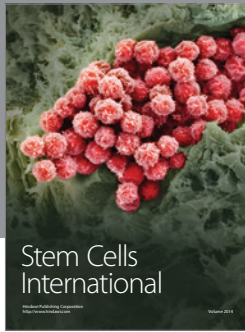
EARLY STATES OF STAPHYLINIDÆ.

I. *XANTHOLINUS CEPHALUS* SAY.

BY EDWARD A. CHAPIN,
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On July 24, 1914, while collecting larvæ under the bark of decaying *Pinus rigida* Mill., at Springfield, Mass., a number of Staphylinid larvæ, of apparently the same species, were taken. These larvæ were reared and the beetles identified as *Xantholinus cephalus* Say. Since that time I have taken the same species under the bark of *Castanea dentata* (Marsh) Borkh., showing that the species is not confined to *Pinus*. Hamilton (Canadian Ent., 1891, Vol. 23, p. 60) notes the species as occurring under bark at Allegheny, Pa., and also under rubbish on the coast at Atlantic City, N. J.

The rearing was done in plaster-of-Paris nests, modified slightly from those designed and used by Janet ('93) for rearing ants, and similar to those used by Dimmock ('04) in his work on the Carabidæ. Very little difficulty was experienced, the larvæ feeding



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