

6-1-1910

Some Australian Bees in the Berlin Museum

T. D. A. Cockerell
University of Colorado

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



Part of the [Entomology Commons](#)

Recommended Citation

Cockerell, T. D. A., "Some Australian Bees in the Berlin Museum" (1910). *Co*. Paper 258.
https://digitalcommons.usu.edu/bee_lab_co/258

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.



brown, more or less powdery, the secondaries more whitish at base and more obviously powdered than the primaries.

Expands, 37-40 mm. = 1.48-1.60 inches.

Habitat.—Claremont, California.

Two males, two females, in good condition from Mr. C. W. Metz, without dates of capture. The species is a very well-marked one in the division with the well-marked ordinary spots and obsolete median lines. The difference between the sexes is very marked and, at first blush, the two do not look at all alike. The male is the smaller with the primaries proportionately narrower and more pointed, while the color is a clean bluish-gray with white secondaries. The female has a sordid smoky and somewhat luteous tinge, and the secondaries are decidedly smoky throughout.

SOME AUSTRALIAN BEES IN THE BERLIN MUSEUM.

BY PROF. T. D. A. COCKERELL,

BOULDER, COLORADO.

About 180 species of Australian bees were described by F. Smith, of the British Museum; I have published about 130 others, and in addition some 35 have been described by various authors. I have in manuscript a complete list, but it evidently represents only a small part of the existing fauna. Every new collection is full of novelties, especially if coming from a little searched locality. The present paper puts on record some species in the Berlin Museum, for the loan of which I am indebted to the kindness of Mr. Embrik Strand.

Palæorhiza perkinsi, new species.

Female.—Length about 9 mm.; head and thorax dark blue, strongly and densely punctured; abdomen with the first segment except the extreme base, the second segment, and the third except the broad apical margin, a very fine deep chestnut red, with a slight purple tint; rest of abdomen very dark blue, becoming black at apex, and with coarse black hair; legs, except trochanters, mainly red, but anterior femora dark bluish, with only the apical part in front red, and tibiae all more or less black on outer side, the hind ones least so; clypeus greenish; face with three longitudinal dull white stripes, one from

June, 1910.]

the anterior
below, along
margins; flaps
light markings
dark in front,
r. n. joining
ing inwards,
mandibles have

Habitat.—
tongue of th
Palæorhiza
describer of
Prosopis, on

Euryglossa sp.
Sidney,

Euryglossa sp.

Female.—
only the front
lustre, hind
glittering pale
dibles reddish
above; clypeus
smooth in no
scutellum with
hair; tegulae
clear ferruginous
brownish.

Closely
differently
and the face
by its larger
by the color

Habitat.—
22116.

Euryglossa sp.

Male.—
scutellum
with the hind
white, the do
tarsi clear
with an

the anterior ocellus to the lower margin of the clypeus, and the others, pointed below, along the orbital margins; a whitish, stripe also along posterior orbital margins; flagellum brownish beneath; thorax with short white hair, and without light markings; area of metathorax large, triangular, smooth and shining; tegulae dark in front, red behind; wings a little dusky, nervures and stigma black, first r. n. joining second s. m. some distance from its base, and the second, curving inwards, a like distance from its apex; b. n. arched; stigma large. The mandibles have a light spot on upper edge.

Habitat.—North Queensland (*Rolle*). I have not examined the tongue of the unique type (Berlin Museum), but the reference to *Palæorhiza* is practically certain. The species is dedicated to the describer of the genus. The species has no place in the table of *Prosopis*, owing to the red and blue abdomen.

Euryglossa ephippiata Smith.

Sidney, New South Wales (*Daemel*).

Euryglossa schomburgki, new species.

Female.—Length 9 mm. or slightly over; robust, head and thorax black, only the front very faintly greenish; abdomen bluish-green, with a sericeous lustre, hind margins of segments dull blackish; legs brownish-black, with glittering pale hair, last two joints of tarsi ferruginous; labrum reddish; mandibles reddish in middle; flagellum entirely bright red beneath, and at apex above; clypeus shining, with scattered large punctures; supraclypeal area smooth in middle; front dull, strongly punctured at sides; mesothorax and scutellum with strong scattered punctures; sides of metathorax with white hair; tegulae rufotestaceous; wings strongly reddened, nervures and stigma clear ferruginous; hind spurs strongly dentate; apical fimbria very pale brownish.

Closely allied to *E. subsericea* Ckll., but much larger and with differently colored wings. The venation is substantially the same, and the facial foveae are linear. From *E. jucunda* Sm. it is known by its larger size and the color of the tarsi; from *E. depressa* Sm. by the color of the antennae, etc.

Habitat.—Adelaide, Australia (*Schomburgk*). Berlin Museum, 22116.

Euryglossa chrysoceras, new species.

Male.—Length about 6 mm.; head and thorax black, the mesothorax and scutellum strongly and closely punctured; abdomen very dark reddish-brown, with the hind margins of the segments very broadly subhyaline yellowish-white, the dorsal segments curving over to the sides of the venter; tibiae and tarsi clear ferruginous, femora suffused with fuscous; mandibles ferruginous, with an inner tooth; scape reddish-brown; flagellum entirely apricot-color,

above and below; tegulae pale reddish-testaceous; wings clear hyaline; nervures and stigma light yellow; lower section of b. n. strongly arched, falling far short of t. m.; second r. n. joining apical corner of second s. m.

