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XIV.—Notes on the Apidæ (Hymenoptera) in the collection of the British Museum, with descriptions of new species

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in continental *sibirica*. General colour uniformly dark otter-brown (near "vandyke-brown"), darker than in *quelpartis* above, and still more so on the sides, which are quite without the strong russet tinge so marked in that animal. Under surface slightly paler, without russet suffusion. Head darker brown; chin irregularly mottled with white on interramia and edges of mouth, but no conspicuous backwardly extended patch is formed, as is the case in *quelpartis*; a small white patch on lower throat. Limbs uniformly brown. Tail longer than in *quelpartis*, brown, its underside with a slight cinnamon suffusion.

Skull about as in *M. quelpartis*; inner lobes of m^1 larger than in that animal.

Dimensions of the type (measured on the skin):—

Head and body 315 mm.; tail 200; hind foot 57.

Skull: condylo-basal length 58·7; zygomatic breadth 30; interorbital breadth 11·7; breadth of brain-case 25·3; palatal length 25·6; p^4 , length on outer edge 6·5; m^1 , breadth 4·6; antero-posterior diameter of inner lobe 3·3.

Hab. Formosa. Type from Mt. Arizan; 8000'.

Type. Young adult male. B.M. no. 12. 11. 23. 4. Original number 26. Collected March 1912, and presented by Walter Goodfellow, Esq.

This Formosan representative of the Eastern Mink has got the long tail of the continental *M. (L.) sibirica*, with an even more uniformly brown colour than the comparatively short-tailed *Quelpart* mink, with which it agrees in size.

Swinhoe (P. Z. S. 1870, p. 624) mentions *Mustela sibirica* from Formosa, but did not send home any specimens, so that Mr. Goodfellow's example is the first that the Museum has received from the island.

XIV.—*Notes on the Apidæ (Hymenoptera) in the Collection of the British Museum, with Descriptions of new Species.*
By GEOFFREY MEADE-WALDO, M.A.

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II. Subfamily *NOMADINÆ*.

THE present paper is a continuation of that published under the same title in *Ann. & Mag. Nat. Hist.* (8) x. p. 461 (1912).

Besides notes on species already known, nine species are described as new, of which the most interesting are the two new *Epeolus* from Abyssinia.

All the types are in the British Museum.

CROCISA, Panz.

The species of *Crocisa* from the Oriental-Australian region are partly dealt with by Friese (Zeitschr. Hym. Dipt. pp. 1-12, 1905). Later, the Australian species are tabulated by Cockerell (Entom. News, vol. xviii. p. 46, 1907; and Bull. Amer. Mus. Nat. Hist. xxiii. pp. 232-33).

Crocisa bidentata, W. F. Kirby, represented by two male specimens, is a very striking species from the Hari-rud Valley, Afghanistan. In the type the second transverso-cubital nervure is only rudimentary in both wings, but in the other specimen the venation is normal. The abdomen is entirely black, and there does not appear to have been any change in coloration through the agency of spirit, in which the specimens were evidently preserved after capture. The anterior wings are very darkly infusate, and the pygidium is bituberculate, with a longitudinal keel.

It is curious that another species of *Crocisa* described by Kirby from Sokotra (*Crocisa uniformis*, W. F. Kirby) should have also been a black species. Kohl considers it to be nearly allied to *C. ramosa*, Lep.; it certainly may prove to be a geographical race of that species.

Crocisa picta, Smith.

Crocisa picta, Smith, Catal. Hymen. Brit. Mus. ii. p. 277 (1854). ♀.
Crocisa guineensis, Rad. Bull. Soc. Natural. Moscou, p. 172 (1893). ♂.

Vachal described the female of *C. guineensis* (Ann. Soc. Ent. France, p. 379, 1903). In *C. picta* there is a longitudinal carina along the whole length of sternite 5, not only at the apex, as Friese states ('Die Bienen Afrikas,' p. 302).

MESONYCHIUM, Lep. et Serv.

