

Descriptions of new Species of Aculeate Hymenoptera collected by the Rev. Thos. Blackburn in the Sandwich Islands. By FREDERICK ~~SMITH~~ F.Z.S. (Communicated by ARTHUR G. BUTLER*, F.L.S.)

[Read March 20, 1879.]

THIS small collection of Hymenoptera from the Sandwich Islands is an extremely interesting one. It is so not only from the circumstance of the locality being so completely isolated (the nearest point of land of the American continent, California, being about 2500 miles distant), but also in consequence of so little being known of the Hymenopterous fauna of these islands; only some half a dozen species are in the collections of the British Museum, which were obtained on Capt. Beechey's voyage.

The general aspect of the collection is certainly North-American, with a slight mixture of Californian, Mexican, and South-American species. The eight species of Ants are the most diverse in character. One, *Camponotus sexguttatus*, is distributed throughout Brazil and South America. Another, *Pheidole pusilla*, the house-ant of Madeira, observed and described by Professor Heer on his residence in the island, is said to be one of the commonest Ants in the Sandwich Islands, where it lives at large, nesting under stones; the species is cosmopolitan, and in northern latitudes takes up its abode in houses; it is also a common greenhouse species, and in London is found in bakehouses. Another of the Ants, *Solenopsis geminata*, has a wide geographical range; it is common in Calcutta, is found in most of the islands of the Eastern Archipelago, and also throughout South America and Brazil. The little European Ant, *Ponera contracta*, we should scarcely have expected to receive from so remote and isolated a locality; but both the female and worker are in the collection. Seven species of *Odyneri* are described as new on the authority of Dr. Saussure, whose work on the American Wasps is so well known. Of Apidæ, six species of *Prosopis* are in the collection, only one of which was previously described. A new species of *Megachile* and the common Hive-Bee (*Apis mellifica*) complete the list of the Bees.

* [The MS. of this paper was placed in my hands for publication subsequent to the death of the author.—A. G. B.]

Fam. FORMICIDÆ.

CAMPONOTUS SEXGUTTATUS, *Fabr. Ent. Syst.* ii. p. 354. ♂ ♀ ♀.
Hab. Honolulu. South America ; Brazil.

A nest of this ant occurred in an old drawer in a house (*T. B.*).

PRENOLEPIS CLANDESTINA, *Mayr, Neue Formiciden* (1870), p. 10.

Hab. Oahu. Java.

Fam. PONERIDÆ.

PONERA CONTRACTA, *Latr. Gen. Crust. et Ins.* iv. p. 128.—*Formica contracta*, *Latr. Hist. Nat. Fourm.* p. 195, tab. 7. fig. 40.

Hab. Oahu. South America ; Madeira ; Europe.

This species is rare ; I have never found a nest. (*T. B.*)

LEPTOGENYS INSULARIS, n. sp. *Worker.* Length $3\frac{1}{2}$ lines. Opaque black, and thinly covered with ashy pile. Head widest anteriorly ; the eyes ovate, placed forwards, at the sides near the base of the mandibles, which are falcate, and pointed at their apex, which is ferruginous ; the flagellum of the antennæ rufo-testaceous, obscurely so above ; the clypeus produced ; the antennæ inserted at the sides of a prominence above the clypeus. Thorax oblong, compressed from the prothorax to the apex of the metathorax ; the tarsi more or less rufo-testaceous. Abdomen oblong, posteriorly narrowed to the apex ; the node of the peduncle subglobose, of the width of the metathorax, but narrower than the first segment of the abdomen, which is slightly constricted ; the apical segment pale ferruginous, and with a few fulvous hairs.

Hab. Island of Oahu.

Not rare ; it forms its nest under stones ; workers only taken. (*T. B.*)

Fam. MYRMICIDÆ.

TETRAMORBIUM GUINEENSE, *Fabr. Ent. Syst.* ii. p. 357. ♀.

Hab. Oahu. Guinea.

PHEIDOLE PUSILLA, *Heer, Ueber die Hausameise Madeira's* (1852) ; *Ann. & Mag. Nat. Hist.* (1856) xvii. p. 221. ♂ ♀ ♀ major, ♀ minor.

Hab. Honolulu.