Related to *E. reginae* Ckll. and *E. adelaidae* Ckll., but readily known by the color of the flagellum and the broad pallid margins of the abdominal segments. The venation is like that of *E. reginae*.

Habitat.—Adelaide, Australia (*Schomburgk*).

Euryglossa sinapipes, new species.

Male.—Length about 5.5 mm.; head and thorax black, hairy, with bright mustard-yellow face-marks, tubercles, and a small transverse mark on hind border of scutellum; abdomen warm dark reddish, with thin pale hair, the hind margin of the first segment paler; eyes pea-green; face broad, facial quadrangle about square; mandibles except their ferruginous apices, clypeus except two dots and the narrow dark lower margin, a small supraclypeal mark (broader than long, separated from clypeus by a dark line), lateral face-marks (ending obliquely a little above level of antennae), and an elongate mark on each cheek beneath, all bright yellow; scape yellow, flagellum light ferruginous (possibly altered by cyanide?); mesothorax dullish, with scattered punctures; anterior legs light yellow, also the middle and hind femora; middle and hind tibiae and tarsi light reddish, but evidently altered from yellow by cyanide, as on one side the middle leg is all yellow; venter of abdomen dull reddish-orange; tegulae yellowish-hyaline; wings perfectly clear, iridescent, nervures and stigma light yellow; first r. n. meeting first t. c., second entering apical corner of second s. m.; lower section of b. n. strongly bent, falling far short of t. m.

A curious little species of the group of *E. calliopsiformis* Ckll. and *E. quadrimaculata* Sm., but with the abdomen not spotted.

Habitat.—Adelaide, Australia (*Schomburgk*). Berlin Museum 22119.

Callomelitta picta perpicta, new subspecies.

Male.—Pleura red; abdomen blue (like the typical female); legs wholly black, with light hair. The apical part of the fourth ventral abdominal segment is covered with dense pale yellowish hair; at each side of the base of the fifth is a large tuft of intensely black hair, while the sixth bears a short tooth or spine on each side.

Habitat.—Ararat, Victoria (*Rolle*). Berlin Museum. I possess a cotype of *C. picta* Sm., and have examined Smith's type male, from Tasmania. Smith's figure of the mouth of *C. picta* must have been made for an imperfect preparation; the tongue is broadly emarginate, formed as in *Prosopis*; the paraglossae are comparatively long, and have (at least in the dry state) a curious appearance, as if jointed,

June, 1900

though
slender
maxilla

Crocis

H

to C.

mark

thorax

Crocis

Mac

(Rolle)

Lestis

G

Tetrabo

P

Bingha

A

Allodap

M

Exoneu

M

Hyleoth

Ad

is a m

to belie

nula an

Prosop

Ad

Prosop

L

Prosop

L

Prosop

Ad

though there is of course no joint. The labial palpi are more slender than Smith figures, with longer joints; and the blade of maxilla is considerably longer.

Crocisa quadrimaculata Rads.

Hermannsburg, Finke River, S. Australia (*v. Leonhardi*). Allied to *C. lamprosoma*, but very easily separated by the white (not blue) markings, and the arrangement of the pubescence on anterior part of thorax.

Crocisa quartinae Grib.

Mackay, Queensland (*Rolle*); Endeavour River, Queensland (*Rolle*).

Lestis bombylans (Fabr.).

Grampians, Victoria (*Rolle*).

Tetralonia convicta Ckll.

Port Philip (*Coulon*).

Binghamiella antipodes (Smith).

Australia (*Schultz*).

Allodape simillima Smith.

Mackay, Queensland (*Rolle*).

Exoneura bicolor Smith.

Melbourne, Victoria (*Rolle*).

Hyleoides concinnula Cockerell.

Adelaide (*Schomburgk*), one female. From the same locality is a male *H. "zonalis rufocincta,"* as described by me. I am inclined to believe that the male I described as *rufocincta* belongs to *concinnula* and that attributed to *concinnula* to *rufocincta*.

Prosopis lateralis Smith.

Adelaide (*Schomburgk*).

Prosopis penetrata Smith.

Endeavour River, Queensland (*Rolle*).

Prosopis morosa Smith.

Liverpool Plains (*Melby*).

Prosopis elegans Smith.

Adelaide (*Schomburgk*); Adelaide (*Behr*).

Prosopis elongata Smith.Dandenong Ranges, Victoria (*Rolle*).¹*Prosopis rufipes* Smith.

Australia (*Schultz*). The specimen is a male, this sex being undescribed. It runs to the same place in the table of Australian *Prosopis* as the female, but has the labrum, mandibles, clypeus, a low broad supraclypeal mark, the lateral face-marks, a stripe on scape, upper edge of prothorax narrowly, and tubercles, all cream-color. The second abdominal segment has a large black patch on each side. The lateral face-marks are peculiar, extending very narrowly a long distance up the orbital margin, and having a thorn-like projection opposite the antennæ. The antennæ are not especially long; the flagellum is ferruginous beneath.

Prosopis chrysaspis, new species.