Ducke has recently (Zoolog. Jahrb. p. 106, 1912) synonymised *Melissa*, Smith, with this genus. The species of *Mesonychium* fall into two natural groups, into the second of which, the *Mesoplia* group, fall all the species described by Smith as *Melissa* with the exception of *M. asteria*. This species, which is synonymous with *M. maculata*, Fr., belongs to *Mesonychium*, s. str.

For the sake of convenience a short key to those species of which the British Museum has the types is appended :—

♀ ♀.

1.	{ Head or head and thorax with some pale pubescence.....	2.
	{ Head and thorax with entirely black pubescence. L. 13 mm. (St. Vincent, W. Indies.)	<i>imperiale</i> , Ashm.
2.	{ Head and thorax with pale pubescence....	3.
	{ A tuft of white pubescence on outer side of each antenna and a white fringe on occiput. L. 17½ mm. (Orizaba, S. Mexico.)	<i>insigne</i> , Sm.
3.	{ Large size. Wings dark fuscous. A fringe of pale pubescence on prothorax and along the inner side of the tegulæ. L. 19 mm. (Brazil, Santarem.)	<i>regale</i> , Sm.
	{ Small size (13–14 mm.). Wings subhyaline, fuscous apically	4.
4.	{ Head and mesothorax for the most part clothed with a short, glittering, emerald-green pubescence; face on each side and occiput covered with a long white pile. Abdomen unicolorous, green. L. 14 mm. (Brazil.)	[<i>itubina</i> , Ducke).
<i>decoratum</i> , Sm. (= <i>ita-</i>
	{ Head and mesothorax black; face covered with a short silvery-white pubescence. Abdomen green, laterally with white markings. L. 13 mm. (Brazil, Santarem.)	[<i>lata</i> , Friese).
<i>asteria</i> , Sm. (= <i>macu-</i>

EPEOLUS, Latr.

Epeolus natalensis, Smith, from Natal, appears to be very near *E. militaris*, Gerst., but is distinct. The type (a male) is not in very good condition and has the apical segments of the abdomen telescoped. The axillar teeth are broader and blunter than in *E. militaris*. The most distinctive character is the presence of a rich brown pubescence on the fifth tergite.

The genus was omitted by Bingham in 'Fauna of British India, Hymenoptera.' At the time of publication (1897) only one species (*E. fervidus*, Smith) was recorded from India, though Cockerell has since added another from the same part of India (Bombay), while a third species from Assam is here described for the first time.

Epeolus assamensis, sp. n.

♂. Niger; facie, pleuris, sterno, pedibus, segmentisque abdominalibus apice fasciis medio-interruptis griseo-pubescentibus;

mandibulis apice ferrugineis; capite thoraceque dense rugulose-que punctatis, abdomine nitido vix punctato; labro duobus tuberculis parvis; alis plerumque hyalinis, sed area apicali fusco-hyalina.

Long. 7 mm.

Black; the front, postorbits, pleura, legs, and sternum covered with a griseous pubescence. Mandibles ferruginous at apex. First abdominal tergite covered with griseous pubescence basally and laterally, that on sides excavated to form an apical interrupted fascia, following tergites with interrupted apical fasciæ of similar pubescence; sternites 2 and 3 with continuous fasciæ of griseous pubescence, fourth and fifth with fringe of curled brown hairs ("Wimperhaare," *Friese*).

Head and thorax evenly and rugosely punctured; abdomen shining, very finely punctured.

Third and fourth antennal joints subequal; scutellum prominent, with a strong median depression; axillar teeth robust, well developed.

Wings clear hyaline at base, with apical area fusco-hyaline; second abscissa of radius about half the length of first abscissa.

Length 7 mm.

ASSAM: Shillong, April 1903 (*R. E. Turner*). 2 ♂♂.

