

Utah State University

DigitalCommons@USU

Co

Bee Lab

1-1-1911

Some Bees from Formosa - I

T. D. A. Cockerell

University of Colorado

Follow this and additional works at: https://digitalcommons.usu.edu/bee_lab_co

Recommended Citation

Cockerell, T. D. A., "Some Bees from Formosa - I" (1911). Co. Paper 297.
https://digitalcommons.usu.edu/bee_lab_co/297

This Article is brought to you for free and open access by the Bee Lab at DigitalCommons@USU. It has been accepted for inclusion in Co by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



which offered so fair a chance of increasing our knowledge of the western Pyrenean Rhopalocera.

Eaux-Bonnes, July 6th-12th.—*Hesperia andromedæ*; *Thymelicus lineola*; *Lycæna arion*; *Cupido minimus*; *Nomiades semiargus*, *Polyommatus corydon*, *P. hylas*, *P. icarus*; *Rusticus argus*; *Strymon ilicis*; *Papilio machaon*, one or two flying round flowery slopes leading up from the Plateau d'Anouilles; *Pieris rapæ*; *Anthocharis simplonia*, an odd example or two, very worn, under the Col de Lurdé; *Leptosia sinapis*; *Colias edusa*; *Gonepteryx rhamni*, all examples met with of large size in both sexes, not uncommon; *Issoria lathonia*; *Brenthis euphrosyne*, *B. dia*, *B. pales*, a fine bright form just coming out in the rhododendron region; *Melitea parthenie*, very dark (one example); *Pyrameis cardui*, *P. atalanta*; *Aglais urticae*, *Eugonia polychloros*, outskirts of town; *Pararge mæra*, var. *adrasta*, *P. hiera*, very worn, one example under Col de Lurdé; *P. egeria*, common in the beech-woods; *Cænonympha pamphilus*; *Erebia epiphron*, var. *cassiope*, and ab. *nelamus*, on rhododendrons, just emerging; *E. stygne*, common generally above 4000 ft.; *E. evias*, one or two rather higher up than *stygne*; *E. lefebvrei*; *E. tyndarus*, var. *cassioides*, just coming out; *E. lappona*, var. *sthenno*, all examples, as in the central Pyrenees generally, referable to this variety; *Melanargia galatea*, below the town. Thirty-six species in all.

I may add that on the Col de Lurdé I encountered also, for the first time, the dark little *Hepialus alticola*, Obth., which is about the size of *H. lupulina*, but of a dusky black upon a somewhat yellowish black ground-colour. At rest on a grass bent, it bore a striking resemblance to *Nisoniades tages*, and it was this, no doubt, which attracted my attention to the species. It seemed fairly common at this spot, but it was not until I was collecting under the Pic d'Astazou a week later at Gavarnie that I found it abundant, and made acquaintance with the extraordinary grub-like apterous female.

(To be continued.)

SOME BEES FROM FORMOSA.—I.

By T. D. A. COCKERELL.

THE bees discussed below are part of the great Sauter collection, now in the Berlin Museum. The collections of Mr. H. Sauter have added to our knowledge of the fauna of Formosa in so many different groups that his name is familiar to all students of Asiatic animals. The collection of bees is rich in new species, represented by long series of excellently preserved specimens, but includes neither newgenera nor very peculiar representatives of known genera. The Formosan bee-fauna is closely related to

that of tropical continental Asia, but contains in the mountains a distinct palæarctic element. As Friese has remarked, there is no particular affinity with the bee-fauna of Japan; nor is there any evident Philippine element.

Ceratina unicolor, Friese, 1911.

Described from the female only. Thirteen specimens from Formosa (no special locality given) enable me to add some details.

♀. Varies greatly in size; length, 9 to 11 mm.

♂. Length, 6½–8½ mm.; resembles the female except in the usual sexual marks; face-markings pale yellow or ochreous, including clypeus except broad upper and lateral borders, a small supra-clypeal mark (often reduced to a minute dot), broad bean-shaped lateral face-marks, the greater part of labrum, and usually a small spot on each mandible; anterior femur, tibia, and basitarsus each with a yellow stripe; apical segment of abdomen broad, little produced at end, where it is truncate and subemarginate.

Anthophora urens, n. sp.

♂. Length 12–15 mm., robust, black, with the head and thorax above, and the pleura, covered with very bright fox-red hairs, mixed with black except on pleura and upper part of cheeks; front with hair mixed red and black, lower part of face with coarse black hair, under side of head with long pure white hair, under side of thorax with creamy-white hair; eyes red-brown; inner orbits parallel, gently concave above; tongue very long (fully 11 mm.); maxillary palpi long and slender, with the second joint at least as long as the third to sixth together, the following ones successively shorter, the sixth extremely small; paraglossæ about 2 mm. long, sharply pointed, not hairy; labial palpi very long, with the two apical joints extremely minute; antennæ black, the third joint apically, and the fourth joint, slightly reddish beneath; third joint a little longer than fourth and fifth combined, fourth much broader than long; scape with a large yellowish-white patch in front; clypeus rugose, feebly keeled in middle; labrum large, broader than long; face-markings creamy-white, as follows: lower margin of clypeus, a narrow median stripe, and broad anterior corners, a transverse supraclypeal band (broadly angulate in middle above), triangular lateral marks (filling space between clypeus and eye, nearly to top of clypeus), labrum (except narrow margin, and the usual basal spots), and basal half or more of mandibles; mandibles bidentate; malar space practically absent; mesothorax closely punctured; tegulae light ferruginous; wings dusky; nervures piceous; legs black, with fulvous hair on outer side and black on inner, on hind tarsi all black except a small fulvous tuft at extreme base; a tuft of white hair at apex of hind tibiae; spurs very large and long; middle tarsi normal; abdomen black with fine black pubescence, first segment with scattered red hair, conspicuous at sides, and forming a very narrow apical band; second with an apical band of red hair, broad and dense at sides, narrow and evane-

scent in middle; third with traces of a band at sides; apex with two widely separated short stout spines; venter black, with black hair.