Female.—Length 10.5 mm.; black, with the following parts bright chrome yellow, semilunar lateral face-marks, projecting upper border of prothorax, tubercles, scutellum (except anterior edge, failing in middle, which is black), but not postscutellum; flagellum ferruginous beneath; legs obscurely reddish, anterior tibiæ and tarsi ferruginous on inner side; wings perfectly hyaline, nervures and stigma ferruginous; first r. n. joining first t. c.; second s. m. long; head broad; clypeus strongly and quite densely punctured; mesothorax dullish, with scattered punctures of different sizes; first ventral segment of abdomen obtusely keeled; anterior femora swollen. The lateral face-marks end obtusely above, not on orbital margin, and extend a little above level of antennæ. In my table of Australian *Prosopis* this runs, except for its large size, to the insect labelled *cyanura* in the British Museum, but which has the abdomen black, whereas *cyanura* Kirby is described as having it "atro-cærulescens."

In appearance the new species resembles *P. morosa* Smith, but it is less robust, and differs in the markings of the thorax and face, those of the face especially being wholly different.

Habitat.—Adelaide, Australia (*Schomburgk*). Berlin Museum, 19384.

Prosopis chrysognatha, new species.

Male.—Length about 7.5 mm.; black, with the markings bright chrome-yellow, as follows, transverse spot on labrum, narrow stripe on upper side of each mandible, entire face up to level of antennæ (deeply notched by antennal sockets), tubercles (but no other part of prothorax), scutellum (except anterior and lateral margins), postscutellum, anterior femora beneath (except at base), anterior tibiæ (except a brown band on inner side), middle

June, 1934

tibiae,
white
spot,
basal
abdomen

In
easily
marking
be its

Le
yellow
acute
which

Ho
male
Museum

Prosopis

the

yellow

bright

and for

darkened

clypeal

lateral

side of

hand, a

broadly

spot on

yellow

segment

depressed

meeting

with the

pointed

and not

femora

tibiae on

meets

red on

sockets

sides.

tibiae, and anterior and middle basitarsi; hind legs entirely black, the spurs white; flagellum dull reddish beneath; tegulae piceous with a small yellow spot; wings very faintly dusky, nervures and stigma dark; first r. n. entering basal corner of second s. m.; mesothorax dullish, rather closely punctured; abdomen strongly and closely punctured.

In the table of *Prosopis* this runs to *P. elongata*, from which it is easily known by the ordinary (not constricted) abdomen, and the markings of the mandibles and legs. The following insect seems to be its female:

Female.—Length 9 mm.; mandibles, labrum, tegulae and legs without yellow; clypeus black; lateral face-marks semilunar, ending in a moderately acute angle on orbital margin. In the table this runs to *P. simillima* Smith, which has a quite different male.

Habitat.—Type (male) from Melbourne, Victoria (*Rolle*). Female from Australia, Berlin Museum, 1748. Type also in Berlin Museum.

Prosopis indicator, new species.

Male.—Length about 10 mm.; black marked with red and bright chrome yellow; the legs, except the trochanters and the infuscated hind tarsi, wholly bright chestnut red; labrum, mandibles, lower and lateral edges of clypeus, and lower half of cheeks dull red; antennae red, not very long, flagellum darkened above; clypeus, except the red margins, a narrow triangular supra-clypeal mark, and lateral marks, all bright yellow; the lateral marks end considerably above the level of the antennae in a rounded lobe, from the orbital side of which comes a linear upward projection, the whole simulating a closed hand, with a short index finger pointed; projecting upper edge of prothorax broadly, tubercles, squarish patch behind, subpyriform patch above tubercles, spot on the ferruginous tegulae, axillae, scutellum and postscutellum, all bright yellow; abdomen pointed, the first two segments red, the others black; second segment clouded with blackish; first segment gibbous above, base of second depressed; wings perfectly clear, nervures and stigma dark brown; first r. n. meeting first t. c.; mesothorax dull, with feeble punctures, abdomen roughened, with punctures of different sizes.

Female.—About the same size and general appearance, noticeable for the pointed abdomen; the red is reduced to a chestnut-red suffusion on labrum and mandibles, a dark red suffusion over antennae, apical half of anterior femora, practically all of middle femora except above, anterior and middle tibiae in front, anterior tarsi, small joints of middle tarsi, and first two segments of abdomen except the broad black apical margins; the yellow is reduced to broad lateral face-marks (obtuse above, and notched by antennal sockets), tubercles, scutellum except anterior margin, and postscutellum except sides. The front in both sexes is coarsely rugosopunctate.

In the table, the male runs to *P. elegans* Smith, from which it differs by its larger size, the quite different face-marks, the red legs, etc. The female also runs nearest to *elegans*, but differs at once by the black clypeus.

Habitat.—Mallee, Victoria (*Rolle*), one of each sex (the male is the type); Adelaide (*Schomburgk*), one female, No. 19387. All in Berlin Museum.

Prosopis dromedarius, new species.

Male.—Length a little over 8 mm.; black, red and yellow; head and thorax coarsely punctured; face up to level of antennæ entirely bright chrome yellow, the lateral marks extending a little above, ending at an angle of about 45° on orbital margin; labrum largely yellow; mandibles and malar space dark reddish; mouth-parts normal for *Prosopis*; palpal joints with lateral apical points; antennæ long, entirely clear ferruginous, apical joint sulcate above; upper edge of prothorax very narrowly yellow; tubercles and tegulae red; scutellum and postscutellum each with a transverse orange patch, that on scutellum much the largest, bar-like; punctures of mesothorax and scutellum very strong; legs clear red, the trochanters dark; abdomen roughened, the first two segments red, except hind margin of second, the rest black; first two segments dorsally strongly gibbous, especially the second, presenting two humps in lateral view; wings perfectly clear, stigma and nervures testaceous, first r. n. joining first t. c.

