

On the *Chalcididæ* of the Island of Grenada, B.W.I. By L. O. HOWARD, Ph.D., Entomologist to U.S. Department of Agriculture. (Communicated by F. DUCANE GODMAN, F.R.S., F.L.S., on behalf of the Committee for Investigating the Flora and Fauna of the West-Indian Islands.)

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Of the collection of parasitic Hymenoptera made by Mr. H. H. Smith on the Island of Grenada during the spring of 1891, under the auspices of the West India Committee, Mr. Ashmead has already reported upon the Ichneumonidæ, Braconidæ, Cynipidæ, and Proctotrypidæ, in the Proceedings of the Zoological Society of London, 1895, pp. 742-812. The Chalcididæ, forming the rest of the collection, are described in the following pages. The collection in this family was not a large one. Mr. Smith informs me that he made no especial effort to collect the insects of this group. There were, nevertheless, between six and seven hundred specimens, among which the writer has found 132 species, of which 72 are new and 60 have previously been described. Representatives of six new genera have also been found. The general facies of the collection is similar to that of the collection from St. Vincent, and the occurrence of 72 new species must not be taken to indicate that a large proportion of these species cannot also be found by careful collecting upon the Island of St. Vincent. Of the 60 previously-described species here recorded, 50 are known to occur also upon the Island of St. Vincent, 42 of them having been described for the first time in the companion paper on the parasitic Hymenoptera of St. Vincent, *Linnean Journal, Zool.*, vol. xxv. Of the remainder, 4 are found in Cuba and Central America, 2 in Brazil, and 1 only in Florida and St. Vincent. Six are parasites of scale insects, and are likely to be carried to any country with their hosts on cultivated plants. All of these 6 are found in Florida, 1 only in Florida and Texas, 4 in the southern United States generally, 2 in California, 1 in Japan, and 1 in Italy, the last two having also been found in several localities in the United States. One (*Spalangia nigra*) is a common European parasite of the house-fly. This species is not abundant in the United States, and, in fact, I have seen it only from the West Indies.

The insects of this family are far too little known in their South and Central American and West Indian distribution to

suggest even the most tentative generalizations on the material studied. It is true that a number of Chalcididæ from Central America have been described by Mr. Cameron, but Mr. Smith's method of collecting differed so greatly from that of the naturalists engaged in collecting for the 'Biologia Centrali-Americana,' that it is not fair to generalize on the rather radical difference in character between the specimens studied by Mr. Cameron and those collected by Mr. Smith.

Family CHALCIDIDÆ.

Subfamily CHALCIDINÆ.

SPILOCHALCIS, *Thomson.*

SPILOCHALCIS FEMORATUS.

Crabro femoratus, *Fabr. Syst. Ent.* p. 375, no. 10 (1775).

Sphex punctata, *Fabr. Spec. Ins.* i. p. 446 (1781).

? *Chalcis fasciata*, *Oliv. Enc. Méth.* v. p. 439, no. 9 (1790).

Smicra subpunctata, *Walk. Ent. Mag.* ii. p. 25 (1834).

Smicra nigropicta, *Cress. Proc. Ent. Soc. Phil.* iv. p. 55 (1865).

Smicra dorsivittata, *Cameron, Biol. Cent.-Am., Hym.* i. p. 90, pl. v.

fig. 2.

Smicra femorata (*Fabr.*), *Kirby, Linn. Journ., Zool.* xvii. p. 66.

Spilochalcis femoratus (*Fabr.*), *Howard, Linn. Journ., Zool.* xxv. p. 79.

Mr. Smith took in all 27 male and female specimens of this species. They were captured under diverse conditions. Several came to light at night, others were flying at sunset about cocoa orchards, and others were found under decaying leaves on a damp rock. It is apparently a very abundant Indian and Central American species.

SPILOCHALCIS FULVESCENS.

Smicra fulvescens, *Walker, Ent. Mag.* ii. p. 25.

Smicra fulvescens, *Walker, Cresson, Trans. Am. Ent. Soc.* iv. p. 56.

Spilochalcis fulvescens (*Walker*), *Howard, Linn. Journ., Zool.* xxv.

p. 79.

There are 21 male and female specimens of this species from Grenada, exhibiting a great variation in size, and taken by Mr. Smith under the same diverse conditions as the preceding species.

SPILOCHALCIS TRANSITIVA.

Smicra transitiva, *Walker, Trans. Ent. Soc. Lond.* ser. 3, v. i. p. 371 (E. Fla.).

CHALCIS, *Fabricius*.

CHALCIS ANNULATUS.

Chalcis annulatus, *Fabr. Ent. Syst.* ii. p. 197-9; *Syst. Piez.* p. 167.

Chalcis annulatus, *Fabr.*, *Howard* (redescription), *Linn. Journ., Zool.* xxv. p. 80.

Mr. Smith took 36 male and female specimens at many different spots.

ANTROCEPHALUS, *Kirby*.

ANTROCEPHALUS PUNCTIGERUS.

Chalcis punctigera, *Fabr. Syst. Piez.* p. 167 (S. A.).

Antrocephalus punctigerus, *Howard, Linn. Journ., Zool.* xxv. p. 81.

Three male and four female specimens.

NOTASPIS, *Walker*.

NOTASPIS FORMICIFORMIS.

Notaspis formiciformis, *Walker, Ent. Mag.* ii. p. 37 (St. Vincent).

