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Some Bees from High Altitudes in the Himilaya Mountains

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SOME BEES FROM HIGH ALTITUDES IN THE
HIMALAYA MOUNTAINS.

By T. D. A. COCKERELL.

AMONG the various materials which pass through one's hands from time to time, some excite unusual interest on account of the place they come from. After reading the published account

of the adventures of the British Thibet Expedition in the higher passes of the Himalayas, it was naturally a great pleasure to be able to study some of the bees collected at those high altitudes, representing a hitherto unknown series of species, wholly different from those of the lower and well-known slopes of the mountains.

All the specimens are of course in the British Museum.

Bombus waltoni, sp. nov.

♀. Length about $17\frac{1}{2}$ mm.; expanse about 34; hair of head and thorax black, with a slight admixture of greyish on mesothorax and scutellum, only noticed under a lens; hair of first abdominal segment and base of second appearing a sort of grizzled black, the black hairs being tipped with greyish white; hair of apex of second segment, and all the following ones bright ferruginous tipped with dull white, giving an obscurely banded effect; legs black, with black hair, the middle and hind tarsi ferruginous, with ferruginous hair; hind tibiae with some ferruginous hairs. Head long; ocelli rather large; area below lateral ocelli smooth, with sparse very distinct punctures; third antennal joint long, a trifle longer than the next two combined; malar space smooth and shining, very long, though less than twice as long as apical width; clypeus convex, the disc smooth, with faint rudimentary punctures; mandibles with a straight cutting edge, apex covered with light yellow tomentum; wings translucent, reddish-tinged; last ventral segment with a delicate median groove.

This is quite different from all the Indian species. In Friese's table of European species it runs straight to *B. pomorum*, from which it is easily known by the much longer third antennal joint. In Friese's table of Arctic species it runs to *B. hyperboreus*, which it does not much resemble. The colour-arrangement is like that of *B. alpinus*, *B. lapponicus* v. *lugubris*, and *B. rufus*. The Chinese *B. rufus*, Friese, is evidently different by the short velvety hair, our insect having the hair long and loose, especially on the abdomen; *rufus* also has the malar space shorter. *B. alpinus* is considerably larger, with shorter malar space. *B. lapponicus* has the malar space much shorter.

Hab. Khamba Jong, Sikkim, 15-16,000 ft., July 15th-30th, 1903 (Thibet Expedition). British Museum.

Also from Khamba Jong were *Anthophora pulcherrima*, Bingham (variety), *A. khambana*, Ckll., and *A. megarrhiza*, Ckll. From Gyangtse came *A. megarrhiza soluta*, Ckll. These are described in a paper dealing with the genus *Anthophora*, sent to 'Annals and Magazine of Natural History.'

Nomada waltoni, sp. nov.

♀. Length $9\frac{1}{2}$ mm., expanse about $17\frac{1}{2}$; head and thorax strongly punctured, black with light markings; pubescence scanty; head broad; eyes reddish grey; mandibles simple, labrum with a small tooth next to lower border; clypeus (except upper margin, especially

sublaterally), labrum, lateral marks, mandibles except tips, and a narrow band up posterior orbits (omitting upper quarter) all light yellowish ferruginous; lateral marks broad below, with an inner projection pointing toward upper end of clypeus, and above ending in a point, separated from orbital margin, at about the level of antennæ; clypeus with minute punctures, and the lower half, especially toward sides, with scattered large ones; scape in front and flagellum beneath yellowish ferruginous, but the latter becoming dusky beyond the basal third; upper side of antennæ dark, the second and third joints reddish; third joint longer than fourth, but not greatly so; mesothorax closely punctured, but shining between the punctures; scutellum pale yellow, flattened, not at all gibbous; postscutellum obscurely reddish; area of metathorax dull, minutely roughened; upper border of prothorax, tubercles, and a large transverse patch on pleura pale yellow, the pleural patch suffused with red around the edges; no metathoracic spots; sternum ending between the hind coxæ in a triangular shining process, which is truncate at the end; tegulæ pale reddish, light yellow anteriorly; wings rather dusky, slightly reddish, the slender stigma ferruginous, nervures fuscous; b. n. barely falling short of t. m.; second s. m. broad, receiving r. n. beyond the middle; third s. m. greatly narrowed above; legs bright ferruginous, the tibiæ a little suffused with yellow; outer side of hind coxæ yellow; anterior coxæ with stout spines; abdomen finely but very distinctly punctured, with entire cream-coloured bands on all the segments, that on the first with a ferruginous mark on each side, that on the second very broad laterally, but much narrowed in the middle; ground colour before the second band ferruginous, after it black or nearly; pygidial plate black, extremely broad; venter with four broad cream-coloured bands.

Hab. Gyangtse, 13,000 ft., June, 1904 (H. J. Walton; Thibet Expedition). British Museum.

This is a typical member of the subgenus *Micronomada*, related to such species as the American *N. snowii* and *N. ridingsii*. In Schmiedeknecht's table of Palearctic species it runs to *N. coxalis*, Morawitz, to which it appears to be allied, differing, however, greatly in coloration, and in the flattened scutellum. In the table of Indian species given by Nurse (Ann. Mag. Nat. Hist. June, 1903, p. 545) it runs nearest to *N. arida*, but differs in many particulars.