A very distinct and peculiar species, running in the table to *P. elegans*, but differing greatly in many ways.

Habitat.—Adelaide, Australia (*Schomburgk*). Berlin Museum, 19386.

Prosopis callosa, new species.

Male.—Length about 6 mm., rather slender, black with bright chrome-yellow markings; face narrowed below, the long clypeus and adjacent lateral marks entirely yellow, the lateral marks narrow-cuneiform, ending a little above level of clypeus; no supraclypeal mark; mandibles and labrum dark; front rough with minute punctures; scape dark, a little reddish at apex (flagellum lost in type); upper border of prothorax, except in the middle, bright yellow and strongly swollen, this connected with the large yellow tubercles; no other yellow on thorax; mesothorax extremely finely punctured; thorax rather long; wings clear hyaline, iridescent, stigma and nervures rather dark ferruginous; stigma large; basal nervure arched, not reaching transversomedial; first transversocubital wholly absent on both sides; legs very dark brown, anterior tibiae orange in front; abdomen ordinary, very dark reddish-brown, the sculpture so fine as to be scarcely visible.

Habitat.—Port Philip, Australia (*Coulon*). Berlin Museum,

June, 1936

1750.

label.

table it

structur

Prosopis

Male

markings

below la

long, an

short dis

while the

dibles di

above, di

rugoso p

yellow;

tegulae p

entering

part, as

less abo

behind,

ordinary

Rum

ordinar

only, at

Hub

Prosopis

Male

yellow;

process

above, it

above, t

grooves

narrowly

all ferru

hairy, c

clear; m

first r. n.

fused w

two segm

the m

except th

to cyanic

1750. The name *callosa*, given by some unknown student, is on the label. A remarkable species, with only one submarginal cell. In the table it runs to *P. bituberculata*, from which it differs at once by the structure of the abdomen, etc.

Prosopis trilobata, new species.

Male.—Length about 6 mm.; rather slender; black, with bright yellow markings; face yellow right across, the yellow cut off squarely above a little below level of antennæ, leaving supraclypeal mark about twice as broad as long, and lateral marks broad-cuneiform; below, the lateral marks fail for a short distance, and a little dark process runs between them and the clypeus, while the clypeal yellow also ends, being broadly trilobed; labrum and mandibles dark; mouth-parts normal for *Prosopis*; antennæ rather long, black above, dark reddish beneath; scape with a reddish stripe; front dull, densely rugoso-punctate; projecting upper edge of prothorax, and tubercles, broadly yellow; no other yellow on thorax; mesothorax very minutely punctured; tegulæ piceous; wings dusky, nervures and stigma dark brown, first r. n. entering basal corner of second s. m.; legs black, except the anterior ones in part, as follows: femora rather swollen, with about the apical half behind and less above bright yellow; tibiæ orange in front except apically, and at base behind, otherwise dark red-brown; tarsi obscure reddish; abdomen black, ordinary, very delicately punctured.

Runs in the table to *P. bituberculata*, but very distinct by the ordinary abdomen, etc. The legs, with bright yellow on the first pair only, are very peculiar.

Habitat.—Mallee, Victoria (*Rolle*). Berlin Museum.

Prosopis rollei, new species.

Male.—Length slightly over 6 mm.; rather robust; black, red and orange-yellow; face broad, entirely yellow up to antennæ, and with three equal processes (one median and the others along orbital margins) a short distance above; mandibles and labrum yellow; antennæ bright ferruginous, a little dusky above; thorax robust, mesothorax strongly punctured, with indications of five grooves, counting the short parapsidal ones; upper edge of prothorax rather narrowly, tubercles, tegulæ, most of scutellum and a spot on postscutellum, all ferruginous; base of metathorax with coarse plicæ; head and thorax quite hairy, especially the vertex, sides of metathorax, and pleura; wings perfectly clear; nervures ferruginous; stigma amber-color with a ferruginous margin; first r. n. entering basal corner of second s. m.; legs bright ferruginous suffused with yellow; abdomen short, strongly punctured, black, with the first two segments red except the first broadly and the second more narrowly in the middle, the structure ordinary. A second specimen has the face red except the lower edge of the clypeus, but from the tint this is evidently due to cyanide.

Runs in the table to no group there given, but requires a new subdivision, of species with abdomen largely red, and red on scutellum and postscutellum.

Habitat.—Ararat, Victoria (*Rolle*). 2 males. Berlin Museum.

Nomia subaustralica, new species.

Female.—Length about 11 mm.; black, the abdomen somewhat metallic, with broad pale ochreous hair-bands. This species had been labelled *N. australica* by a distinguished authority, and it does indeed resemble that insect, differing as follows: rather smaller; face rather narrower, and covered with appressed or subappressed pale (dull whitish) hairs; scape red in front, base of flagellum (about two joints) lively red above and below, rest of flagellum black, except a reddish stain at apex; tegulae pale testaceous, the margins whitish; larger punctures of mesothorax even more sparse; mesothorax densely covered in front, behind and more or less at sides with easily deciduous moss-like light fulvous hair, and with no erect black hair; postscutellum covered with fulvous hair, and scutellum ornamented like the mesothorax; tubercles with pale fulvous hair; pleura with quite dense dull white hair; area of metathorax narrower (shorter anteroposteriorly), hardly sculptured; stigma shorter; first r. n. meeting second t. c.; hair on inner side of hind basitarsus white or nearly; abdomen black, the first two segments strongly tinted with green (or purplish on second); bands on first four segments pale ochreous, broad and entire; disc of first segment, before the depression, smooth and shining, with strong scattered punctures; second and third segments similar, with the addition of numerous minute punctures, which on the second are massed anteriorly.