Notaspis formiciformis, *Howard, Linn. Journ., Zool.* xxv. p. 83 (St. Vincent).

Mr. Smith took only a single male of this remarkable Chalcidid. It was captured at light at night.

PODAGRION, *Spinola*.

PODAGRION BRASILIENSIS.

Podagrion brasiliensis, *Howard, Linn. Journ., Zool.* xxv. p. 83 (St. Vincent and Brazil).

Mr. Smith captured four females and one male at light at night and in the house on window.

Subfamily EUCHARINÆ.

KAPALA, *Cameron*.

KAPALA FURCATA.

Eucharis furcata, *Fabr. Syst. Piez.* p. 158.

Eucharis flabellata, *Fabr. l. c.*; *Walker, Entomologist*, i. pl. P. fig. 2.

Chirocerus furcatus, *Brullé, Nat. Hist. d. Ins., Hym.* iv. p. 571, t. 38. fig. 5.

Thoracantha furcata, *Hal. Entom.* i. pl. P. fig. 2.

Kapala furcata, *Cameron, Biol. Cent.-Am., Hym.* i. pl. v. fig. 17 (Costa Rica, Guatemala, Panama, S. C.).

Kapala furcata, *Howard, Linn. Journ., Zool.* xxv. p. 84 (St. Vincent).

One male, captured March 31, at an elevation of 1900 feet, on foliage near the ground, near water.

STILBULA, *Spinola*.

STILBULA GRENADENSIS, n. sp.

♀. Length 1·8 mm.; expanse 5·3 mm. Scape very short; pedicel round; funicle-joint 1 very long and slender, 2 half as long as 1 and a little thicker, remaining joints gradually decreasing in length and of about the same thickness; club ovate, nearly twice as long as preceding joint. Face with strong, close, longitudinal fasciculæ; punctation nearly joining below insertion of antennæ, but separated by a well-rounded ridge; ocelli nearly in a straight line; middle ocellus very slightly advanced; mesoscutum with close hexagonal punctation; mesoscutellum with same punctation very much drawn out longitudinally. General colour honey-yellow; eyes reddish; head black above, brownish on lower face; abdomen dark brown, nearly black at tip; mesopleura brown; mesonotum with brownish markings defining parapsides and a brown stripe down centre of scutellum; scutellar projections blackish; antennal scape and pedicel light honey-yellow; flagellum darker; wings hyaline.

Described from one female specimen, Balthazar (windward side), 1900 feet elevation, on foliage on ground at a damp spot near water.

The species resembles closely *S. nigriceps* of Ashmead's MS., collected at Chapada, Brazil, by Mr. H. H. Smith. It is considerably smaller, and the markings are less vivid.

ORASEMA, *Cameron*.

ORASEMA CAMERONI, sp. n.

♀. Length 1·9 mm.; expanse 4·4 mm. Head and face closely and rather finely punctate; disc of mesoscutum coarsely and transversely shagreened, parapsides smoother, with a close row of coarse punctures in dividing sutures; mesoscutellum coarsely shagreened longitudinally and with partial longitudinal striations; metanotum rugose; propleura nearly smooth, slightly shagreened towards head; mesopleura rather coarsely shagreened; petiole longitudinally striate; hind coxæ very faintly shagreened. Colour metallic blue-green, head and thorax greenish, with coppery reflections on scapulæ; abdomen bluish; antennal scape, all tibiæ and tarsi, and hind femora honey-yellow; flagellum of antennæ, all coxæ, and front and middle

femora, except at tips, brown, the front femora slightly metallic. Wings hyaline; wing-veins light brown.

One female, Balthazar, April 7, swept from herbage.

ORASEMA SMITHI, sp. n.

♀. Length 1.7 mm.; expanse 3.8 mm. Head and face closely and more finely punctate than in preceding species; entire mesonotum rather uniformly and closely punctate, a little more coarsely on mesoscutum than on head, and still more so on scutellum; metanotum rather coarsely punctate, subrugulose, propleura delicately aciculate; mesopleura closely and finely punctate; petiole finely granulate, not striate; hind coxæ faintly punctured. General colour uniform metallic blue; all coxæ metallic; scape and legs pallid, front and middle femora a little darker. Wings as with preceding species.

In the type specimens the enormous mandibles are widely extended, the left showing three teeth and the right four.

One female, Balthazar, April 7, swept from herbage.

Subfamily PERILAMPINÆ.

PERILAMPUS, Latreille.

PERILAMPUS POLITIFRONS.

Perilampus politifrons, Howard, *Linn. Journ., Zool.*, xxv. p. 85 (St. Vincent).

Three males taken in the house on windows.

PERILAMPUS PARVUS, sp. n.

♀. Length 1.6 mm.; expanse 3.5 mm. Differs from *P. politifrons* mainly in sculpture of the mesonotum. Instead of close punctures, each umbilicate puncture is distinctly separated from its neighbours by a flattened space; the general surface delicately shagreened transversely between circular punctures; border of parapsides smooth; metanotal nucha not transversely striate but with several coarse longitudinal striations; occiput transversely aciculate; face smooth round insertion of antennæ. faintly shagreened on cheeks. General colour black, slightly metallic; flagellum of antennæ yellowish brown, pedicel darker; mandibles and all tibiæ brown; in other respects like *P. politifrons*.

One female, Mount Gay estate, April 1, 250 feet, taken in house on window.