This species comes very near *E. peregrinus*, Ckll., but differs in the following details:—The markings of griseous pubescence in *E. peregrinus* take the form of "subdorsal spots" on tergites 3–7, in the present species the pubescence is in interrupted fasciæ; the second cubital cell is subtriangular in the former species, in the latter there is a distinct abscissa of the radius; the head and thorax of the former are distinctly *shining*, with the punctures comparatively scattered, in the latter they are dull and very close.

For differences between *E. peregrinus* and *E. fervidus*, Sm., *vide* Ann. & Mag. Nat. Hist. (8) viii. p. 668 (1911).

Epeolus tibetanus, sp. n.

♀. Niger; segmentis abdominalibus fasciis continuis apice griseo-pubescentibus; mandibulis apice, tibiis tarsisque plerumque ferrugineis; capite thoraceque rugose punctatis, abdomine subnitido; alis hyalinis, parte apicali subfusca; labro integro.

Long. 9 mm.

Black; head and thorax covered with a griseous pile of varying density, thickest on face and pleura. Mandibles at apex, tibiæ and tarsi for the most part, ferruginous. Abdo-

minal tergites 1-5 with continuous apical fasciæ of whitish pubescence, the whole ventral surface of the abdomen clothed with whitish pubescence. Head and thorax coarsely and rugosely punctured; scutellum prominent, with a median depression, the axillæ (lateral teeth) small and acute. Wings hyaline; the apical third subfuscous, stigma and nervures black.

Length 9 mm.

TIBET: Gyantse (13,000 feet), June 1904 (*H. J. Walton*). Collected on the Tibet Expedition, 1903-4. 5 ♀ ♀.

The host of this species is probably *Colletes sanctus*, Ckll., a long series of which was caught in the same locality at the same time.

The species may be readily recognized by the unbroken abdominal fasciæ and the entire labrum. It would otherwise seem to resemble *E. transitorius*, Eversm., var. *seraxensis*, Rad., from Transcaspia, and *E. fallax*, Mor., from Algeria. In addition to the characters mentioned above, it differs from the former in having the scutellum and tegulæ black.

Epeolus ventralis, sp. n.

♂. Niger, albido-tomentosus; facie clypeoque, thoracis lateribus sternoque, mesonoto duabus lineis longitudinalibus, abdominis segmentis fasciis apicalibus, 1 et 2 medio interruptis, 3-6 continuis, albido-tomentosis; segmentis ventralibus 2 et 3 apice albo-, 4-6 brunneo-fasciatis; antennarum articulo 2 infra ferrugineo; alis pallide fuscis; labro integro.

Long. $10\frac{1}{2}$ mm.

Black, more or less clothed with whitish pubescence. The face and clypeus somewhat thickly clothed, thorax above finely, with two distinct longitudinal lines of pubescence along the anterior margin of disc of mesonotum; postscutellum and median segment laterally clothed with whitish pubescence. Abdomen: tergites 1 and 2 with apical fasciæ interrupted medially (that on tergite 1 bilobed), tergites 3-6 and sternites 2 and 3 with continuous apical fasciæ of whitish pubescence. Sternites 4-6 with an apical fringe of curled brown hairs. Second joint of antennæ beneath ferruginous red. Wings smoky. Stigma and nervures black. Head and thorax coarsely and evenly, abdomen finely punctured. Scutellum divided medially to form two blunt lobes, axillæ small and acute.

Length $10\frac{1}{2}$ mm.

CHINA: Hsikou, near Tientsin, 17. vi. 06 (*F. M. Thompson*). 1 ♂.

This species superficially resembles *E. tristis*, Eversm., but has the labrum entire, and the apical abdominal fascia on tergite 3 is continuous.

Epeolus incrassatus, sp. n.

♂. Niger supra, ferrugineus infra, albo-hirtus; clypeo apice, labro mandibulis, pronoto, pleuris, segmentis ventralibus pedibusque plerumque ferrugineis; capite, thorace (vertice mesonotoque exceptis) pedibusque albo-hirtis; segmentis abdominalibus dorsalibus 1 et 2 apice laterale albo-fasciatis, 3 et 4 maculis albis, segmentis ventralibus plerumque albo-hirtis; alis hyalinis, parte apicali subfusca; labro integro.