Habitat.—Finke River, Hermannsburg, S. Australia (*v. Leonhardi*); Tennant's Creek, S. Australia (*Rolle*). The latter is the type locality. Two specimens of *N. australica* Smith in the collection are from Melbourne, Victoria (*Rolle*).

Nomia nana Smith (*ruficornis* Smith).

Adelaide (*Schomburgk*). This is the type locality.

Nomia flavoviridis adelaidella, new subspecies.

Male.—Like *N. flavoviridis* Ckll., but a little smaller; flagellum bright ferruginous above and beneath; nervures and stigma clear ferruginous. Abdomen greener than head or thorax.

Female.—Antennae dark, flagellum ferruginous beneath; nervures and stigma as in male. Abdomen very green. Two other females with the same data have dark nervures like true *flavoviridis*.

Habitat.—Adelaide (*Schomburgk*).

June, 1910.]

Nomia h

Male

and thorax
thorax du
testaceous
verging be
the white
yellow ben
wings near
of b. n.
greenish-b
minutely
tremely la
white hair
view.

Habit

2242. 1

Nomia vi

Female

white hair
of white
white hair
white hair
the middle
and the fi
subapically
clypeus ra
of the me
flagellum
tured, and
scattered
piceous;
reddish;
brown.
abdomen
a faint
part of th

Habit

Saropoda

Anst

Anthrop

Female

Nomia hippophila, new species.

Male.—Length about 7.5 mm.; dark greenish, with dull white hair; head and thorax very densely and minutely rugoso-punctate, the front and mesothorax dull, the clypeus more shining, its lower margin broadly yellowish-testaceous; face with much white hair, not entirely hiding surface; eyes converging below; mandibles reddish; hair of vertex brownish, contrasting with the white of occiput; antennæ long, flagellum dark brown above, pale reddish-yellow beneath; area of metathorax plicate; tegulæ rather large, shining rufous; wings nearly clear, iridescent, nervures and stigma dull reddish; lower section of b. n. strongly bent; legs red-brown, the femora and tibiæ more or less greenish-metallic; hind femora and tibiæ swollen, but not distorted; abdomen minutely roughened, the depressed posterior portions of the segments (extremely large on 3 and 4) shining; second and following segments with thin white hair-bands, and anterior to these some dark hair, only noticed in lateral view.

Habitat.—Port Philip, Victoria (*Coulon*). Berlin Museum, 2242. Less robust and less metallic than *N. flavoviridis*.

Nomia victoriae, new species.

Female.—Length about 8 mm., robust, black, with a moderate amount of white hair (abundant and glittering on hind legs); abdomen with a little patch of white or yellowish-white hair on each side of first two segments, some fine white hair at extreme base of third (overlapped by second); a broad apical white hair-band, more or less suffused with pale, and slightly interrupted in the middle, on third segment; a broad entire strongly orange band on fourth; and the fifth segment ferruginous, with pale orange hair. Mandibles reddish subapically; tongue dagger-shaped, not very long; face broad, finely sculptured; clypeus rather depressed in the middle, with the subapical region on each side of the middle a little elevated and shining; hair of vertex long and brownish; flagellum obscure ferruginous beneath; mesothorax rather shining, feebly sculptured, and with scattered distinct punctures; mesothorax and scutellum with scattered erect fuscous hairs; area of metathorax plicate; tegulæ quite large, piceous; wings slightly dusky, nervures and stigma fuscous, the latter rather reddish; legs black, hair on inner side of tarsi pale fulvous; hind spurs red-brown. This species is to be compared with *N. gracilipes* Smith, but the abdomen is not blue, although in one specimen the first two segments have a faint greenish tint. The ovate spots of white pubescence found on the hind part of the mesothorax in *gracilipes* are not present in the new species.

Habitat.—Ararat, Victoria (*Rolle*). Two in Berlin Museum.

Saropoda bombiformis Smith.

Australia (*Roth*).

Anthophora preissi, new species.

Female.—Length about 15 mm., very robust, width of abdomen 7 mm. or

slightly more; width of head 5.5 mm.; anterior wing about 11 mm.; black, the hind margins of the abdominal segments broadly but suffusedly coppery-reddish; labrum, base of mandibles and a reversed T on clypeus dull honey-yellow; the last has a narrow stem, rather tapering upwards, while the transverse band is very broad and long, the arms being longer than the stem of the T; flagellum ferruginous beneath; legs obscurely reddish; pubescence short, in the manner of *A. scymna* and *A. æuginosa*, but uniformly mouse-grey, on the vertex and dorsum of thorax rather yellower, and abundantly mixed with black; the abdomen also has many black hairs, which do not obscure the gray color; hair on inner side of hind tibia and basitarsus black, also more or less on inner side of middle legs, but on inner side of anterior tibia the hair is light golden.

Related to *A. scymna* Gribodo, but larger, and quite differently colored. The tegulae are dark chestnut; in *scymna* they are clear testaceous. The wings are dusky in both species.

Habitat.—Western Australia (*Preiss*). Berlin Museum, 1405.

Anthophora scymna Gribodo.