♀. Looks exactly like the male; face-marks nearly the same, but scape all black, and lateral marks reduced to a stripe or band along margin of clypeus; third antennal joint slightly longer than the next three together; mandibles long and thick, strongly bent; middle tarsi with hair black, except some red on basitarsus; hind basitarsus very broad, strongly concave and shining on outer side.

Hab. Eight males and two females from Formosa (Sauter); no special locality given. A very distinct species, which may be compared with the following: *A. florea*, Sm., which differs by the ferruginous femora, and the narrow white hair-bands on abdomen; *A. proserpina*, Grib., which is more elongate, with orange face-markings; *A. insularis*, Sm., which differs at once in the coloration of the abdomen; *A. brookiæ*, Bingh., which has testaceous nervures, the clypeus with more yellow, and lighter wings. The type of *A. urens* is a male.

Cælixys afra sauteri, n. subsp.

♀. Length, 9 mm.; like *C. afra*, Lep., but mandibles black (the apical tooth obscurely reddish); legs and end of abdomen black; anterior border of mesothorax with a median trilobed patch of white pubescence, instead of the stripe seen in *C. afra*, and there are no patches on each side of it, as there are in *afra*; axillar teeth with the outer side straight (convex in *afra*).

Hab. Taihanroku, Formosa, "11. 6. 08." (Sauter). This should possibly be regarded as a distinct species, but it is extremely close to *C. afra*. I suppose that Friese had this form before him when he recently recorded *C. afra* from Formosa. In its entirely black apex of abdomen it resembles the larger *C. emarginata*, Foerst.

Cælixys rhinosus, n. sp.

♀. Length, 11 mm.; black, including the mandibles and legs; pubescence of the usual kind, white; at sides of face dense and very pale ochreous; on anterior part of mesothorax loose, not forming spots or patches; eyes strongly pubescent; front rugose, obtusely elevated in the middle; vertex with very large confluent punctures; cheeks densely covered with white hair; antennæ black; clypeus roughened but shining, strongly elevated in the middle to a keel, the side view nose-like, with a convex outline; lower margin of clypeus strongly nodulose; mandibles broad, with a long oblique cutting edge; mesothorax and scutellum very strongly and densely punctured, the latter without any smooth edge; scutellum very obtusely angulate, not dentate, in middle; axillar teeth short but evident; tubercles strongly keeled; tegulæ dark rufo-piceous; wings brown, hyaline basally; abdomen strongly punctured, with narrow dull white hair-bands, enlarged at sides; transverse grooves on second and third segments weak; last dorsal very long, strongly keeled. neither notched at sides nor turned up at end; last ventral long and

narrow, sharply pointed, extending nearly half a millimetre beyond last dorsal, not at all notched at sides: under side of last ventral striated.

Hab. Formosa (no special locality given). Easily known by the peculiar clypeus. The apical structures of the abdomen are entirely of the type of *C. brevis*, Ev., and *C. rufocaudata*, Sm., except that the last dorsal is much more elongate. Compared with *C. siamensis*, Ckll., the abdomen of *C. rhinosus* is much more densely punctured, and the clypeus is entirely different.

A second paper will deal with the genus *Nomia* as represented in Formosa.

NEW SPECIES OF BOARMIINÆ FROM FORMOSA.

By A. E. WILEMAN, F.E.S.

(Continued from p. 316.)

Hirasa flavipicta, sp. n.

♂. Fore wings brownish black, with a purplish tinge; ante-medial line represented by three yellow dots, and the postmedial line by six or seven yellow dots, the upper four more or less united; both lines followed by interrupted blackish bands; a yellow lunule at end of the cell, and a larger yellow spot on costal area before postmedial line; some yellow dots towards costa and dorsum represent the sub-terminal line. Hind wings brownish black with purplish tinge; medial and postmedial lines indicated by more or less connected yellow dots; a yellow spot about middle of medial line. Fringes of all the wings marked with yellow. Under side of fore wings similar to above; yellow markings of hind wings much enlarged; a black discal mark on all the wings, that on the hind wings the larger.

Expanse, 26-28 millim.

Collection number, 875.

Two male specimens from Arizan (7500 ft.), September 11th, 1906, and August 14th, 1908.

Prorhinia rantaizana, sp. n.

♂. Pale brown, inclining to whitish, powdered with darker brown. Fore wings have a conspicuous black dot at end of the cell; the ante- and postmedial lines very indistinct, faintly dotted with black; dorsal end of medial line purplish brown; subterminal line whitish, wavy, some purplish brown clouds on its inner edge. Hind wings have a purplish brown band before the black discal mark; postmedial line indistinct, dotted with black, commencing on the costa near the subterminal line, terminating on dorsum just beyond middle; subterminal line whitish, wavy, inwardly edged with purplish brown clouds. Under side whitish, finely powdered with brownish; discal spot and terminal area of fore wings purplish; discal spot and postmedial line of hind wings purplish.