Long. 9 mm.

Black, for the most part clothed with white pubescence; clypeus at apex, mandibles, pronotum, pleura, axillæ, legs for the most part, and abdominal sternites ferruginous red. Abdominal tergites 1 and 2 with broad latero-apical fasciæ of white pubescence, very broad at the sides, interrupted medially, fascia on tergite 1 bilobed; tergites 3 and 4 with four ovate white apical spots, and tergites 5 and 6 with two spots; sternites and legs for the most part clothed with fine, short, white pubescence, sternite 4 with an apical fringe of curled fulvous hairs. Tarsi clothed on the inside with golden brown pubescence. Scutellum prominent, with a distinct median depression.

Head and thorax coarsely, abdomen more finely punctured, axillæ sharp, prominent; posterior tarsi very massive, coxæ and femora particularly incrassate. Wings hyaline, apically subfuscous; stigma and nervures black.

Length 9 mm.

SOUTH AFRICA: Basutoland (*R. Crawshay*). 1 ♂.

This species is quite distinct from *E. militaris*, the only South African species known at present with axillar teeth.

Epeolus fulvohirtus, Cam.

Crocisa fulvohirta, Cam. Trans. S. Afr. Phil. Soc. vol. xv. p. 247 (1905).

I am of opinion that Cameron's species, the type of which is in the British Museum, is an *Epeolus*, and *E. kobrowi*, Brauns, Verh. zool.-bot. Ges. Wien, p. 10 (1909), is probably co-specific.

Epeolus cameroni, nom. nov.

Epeolus bifasciatus, Cam. Zeitschr. Hym. Dipt. vii. p. 136. (W. Mexico.)

This species needs a new name, since Cresson described an
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Epeolus bifasciatus (Proc. Entom. Soc. Philad. iii. p. 38, 1864). More recently Jörgensen used the name yet again for a species from Argentina, and his species has been renamed *E. potrerillensis* by Jensen Haarup.

NOMADA, Scopoli.

Nomada xanthidica, Ckll.

Nomada versicolor, Smith, Catal. Hymen. Brit. Mus. ii. p. 242 (1854).
♀. (N. China.)

Nomada japonica, Smith, Trans. Entom. Soc. Lond. p. 203 (1873). ♀.
(Japan.)

A careful examination of the type specimens of these insects has failed to reveal any satisfactory structural character for their separation. The ferruginous markings on the mesonotum of *N. xanthidica*, though absent in the type of *N. japonica*, are present in another specimen from Hiogo, and such colour-markings are often variable. Alfken asserted some time ago that the two species were identical; but Professor Cockerell believed them to be distinct (Trans. Amer. Ent. Soc. xxxi. p. 364, 1905).

Bingham ('Fauna Brit. India,' i. p. 465) considers *N. subpetiolata*, Sm. (1879), from Bombay, to be synonymous with the same author's *N. adusta* (1875). It would seem that the variety he mentions (*l. c.* p. 466) is Smith's *N. subpetiolata*. There can, however, be little doubt they are distinct species. *N. adusta* (type in G. R. J. Rothney Coll.) has the "scutellum, postscutellum, the tubercles, and collar yellow," according to the original description, and there is no mention of the longitudinal mesonotal groove to which Bingham refers in his description of the variety (*l. c.*). *N. subpetiolata* (type in B. M.) has the thorax "ferruginous, with a black longitudinal groove on the mesothorax," and Smith would certainly have mentioned the groove if present in *N. adusta*.

Nomada turneri, sp. n.

♀. Nigra, capite thoraceque punctatis, corpore nitido; mandibulis clypeo (basi excepto) area faciali infra, scapo, flagello infra (articulo ultimo plerumque), linea postoculari, axillis, tegulis, scutello, postscutello, lineaque mesopleuris, ferrugineis; segmento abdominali secundo fascia basali, segmento quinto omnino ferrugineis, pedibus ferrugineo-variegatis; alis fusco-hyalinis, area apicali fusca.