Adelaide (*Schomburgk*).

Anthophora æuginosa Smith.

Endeavour River, Queensland (*Rolle*).

Anthophora emendata gilberti Ckll.

Mackay, Queensland (*Rolle*).

Anthophora pulchra Smith.

Australia. This specimen, determined by Friese, agrees with a cotype from F. Smith's collection. The abdomen is rather broader than in *A. zonata*, and has rather narrower bands.

Anthophora zonata subcærulea Lep.

Western Australia (*Preiss*); Adelaide (*Behr*); Adelaide (*Schomburgk*).

Anthophora cingulata Fabr.

Adelaide (*Schomburgk*).

Megachile sequior, new species.

Male.—Length nearly 10 mm., with a large broad head and short abdomen; black, with pale ochreous hair, becoming white on ventral surfaces, the abdomen with dense entire apical ochreous hair-bands, the fifth and sixth segments covered with appressed ochreous hair; eyes dark, converging below; face broad, densely covered with pale hair; vertex flattened, densely punctured; cheeks rather narrow; antennæ slender, ordinary, the flagellum dull brown

beneath; mesothorax and scutellum densely rugosopunctate; anterior part of mesothorax with a pair of ill-defined short bands of pubescence probably better defined in fresher specimens; area of metathorax dull, concave in the middle; tegulae clear rufotestaceous; wings slightly dusky, stigma ferruginous, nervures fuscous; legs black with pale hair, anterior tibiae in front and small joints of tarsi, rufescent; anterior tarsi simple; anterior coxae hairy, with short spines; abdomen broadly excavated at base; sixth segment swollen in the middle toward base, its margin truncate, with a rather large rounded black tooth at each corner of the truncation; seventh without spines.

Superficially very like *M. cygnorum* Ckll., but distinguished by the simple anterior tarsi. There is a strong general resemblance to the European *M. apicalis*, but the Australian insect is larger, and the apical structure of the abdomen is different.

Habitat.—Adelaide (*Schomburgk*). Berlin Museum, 20640.

Megachile semicandens, new species.

Male.—Length about 7 mm.; black, with the abdomen beyond the second segment entirely bright apricot color; the second segment has the hind margin red, and three suffused spots, one in the middle, and one on each side, confluent with the red of the margin; antennae long and slender, the flagellum dull reddish beneath; tibiae and tarsi reddish-brown, the anterior tibiae ferruginous in front; head longer than broad, broad-oval; eyes purplish; face densely covered with white hair; hair of head and thorax above thin, dull whitish; cheeks and vertex rather large; tegulae fuscous; wings nearly clear, the stigma and nervures ferruginous; anterior tarsi simple; anterior coxae without spines; sixth abdominal segment vertical, its margin with two widely separated teeth; seventh without spines.

Resembles *M. abdominalis* Smith, but distinguished by the color and structure of the abdomen. There is a strong superficial resemblance to certain forms of *Osmia*, as *O. andrenoides*, but there are no pulvilli.

Habitat.—Adelaide (*Schomburgk*). Berlin Museum, 19407.

Megachile phenacopyga, new species.

Male.—Length 11 mm., the abdomen short; exactly like *M. chrysopyga* Smith, except as follows: face broader, the dense hair covering it pale yellowish, shining white on clypeus; apex of anterior femora and outer side of tibiae not black, but with a little blackish stain; anterior tarsi cream-color, broadly dilated, the first joint fringed on inner side with fuscous hairs, the others with ferruginous, the long white hair of the hind margin tipped with black or fuscous; apical tooth of mandible longer.

Habitat.—Eastern Australia (*Preiss*). Berlin Museum, 1004. Someone had labelled this *M. chrysopyga*, but the real *chrysopyga*

(as described by Smith) is represented by a male from Ararat, Victoria (*Rolle*). In this the second joint of anterior tarsi is produced into a great ferruginous lobe, and the first joint has a smaller apical ferruginous lobe. The other joints are creamy-white. In both species the anterior femora are striped with black on inner side at base, and there is a patch of red hair on anterior coxæ. A female *M. chrysopyga* is from Sydney (*Dämel*). Another is from Port Philip (*Coulon*). It differs by the pale yellowish (instead of deep ferruginous) hair of the face, and may possibly be the female of *phenacopyga*, though it seems otherwise to be a *chrysopyga*.

***Megachile vestitor*, new species.**

Male.—Length about 14 mm., parallel-sided, black, resembling *M. lucidiventris* Smith in size, form, and the arrangement of the pubescence, but very distinct by the wings, which are clear hyaline except the apical field of the anterior ones, beginning about the end of the first s. m., which is occupied by a rufo-fuscous cloud, dilute below, but dark above, in and beyond the marginal cell; the venation also differs from that of *lucidiventris*, the b. n. falling considerably short of the t. m., and the second s. m. being very much shorter, with the first r. n. joining it as near to the base as the second to the apex; in consequence of the difference in the length of the second s. m., the marginal cell projects much more beyond it than in *lucidiventris*. The abdomen is shining, with strong well separated punctures; in *lucidiventris* it is dullish and very densely rugoso-punctate. Head large, round seen from in front; eyes dark greenish; inner orbits parallel; face densely covered with brownish-white hair; vertex with black hair; flagellum ferruginous beneath; last antennal joint subtruncate, with a shining apical disc; mesothorax strongly and densely punctured, with greyish-white hair mixed with black; hair of scutellum and metathorax dense and greyish-white; tegulæ shining piceous, hairy; legs black with mostly pale hair, anterior femora with long black hair at base, hidden by pale; anterior tibiae reddish, ferruginous on inner side; anterior tarsi dark brown, but broadly flattened, the first joint with a large shallow canoe-shaped lobe; second and third joints with black spots within; hind margin of tarsi with the usual long fringe, fuscous within; middle tarsi with very long hair posteriorly; abdomen with pale hair on first two segments; following two with short black hair, but some glittering white at extreme sides; fifth and sixth segments with long black hair; venter with white hair; sixth segment strongly longitudinally keeled, the apical margin broadly rounded, with a strong central tooth or spine; no teeth below.

