

XXIX.—*New and little-known Bees in the Collection of the British Museum.* By T. D. A. COCKERELL.

Anthoglossa cygni, sp. n.

♀.—Length about $15\frac{1}{2}$ mm.

Allied to *plumata*, Smith, and with the same broad second submarginal cell, but differing thus:—Hair on fifth and apical segments of abdomen brown-black (in *plumata* orange-fulvous on fifth); abdomen without bands of any sort, but first segment with white hair laterally, and thin white appressed pubescence on hind margin; hair of sides of mesothorax not tipped with black; mandibles with outer edge convex, but not at all elbowed, and having two short denticles within; labrum shining, ferruginous; face covered with long hair; flagellum ferruginous beneath, except first joint, last joint ferruginous above, with a shining oblique truncation (last joint is red also in *plumata*).

The other species, *A. sericea*, Sm., is distinguished from *plumata* and *cygni* by the thorax being without plumose black-tipped hairs, and the second submarginal cell greatly contracted above.

A. cygni is from Swan River, W. Australia.

Leioproctus Boltoni, sp. n.

♀.—Length $11\frac{1}{2}$ mm.

Shining black with pale greyish-ochreous pubescence, with some black, noticeably on hind part of scutellum, fifth and apical segments of abdomen, and basal part of the long scopa of hind tibiæ. Head broad, facial quadrangle broader than long; clypeus nude, with coarse large punctures; mesothorax shiny, not strongly punctured; tegulæ shining piceous; base of metathorax moderately shining, transversely obtusely ridged, its marginal furrow with only minute rather obscure cross-ridges; stigma large but narrow, it and the nervures dark brown.

♂.—Similar but smaller, with longer antennæ, which are entirely black.

Hab. New Zealand (*Col. Bolton*, 1854).

This is a *Dasycolletes*, but I am unable to separate that genus from *Leioproctus*. It differs from *Leioproctus metallicus* (*Dasycolletes metallicus*, Smith) by the absence of green colour on the abdomen, black hair at apex of abdomen and on base of hind tibiæ, rather longer and narrower abdomen, &c. From

L. vestitus (*Dasycolletes vestitus*, Sm.) it differs by its larger size, brown-black instead of purple-black abdomen, decidedly yellowish tint of pubescence, and longer and looser scopa of hind tibia; but it is closely allied. These comparisons are based on females; the male *L. Boltoni* differs from male *L. purpureus* (*Dasycolletes purpureus*, Sm.) by its larger size and differently coloured abdomen and antennæ.

L. imitatus, Sm., differs from *L. Boltoni* by its smaller size, with the abdomen faintly purplish, and the hair on outer side of hind tibiæ not black at base. The abdomen is really only faintly æneous, not distinctly purple as in *vestitus*, and not so shining. The size of *vestitus* and *imitatus* is the same, and they are quite congeneric.

Leioproctus confusus, sp. n.

♀.—Similar to *L. imitatus*, but first recurrent nervure joins second submarginal cell much before its middle (at its middle in *imitatus*), and basal area of metathorax transversely striate (not so in *imitatus*). Stigma well-developed; hind spur of hind tibiæ very finely pectinate, or could be called long-ciliate; second recurrent nervure practically straight; abdomen without hair-bands. The wings are yellower than in *imitatus*, and the abdominal segments have dark reddish hind margins.

Hab. New Zealand.

The characters are few, but quite sufficiently distinctive. With this and the last, the New-Zealand bee-fauna numbers 18 species.

Saropoda alpha, sp. n.

♂.—Differs from *S. bombiformis*, Sm., by its smaller size (length less than 12 mm.), hair on hind tarsi entirely black, except a small orange tuft at base above; lateral margins of clypeus with a rather broad black band; flagellum ferruginous beneath except base of first joint; legs dark, though with much orange hair, *i. e.* covered above with orange hair, beneath with black, except that hind tarsi are as just described; the bidentate apex of abdomen covered with black hair (fulvous in *bombiformis*).

Hab. Australia.

This is Smith's var. α of *S. bombiformis*; it is evidently a distinct species. It has a rather strong superficial resemblance to the Mexican *Emphoropsis fulvus* (*Habropoda fulva*, Sm.).

Ctenoplectra vagans, sp. n.

♂.—Runs to *C. chalybea* in Bingham's table, and is in fact

almost exactly like *chalybea*, of which I have examined the type, a female from Celebes. *C. chalybea* has the ocelli large and fulvous (as also have *C. apicalis*, ♂, and *C. terminalis*), but in *vagans* they are black and more or less aborted, especially the lateral ones. *C. chalybea* has two widely separated dentiform processes on labrum just below clypeal margin, but these are absent from *C. vagans*, *C. apicalis*, ♂, and *C. terminalis*. *C. chalybea* has the face considerably broader below, and the abdomen less decidedly purple than in *C. vagans*, but these differences are probably sexual.

Hab. Philippine Is., two examples.

Ashmead, in his recent list of Philippine Hymenoptera, does not cite any species of *Ctenoplectra*. The genus has hitherto been known from Burmah, Malacca, Celebes, and Natal. In *C. apicalis*, ♂, the apex of the abdomen is prolonged into long processes laterally, but in *C. vagans* the processes are quite short, and the apical projection is more pointed.

C. terminalis, Sm., from Natal, is remarkable for the brilliant blue of its abdomen.

Macrotera secunda, sp. n.

♀.—Length about 9 mm.