Long. $6\frac{1}{2}$ mm.

♀. Black; the mandibles, clypeus (base excepted), the inner orbits below, the scape, flagellum beneath (apical half of terminal joint almost entirely), a line behind the eyes, axillæ, tegulæ, scutellum and postscutellum, and a longitudinal line on mesopleura ferruginous. A broad basal fascia on second tergite, and tergite 5 altogether, ferruginous.

Anterior legs entirely, intermediate and posterior coxæ, trochanters, and tibiæ for the most part, ferruginous.

Head and thorax covered with regular granulose punctures; abdomen shining, impunctate. Enclosed space at base of median segment. Head and thorax with inconspicuous pale tawny pubescence, sides of median segment with a dense patch of white pubescence. Antennæ with a small longitudinal tubercle between their bases. Wings fusco-hyaline, the extreme apical area darker, stigma and nervures black. Third cubital cell much narrowed towards radius, so that the third abscissa of the radius is only half as long as the second.

Length $6\frac{1}{2}$ mm.

ASSAM: Shillong, v., vii., and viii., 1903 (*R. E. Turner*); 4 ♀♀, 3 ♂♂; SIKKIM: Darjeeling, 7000 feet, iii. 1894 (*Bingham Coll.*); 1 ♀.

♂. Differs only sexually from the female, except that the scape is entirely black; pygidium emarginate at apex.

This species runs out at *B. b. b'*. in Nurse's key to the Indian species (*Ann. & Mag. Nat. Hist.* (7) xi. p. 545, 1903), as there are no black species with ferruginous markings included.

Nomada wickwari, sp. n.

♀. Ferruginea, abdomine nigro, maculis flavis variegato; facie thorace sparsim, segmento mediano dense, segmentis abdominalibus 3-6 lateribus, coxis tarsisque albo-hirtis; scutello bilobato, capite thoraceque punctatis, abdomineque nitido; alis hyalinis.

Long. 6 mm.

♀. Ferruginous, the mesosternum and abdomen (except for yellow spots) black; tergite 2 with large, ovate, lateral spots at base; tergites 3 and 4 each with two apical marks, yellow. Face, pleura, coxæ 2 and 3, and median segment with a silvery-white pubescence, densest on the median segment; lateral fasciæ on abdominal segments 3-6 (tergites and sternites) of a similar pubescence.

Head and thorax coarsely and evenly punctured; the scutellum bilobed, shining, with a few scattered punctures;

abdomen shining, impunctate. Joint 3 of antennæ $1\frac{1}{2}$ times as long as joint 4.

Wings hyaline, faintly fuscous at extreme apical margin; third cubital cell subtriangular, second and third transverso-cubital nervures almost coalescing on the radial nervure.

Length 6 mm.

1 ♀.

CEYLON: Colombo, 1910 (*O. S. Wickwar*).

Collected and presented to the British Museum by Mr. O. S. Wickwar, after whom the species is named.

Through the courtesy of Colonel C. G. Nurse I have been able to examine the type of *Nomada priscilla* from North India, to which species *N. wickwari* is nearly related. Nurse's species, however, is smaller and more slender, with joints 3 and 4 of the antennæ equal; the neururation, too, is different from that of the present species.

Nomada antennata, sp. n.

♀. Nigra, thorace ferrugineo; segmento secundo abdominis maculis duabus flavis; capite thoraceque punctatis, abdomine nitido; antennis nigris, elongatis; alis subfuscis.

Long. 6 mm.

♀. Black; thorax and anterior tarsi beneath ferruginous; two ovate basi-lateral spots on tergite 2 and two small indistinct marks on tergite 5 pale yellow. Head and thorax with a sparse pale pubescence.

Metatarsus iii. with short tawny pubescence beneath.