Melitta altissima, sp. nov.

♀. Length 13-15 mm.; black, with black and greyish white hair, the abdomen beyond the second segment covered with bright ferruginous hair; head and thorax shining, with close shallow punctures; a smooth space on each side of ocelli; clypeus densely punctured above, sparsely and irregularly, but more or less grooved, below, and with a median smooth line; labrum with a shining median tubercle; tongue slender dagger-shaped, formed, with the small paraglossæ, as usual in the genus, but rather longer than in *M. leporina*; first joint of labial palpi not so long as the next two together; antennæ black, the flagellum obscurely ferruginous beneath; hair of

head long and black, strongly mixed with pale grey on the face, of thorax also long and black, with a broad grey band (mixed with black) extending from tubercles across anterior part of mesothorax, and some long white or pale grey hair at sides of metathorax; middle of disc of mesothorax, anterior part of scutellum, and postscutellum smooth and shining; metathorax dullish; pleura closely punctured; tegulae small, piceous; wings a little dusky, especially along apical margin; nervures brown, stigma ferruginous; b. n. meeting t. m., or failing to reach it by a short distance; first r. n. joining second s. m. at end of first third; third s. m. narrowed more than half above, receiving second r. n. about as far from apex as first r. n. is from apex of second s. m.; stigma small; marginal cell pointed; legs black, with black hair, that on inner side of tarsi variably reddish, and sometimes orange on inner side of middle tibiae; claw-joints ferruginous; spurs ferruginous; abdomen finely punctured; first segment with mostly white hair, but black posteriorly, second with black, the others with appressed bright fox-red hair, but that on sides of fifth white; venter with black hair, white on sides of apical ^{palpi} ~~segment~~; pygidial plate small.

This might be taken for an *Andrena*, but it has the *Melitta* venation, no facial foveae, and straight hairs, but no floccus, on hind trochanters.

Hab. Gyangtse, 13,000 ft. June, 1904 (H. J. Walton; Thibet Expedition). British Museum. Two females.

Easily known from all other species by its coloration. The genus is now first recorded from the Himalayas, but years ago Colonel Bingham showed me an undescribed *Melitta* from this region.

Colletes sanctus, sp. nov.

♀. Length about 12 mm., expanse about 22; black, the head and thorax above covered with bright fox-red hair; at sides and beneath, and on legs, it is pale yellowish, but the bright red extends down beyond and over the tubercles. Abdomen shining black, finely punctured, with scanty pale hair at base, but beyond that with black hair, which is very inconspicuous; no indication of pale bands. Mandibles reddish at apex; antennae entirely black, the third joint not quite so long as the next two together; front densely punctured; facial foveae much as in *C. succinctus*, but narrower, and well-defined on the inner side; clypeus prominent, densely and coarsely striato-punctate; malar space large, but broader than long; mesothorax and scutellum with dense large punctures, except discally, where they become smooth and sparsely punctured (scutellum) or impunctate (mesothorax); pleura with close strong punctures; area of metathorax with coarse ridges bounded as usual by a transverse keel, the enclosed spaces small, irregular, longer than broad; sides of metathorax rough; tegulae piceous; wings dusky hyaline, nervures and stigma dark reddish; second s. m. very broad, receiving first r. n. a short distance beyond middle; legs normal, hind spur ciliate; first abdominal segment shining, with small scattered punctures; the others with minute, much closer punctures.

A species rather suggestive of the American *C. myroni*, Ckll., but that is smaller, and has the malar space much shorter, and the face with black hair. The colour-effect is very like that of the South American *Biglossa thoracica*, Friese. I do not know any closely allied species among the Old World *Colletes*.

Hab. Gyangtse, 13,000 ft. June, 1904 (H. J. Walton ; Thibet Expedition). British Museum.

While on this genus I take the opportunity to propose a new subgenus *Rhinocolletes* for *Colletes nasutus*, Smith. This species is not only remarkable for the long face, but the lobes of the tongue are excessively long and narrow, suggesting some Eumenid wasp.

Anthidium philorum, sp. nov.

♀. Length 10 mm.; black, with rather dull white hair, that on abdomen yellowish except first segment and sides of the following two; ventral scopa orange; head and thorax very densely punctured, their tegument all black except a small pyriform pale yellow spot above each eye, and sometimes two short marks on scutellum; mandibles with a long apical tooth and four very distinct inner ones; antennæ black; eyes green; tegulæ black; wings dusky but translucent, b. n. going basad of t. m.; legs without light markings, but the tarsi brownish to dark ferruginous, with orange hair on the inner side; no trace of pulvilli; abdomen with six entire cream-coloured bands, the first two having a black spot on each side, the others with an anterior notch, or the first band divided into four transverse spots, and the second notched like the third, while the second to fourth are much constricted in the middle; apical segment with a triangular tooth on each side.

An ordinary looking little species of *Anthidium*, s. str., resembling the American *A. emarginatum*. It is quite distinct from all the recorded Indian species, and also from the Palæ-arctic forms. In Friese's table it runs to 20 (*obscuratum* and *septemspinosum*), and runs out because of the orange scopa.

Hab. Gyangtse, 13,000 ft., June, 1904 (H. J. Walton ; Thibet Expedition). British Museum. Two females.

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