Differs from *M. bicolor* thus:—Abdomen piceous, broad hind margins of the segments and most of fifth segment dark rufous; fimbria dull white; marginal cell shorter and broader; mesothorax shining, with well-separated or scattered punctures of various sizes; clypeus shining, smooth in middle, at sides with some rather large punctures (in *bicolor* it has large well-separated punctures all over); supraclypeal area also shining. Long tongue and hairs on tibiae (long and curved) as in *bicolor*. Scutellum with a median shining impunctate space; metathorax coarsely rugose at extreme base only; ventral surface of abdomen ferruginous clouded with fuscous, hind margin of first segment shallowly emarginate.

Hab. Mexico.

Chalicodoma combusta (Smith).

Port Natal.

In the interleaved copy of the Cat. Hym. B. Mus. in the Museum the late Mr. F. Smith has written this note:—"Megachile cælocera is the male of *M. combusta*: the nest has been received from Heer Guenzius; it resembles that of *Chalicodoma muraria*; to the latter genus *M. cælocera* must

be removed." I do not find that this information has been published, and in Dalla Torre's Catalogue *cælocera* and *combusta* remain as two species of *Megachile*. The name *combusta* has priority of place.

Dianthidium Latreillei (Lep.).

Anthidium latreillei, Lep.

France.

Dianthidium apicale (Cress.).

Anthidium apicale, Cresson.

Mexico.

Dianthidium orizabæ (Dalla Torre).

Anthidium atriventre, Smith.

Mexico.

Dianthidium impatiens (Smith).

Anthidium impatiens, Smith.

Mexico.

Dianthidium flavolineatum (Smith).

Anthidium flavolineatum, Smith.

Mexico.

Dianthidium bicoloratum (Smith).

Anthidium bicoloratum, Smith.

Mendoza, Argentine.

Dianthidium steloides (Spinola).

Anthidium steloides, Spin.

Chile.

Hair at sides of clypeus black; tegulæ bright orange-fulvous; wings orange basally, and fuliginous beyond that. The colour of the wings reminds one of *Osmia laboriosa*, Sm.

Dianthidium confusum (Smith).

Anthidium confusum, Smith.

Mendoza, Argentine.

Dianthidium lunatum (Smith).

Anthidium lunatum, Smith.

Clypeus all black in female.

Dianthidium indescriptum (Dalla Torre).*Anthidium cognatum*, Smith.

S. Paulo, Brazil.

♀. Abdomen black without light markings. Dalla Torre wrongly gives the locality as Mexico.

Dianthidium multiplicatum (Smith).*Anthidium multiplicatum*, Smith.

S. Paulo, Brazil.

A very extraordinary insect; mandibles with a great process directed upwards; a large process on face.

A. maculatum, Sm., *A. deceptum*, Sm., *A. chilense*, Spin., and *A. coloratum*, Sm., all belong to *Anthidium* proper.

Purevaspis basalis, Rits.

Java; Japan; China.

The specimens in the collection from these countries appear to belong to a single species, though the Java insect has a lighter red abdomen than the others, and a Japanese example has a little black at the base of the first abdominal segment. The original type of *P. abdominalis*, Smith, is from Celebes, and while it is very similar to *basalis*, as here understood, it differs (♂) by its narrower abdomen (which is of the darker shade, as in Japanese and Chinese examples of *basalis*), with the median apical projection broad and slightly inclined to be notched, whereas in *basalis* it is narrow and spine-like.

Epiclopus Gayi, Spinola.

Melecta chilensis, Smith, is a synonym. The male has the clypeus covered with a sort of roof of appressed white hair.

Morgania dichroa (Smith).*Pasites dichrous*, Smith.Sierra Leone (*Rev. D. F. Morgan*).

Head and thorax black, abdomen shining red, the general effect like some Larrid wasp; hind coxæ large and long, so that hind legs appear to spring from abdomen; marginal cell obliquely truncate and appendiculate; two submarginal cells; basal nervure passing a short distance basad of transverso-medial; scutellum strongly bilobed; maxillary palpi very short.

Morgania carnifex (Gerst.).*Omachthes carnifex*, Gerst.

Cape of Good Hope.

Morgania histrio (Gerst.).*Omachthes histrio*, Gerst.

Cape of Good Hope.

Oxystoglossa decorata, Smith.

Type ♀. Jamaica.

Second submarginal cell very narrow; eyes emarginate; hind spur of hind tibia strongly curved, simple.

Rhathymus quadriplagiata, Smith.

Mexico.

This species shows an extraordinary resemblance to *Scolia guttata*, Burm. Ashmead gives the maxillary palpi of *Rhathymus* as 4-jointed; but this must be a slip of the pen, as they are actually absent, as Gerstaecker and others have stated. In *Eurytis funereus*, Sm., which looks like *Rhathymus atra*, Sm., they are 3-jointed (the first and third joints very short, second very long), not 1-jointed as Smith states. This observation is based on Smith's type.

XXX.—*The Halictine Bees of the Australian Region.*

By T. D. A. COCKERELL.

THE Halictine bees of Australia were studied and described many years ago by Mr. F. Smith: since his death they have received practically no attention; and owing to the brevity of the published descriptions and the complete absence of tables for identification the recognition of the species has seemed difficult. The following tables and notes are based on an examination of Smith's types in the British Museum, and it is hoped that they will make it easier for entomologists to further elucidate the subject. There can be no doubt that any resident of Australia who will collect and study these bees will find many new species.

The following abbreviations are used:—(T.) = type specimen examined; s. m. = submarginal cell; r. n. = recurrent nervure; b. n. = basal nervure; t. c. = transverso-cubital



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