Head and thorax coarsely and evenly punctured; abdomen shining, impunctate. Antennæ of considerable length, joints 3 and 4 subequal. Wings fusco-hyaline, third cubital cell much narrowed above.

Length 6 mm.

1 ♀.

CEYLON: Kandy (*O. S. Wickwar*).

Resembles *N. wickwari* in general facies, but is at once distinguished in having long black antennæ, with joints 3 and 4 subequal, and the head and legs black.

Five species of *Nomada* are now known from widely separated localities in the Æthiopian Region; no specimens appear to have been received from Central Africa as yet.

The following key may help to separate the Æthiopian forms:—

1.	{ Larger species, 12-13 mm.	2.
	{ Smaller species, 8-9 mm.	3.
2.	{ Flagellum black above, ferruginous below ;
abdominal segment 1 ferruginous ; ter-
gite 2 with a narrow apical fascia, yellow.
L. 13 mm.	[(Cape Colony.)
<i>gigas</i> , Friese, ♀.
	{ Antennæ ferruginous, except joints 10-13,
which are black ; abdominal segment 1
black, following segments black and
yellow. L. 12 mm.	[(Abyssinia.)
<i>abyssinica</i> , sp. n., ♂.
3.	{ Third joint of antennæ, seen from below,
distinctly longer than fourth ; first tergite
brick-red. L. 8 mm.	[(Transvaal.)
<i>kobrowi</i> , Brauns, ♂.
	{ Third joint of antennæ, seen from below,
equal to fourth ; first tergite black. L.
9 mm.	4.
4.	{ Disc of mesonotum with two longitudinal
reddish lines ; pleura mostly red, seg-
ment 6 red	[(Old Calabar.)
<i>africana</i> , Friese, ♀.
	{ Disc of mesonotum and pleura entirely
black ; segment 6 yellow	[(Abyssinia.)
<i>hararensis</i> , sp. n.

Nomada abyssinica, sp. n.

♂. Nigra, abdomine maculis fasciisque pallide flavis ; mandibulis, clypeo apice extremo, antennis (articulis 10-13 exceptis) angulis pronoti, callis humeralibus, tegulis, scutello, pygidioque ferrugineis ; pedibus (coxis trochanteribus femoribusque exceptis) ferrugineis, facie, area postoculari, sterno, segmentis ventralibus basalibus albo-, labro, metanoto, tarsis, segmentisque ventralibus apice plus minusve fulvo-hirtis ; capite thoraceque rugose punctatis, area excisa metanoti glabra, abdomine minute punctato ; alis fusco-hyalinis, area apicali fusca.
Long. 12 mm.

♂. Black ; the mandibles, clypeus at extreme apex, antennæ except joints 10-13, lateral angles of pronotum, calli humerales, tegulæ, scutellum and pygidium ferruginous ; legs (except coxæ, trochanters, and femora basally) ferruginous ; tergites 2 and 3 with large ovate lateral spots, almost touching above, and tergites 4-6 with apical fasciæ, pale yellow. The face, postocellar region, sternum, and basal sternites covered with a white pubescence ; labrum, median segment, tarsi, and fasciæ on apical sternites with fulvous pubescence. Head, thorax, and coxæ evenly and distinctly punctured, abdomen and legs more finely, excised space at base of median segment glabrous. Tergite 1 and anterior and intermediate femora shining, practically impunctate.

Wings fusco-hyaline, the apical area darker. Clypeus truncate anteriorly ; joint 3 of antennæ rather longer than

joint 4; an indistinct longitudinal tubercle between antennæ at base; calli humerales blunt, prominent. Pygidium with a slight apical emargination.

Length 12 mm.

ABYSSINIA: Harar, 1911 (*Gunnar Kristensen*). Presented by R. E. Turner.

2 ♂ ♂.

Nomada hararensis, sp. n.