By the structure of the abdomen, this is related to *M. fabricator* Smith, but that species is smaller, and seems to be different, judging from Smith's too short description.

Habitat.—Eastern Australia (*Preiss*). Berlin Museum, 1002.

June, 1902.

Megachile

pubescence
first joint
ferruginous
penicillate
tint of
for male
reddish

H.

is a
insect

Megachile

but of
wings
reddish
abdomen
orange
hinder
Eyes
hair
which
side
tegula
t. m.
broad

I.

Mega

ordin
prose
grey
tride
its m
exte
anti
pleat
to
stagn
tarsal
whit
long

Megachile nasuta argentifer, new subspecies.

Female.—Length a little over 12 mm., parallel sided, black, with the pale pubescence white, the first two segments of abdomen with white hair (only first in *nasuta*), the others with short black hair; a large round patch of orange-ferruginous hair on the last segment, invading the apical margin of the penultimate one; ventral scopa entirely silvery-white, with a slight creamy tint (pale fulvous in *nasuta*). The great clypeal prominence is as described for *nasuta*, except that its margin is only very feebly crenulate. The eyes are reddish, and diverge below. The wings have the apical field dilute brown.

Habitat.—Melbourne, Victoria (*Rolle*). Berlin Museum. There is a superficial resemblance to *M. henrici* Ckll., especially when the insects are seen from behind.

Megachile preissi, new species.

Female.—Length about 8 mm., evidently very close to *M. clypeata* Smith, but apparently distinct by its larger size, distinctly dusky (though not dark) wings, femora and anterior tibiae ferruginous in front, abdomen very dark reddish, the extremely dense punctures of head and thorax above minute; the abdomen also has very narrow but entire marginal hair-bands. There is short orange-ferruginous hair on the vertical apical segment, also invading the hinder part of the penultimate one. The ventral scopa is entirely white. Eyes brown, slightly converging below; sides of face with spreading white hair, middle with brown hair; clypeus overlapped by long brown hairs, beneath which is white hair; clypeus with a median tooth and a large process on each side; mandibles bidentate, sulcate, reddened subapically, flagellum red beneath; tegulae dark red; second s. m. very long; b. n. falling only a little short of t. m.; hair on inner side of hind tarsi orange-fulvous; base of abdomen broadly excavated, the basin with a distinct rim.

Habitat.—Eastern Australia (*Preiss*). Berlin Museum, 1008.

Megachile adelaidæ, new species.

Female.—Length 10 mm., black, with mostly pale pubescence; a small ordinary-looking species, the specimens not in very good condition, but presenting the following distinctive characters: head large and broad; eyes greyish; front and vertex very densely punctured; mandibles deep red, tridentate; clypeus densely punctured, with more or less of a smooth ridge on its upper part; flagellum bright ferruginous beneath; mesothorax and scutellum extremely densely punctured; mesothorax a pair of small spots of white hair anteriorly; a little patch of white hair above base of wings; metathorax and pleura with much white hair; area of metathorax granular, with a median raised line; tegulae dark reddish; wings clear, a little reddish, nervures and stigma ferruginous; legs dark brown, with pale hair, that on inner side of tarsi yellowish; abdomen cordiform, last segment not vertical, segments with whitish or ochreous bands, not always distinct; sides of apical segments with long black hair; ventral scopa white, black on last segment; hind spurs dark.

Related to *M. macularis* Dalla Torre, but much smaller, and with differently colored mandibles.

Habitat.—Adelaide (*Schomburgk*). 2 females. Berlin Museum, 19410.

***Megachile remotula*, new species.**

Female.—Length 10–11 mm., black with mostly white (not abundant) pubescence, the last two abdominal segments covered except at sides by appressed shining orange-fulvous hair; head large and broad, eyes slightly converging below; face with abundant spreading white hair at sides; on the vertex the hair is fuscous, and fuscous hair is mixed with the white on the front, on the clypeus it is white; clypeus densely punctured, its upper part with a median raised line, its lower margin quadridentate, the teeth small, the inner pair only clearly dentiform, while from beneath this edge project short orange hairs; mandibles broad, dark reddish, with three teeth, not counting the inner edge; front very densely punctured; ocelli rather large; flagellum ferruginous beneath; mesothorax and scutellum dull, exceedingly densely punctured, with short hardly noticeable fuscous hair; other parts of thorax with rather long white hair; area of metathorax with a sericeous, rather shining surface; tegulae dark reddish, closely punctured; wings dusky, stigma and nervures dark fuscous; second s. m. long, receiving the recurrent nervures about equally distant from base and apex; b. n. meeting t. m.; legs reddish-black, in parts distinctly reddish; hind spurs peculiar, blunt, with a little apical claw like hook; first abdominal segment with a patch of white hair on each side; segments 2 to 4 with narrow white apical hair-bands; apical segment not far from vertical; ventral scopa entirely white.