One of the commonest Ants here, forming its nests under stones. The nests always contain three forms ; but I have never found the male. (*T. B.*)

SOLENOPHYS GEMINATA, *Mayr & Roger*.—*Solenopsis cephalotes*, *Smith, Journ. Proc. Linn. Soc.* iv. p. 140. ♀ major.—*Atta geminata*, *Fabr. Syst. Piez.* p. 423.

Hab. Honolulu. South America; India; Aru, Celebes, Batavian.

I found a single nest in a palm-tree, which seemed to contain no other sex than the worker; it stings very venomously. (*T. B.*)

Fam. SPHEGIDÆ.

PELOPHEUS FLAVIPES, *Fabr. Syst. Piez.* p. 204.

Hab. Honolulu. North America; Mexico.

Very abundant everywhere. I have caught the female carrying spiders. (*T. B.*)

Fam. LARIDÆ.

PISON IRIDIPENNIS, n. sp. *Male*. Length 3 lines. Black; head and thorax finely and closely punctured, and slightly shining; abdomen shining, and very delicately punctured. The face with silvery-white pubescence as high as the emargination of the eyes; the palpi rufo-testaceous. The metathorax obliquely and finely striated; having a central longitudinal channel, and with silvery-white pubescence laterally; the wings hyaline and splendidly iridescent, the nervures black; the legs with silvery pile, which is very bright on the posterior tibiæ within. Abdomen—at the basal margin of the second segment laterally a little silvery-white pubescence, on the apical margins of the segments laterally a little silvery pile, only observable in certain lights.

Hab. Honolulu.

Rare; a single female taken, which differs sexually as in the following species. (*T. B.*)

PISON HOSPES, n. sp. *Female*. Length $5\frac{1}{4}$ lines. Black, shining, with the head and thorax closely and finely punctured, the abdomen with fasciæ of silvery-white pubescence. Head—the face below the antennæ with bright silvery pubescence, also a line on the margin at the inner orbit of the eyes, as high as their emargination; the anterior margin of the clypeus rounded. Thorax—the hinder margin of the prothorax with a little silvery-white pubescence, and also on the sides of the metathorax, which has a deep central longitudinal channel; the wings subhyaline, the nervures black; the legs covered with silvery pile; the calcaria black. Abdomen much more finely and closely punctured than the thorax; the segments slightly constricted; the apical

margins of the segments with fasciæ of fine silvery pubescent pile, which are very brilliant in certain lights, and which are widened laterally.

The *male* only differs in being smaller and in having an additional joint in the antennæ and an extra segment to the abdomen.

A common but not abundant species; it was taken in the islands of Oahu, Kauai, and Maui. Mr. Blackburn says that he has bred this species from the same collection of cells as those which produced species of *Pelopæus* and of *Crabro*. This observation appears to indicate the habit of the genus to be parasitic; but this cannot be the case, their economy having been observed and published by Mr. Horne in the seventh volume of the Transactions of the Zoological Society. The species construct cells of mud, which they provision with spiders, the food of their young brood. The genus *Crabro* usually provisions its cells with *Diptera*.

Fam. CRABRONIDÆ.

CRABRO AFFINIS, n. sp. *Female*. Length $4\frac{1}{2}$ lines. Black; the abdomen shining, and having two yellow fasciæ, the first interrupted. Head and thorax semiopaque; the former with the ocelli in a curve on the vertex; the basal half of the mandibles and the scape of the antennæ in front yellow; the clypeus with a longitudinal carina, and thinly covered with silvery pile. Thorax—the mesothorax with two abbreviated longitudinal ridges on the disk; the scutellum obsoletely bituberculate; the metathorax with a central longitudinal channel; wings subhyaline, the nervures black; the outer margin of the tegulæ flavo-testaceous. Abdomen with a slightly interrupted yellow fascia on the basal margin of the second segment; and a narrow uninterrupted one near the basal margin of the fourth; the apical margin of the fifth segment narrowly flavo-testaceous, and fringed with short white pubescence; the sixth segment with a few scattered punctures.

Hab. The island of Kauai.

This species was captured very sparingly. It resembles the *C. vagus* of Europe, and belongs to the same division of the genus, having the ocelli in a curve, the *Solenus* of St. Fargeau.

CRABRO MANDIBULARIS, n. sp. *Female*. Length 5 lines. Black, and slightly shining; the head and thorax very closely and finely punctured, and having a few yellow markings. Head—the ocelli in a curve on the vertex; the clypeus and anterior margin