♀. Nigra, abdomine maculis fasciisque pallide flavis; mandibulis, labro, clypeo apice, antennis (articulis apicalibus exceptis) angulis pronoti, callis humeralibus, tegulis, post-tegulis, scutello, post-scutello segmentisque ventralibus apicalibus ferrugineis; pedibus (coxis, apice excepto, trochanteribus omnibus femoribusque posticis exceptis) ferrugineis; capite thoraceque sparsim albo-hirtis; capite thoraceque sat rugose, abdomine minute punctatis; area excisa metanoti glabra, inconspicue striata; alis subhyalinis, area apicali fusco-hyalina.

Long. 9 mm.

♀. Black; mandibles, labrum, apex of clypeus, antennæ (except four terminal joints), lateral angles of pronotum, calli humerales, tegulæ, post-tegulæ, scutellum, postscutellum, and sternites 5 and 6 ferruginous. Legs (except coxæ basally), trochanters, and basal half of posterior femora ferruginous; tergites 2-4 with ovate lateral spots, tergites 5 and 6 with apical fasciæ, pale yellow. Head and thorax with a sparse whitish pubescence, evenly and distinctly, abdomen very finely punctured, shining, the excised area at base of median segment glabrous, finely striate. Joint 3 of antennæ equal to joint 4.

Wings subhyaline, the apical area fusco-hyaline.

Length 9 mm.

♂. Differs from female in the following respects:—Scape, flagellum above (terminal joints beneath also), clypeus entirely, scutellum, postscutellum and all the femora, intermediate and posterior tibiæ for the most part, black. The males described as the alternate sex were evidently collected with the females, but may possibly be distinct.

ABYSSINIA: Harar, 1911 (*Gunnar Kristensen*). Presented by R. E. Turner.

9 ♀ ♀, 2 ♂ ♂.

All Smith's types of American *Nomada* are mentioned by Cockerell (Trans. Am. Ent. Soc. xxxi. p. 310 *et seq.*). In my opinion the genera erected by Robertson (Canad. Ent.

xxxv. p. 174) hardly merit the rank, with the exception of *Gnathias*, which certainly has an excellent distinctive structural character in the bidentate mandibles.

Robertson considers *N. annulata*, Sm., ♂ (nec ♀), to be synonymous with *Nomada* (*Centrias*) *americana*, K. (Trans. Amer. Ent. Soc. xxii. p. 125). The male of Smith's species certainly has the characters of *Centrias* as defined by Robertson (*l. c.*), but there appears to be no reason to doubt that Smith had correctly associated the sexes, and *N. annulata* ♀ is certainly not a *Centrias* as defined (*l. c.*).

Nomada vinnula, Cress.

Nomada vinnula, Cresson, Trans. Amer. Ent. Soc. vii. p. 202 (1879).

♀ ♂.

Nomada interceptor, Smith, Descr. New Spec. Hymen. p. 100 (1879).

♂.

Smith's type, from Vancouver, agrees with a male labelled "*N. vinula*" by Cockerell. Cresson's species has priority by a few months. The spelling of the specific names is that employed by the authors respectively, but they appear in literature as "*vinula*" and "*intercepta*."

XV.—*Descriptions and Records of Bees*.—LIII.

By T. D. A. COCKERELL, University of Colorado.

Megachile heliophila, sp. n.

♂.—Length about 10 mm., expanse 20.

Black; rather robust, but parallel-sided; head rather large, the cheeks and vertex very broad; clypeus densely and strongly punctured, but shining between the punctures, wholly without any median smooth or raised line, the lower margin slightly undulate, obscurely subemarginate in middle; mandibles broad and stout, the third tooth remote from the second, the apical part not covered with hair; from beneath the lower edge of clypeus, and from lower edge of mandibles, comes bright ferruginous hair, and there is a tuft of long hair of the same colour on the end of the labrum; antennæ entirely black; vertex closely and finely punctured; hair of head and thorax long and loose, mostly white, but brownish on clypeus, black on vertex and disc of mesothorax, and much long black hair mixed with the pale on scutellum; mesothorax and scutellum very minutely