M. remotula is related to *M. ferox* Sm., of which only the male is known.

Habitat.—Eastern Australia (*Preiss*). 2 females. Berlin Museum, 1003.

***Megachile trichognatha*, new species.**

Females.—Length about 10 mm., black, rather slender, parallel sided; head oblong, rather longer than broad; eyes greenish, greyish in front; cutting edge of mandibles densely fringed with orange-fulvous hair; clypeus transverse, densely punctured, with a small snout-like median apical elevation; sides of face with white hair; flagellum dull ferruginous beneath; cheeks broad, rounded; front, vertex, mesothorax and scutellum densely punctured, but the thorax still shining; a little patch of white hair above base of wings; sides of metathorax with white hair; area dull, the basal half rugose; tegulae piceous; wings a little dusky, nervures and stigma dark fuscous, sometimes ferruginous; b. n. falling a very little short of t. m.; legs black, claws ferruginous; abdomen well punctured, deeply excavated at base, second to fourth segments constricted basally; hind margins of segments one to three with variously

June

incon
from

R

much

proc

3

under

bene

last

whit

emag

no ap

T

the

flag

14

fema

male

to M

Mega

N

Mega

1

Mega

N

Mega

1

mine

front

whit

tive

Mega

S

Mega

A

(P)

17

17

incomplete hair-bands, most noticeable as lateral patches; last segment not far from vertical, but curved outward a little apically; ventral scopa entirely white.

Related to *M. fulvomarginata* Ckll., but smaller, with the cheeks much more densely punctured (more or less grooved), the median process of clypeus larger, and hind spurs yellowish-white.

Male.—Length about 8–8.5 mm.; the white hair of head, thorax, legs and under side of abdomen abundant and quite long; flagellum clear ferruginous beneath; tegulae dark reddish; wings clear, nervures and stigma ferruginous; last two segments of abdomen with pale orange hair, and scattered very long white ones; sixth segment with a broad emargination, the angles bordering the emargination sharp and dentiform, there is also a very small median denticle; no apical ventral teeth.

This may be compared with *M. tomentella* Ckll., but differs by the anterior coxae having well-developed though short spines, the flagellum red beneath, the ferruginous nervures, etc.

Habitat.—Adelaide (*Schomburgk*). Berlin Museum, 19409. 4 females, 3 males. The species is based on the female; the associated males appear to belong to it. The insect is superficially very similar to *M. preissi*.

Megachile pictiventris Smith.

Mackay, Queensland (*Rolle*).

Megachile lucidiventris Smith.

Liverpool Plains (*Melby*).

Megachile quinquelineata Ckll.

Melbourne; Victoria (*Rolle*); Eastern Australia (*Preiss*).

Megachile macularis Dalla Torre.

Port Phillip (*Coulon*). This is the insect I have always determined as *macularis*, as it agrees with the description. A specimen from F. Smith's collection, obtained at Sydney, is smaller and has white hind spurs. This must be distinct, and not a true representative of the species.

Megachile latipes Smith.

Sydney (*Dämel*); Adelaide (*Behr*).

Megachile henrici Ckll.

Adelaide (*Schomburgk*); Sydney (*Dämel*); eastern Australia (*Preiss*). The females are very variable in size; length 12.5 to 17 mm.

Megachile cygnorum Ckll.

Adelaide (*Schomburgk*); eastern Australia (*Preiss*). One specimen bears a label stating it to be the male of *maculata* Smith (*macularis* D. T.); it is possible that this reference is correct, but the hair of the face is much lighter than "golden yellow," and there are apparently other differences.

NEW SPECIES OF PSAMMOCHARIDÆ.

BY NATHAN BANKS,
EAST FALLS CHURCH, VA.

The generic term, *Psammochares*, was first used by Latreille in his "Precis." As with other genera in this work, no species was mentioned. Its next appearance is in the *Histoire Naturelle*, Vol. III., 1802, where, under the genus *Pompilus*, Latreille says that he had previously called this genus *Psammochares*, but prefers *Pompilus*, since it is "*plus douce des oreilles*." A species is given, so that *Psammochares* must date from 1802; others there are who would date in from the "Precis," 1796. In Latreille's later works *Psammochares* appears as a synonym of *Pompilus*, but it appears to have escaped most of the cataloguers. *Pompilus* is unfortunately preoccupied, so that *Psammochares* will replace it. Mr. Fox has suggested *Anoplius*, 1830, to replace *Pompilus*, overlooking *Psammochares*. Mr. Fox has suggested also that the family be called *Ceropalidæ*; but *Ceropales* was proposed in the same work as *Psammochares*, and on a later page; moreover, some writers consider the *Ceropalidæ* as a family just for the genus *Ceropales*; therefore I shall employ *Psammocharidæ*.

Psammochares albomarginatus, new species. .

Male.—Black, with dense silvery pubescence, especially on face, prothorax, pleura, coxæ and posterior metathorax. Clypeus broad, truncate in front; a faint line from antennæ to ocelli; anterior ocellus fully its diameter from laterals; vertex nearly straight across; antennæ short and thick; head white-haired behind and silvery; pronotum angulate behind, posterior margin distinctly white; metathorax short and sloping, with a median groove; abdomen slender, subcylindrical, apical segment depressed, and gray-haired above,