THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY.

[EIGHTH SERIES.]

No. 58. OCTOBER 1912.

XLVIII.—*Notes on Fossorial Hymenoptera.*—X.

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On new Species from the Oriental and Ethiopian Regions.

Family **Psammocharidæ** (olim *Pompilidæ*).

Ceropales pictus, Shuck.

Ceropales picta, Shuck. Trans. Ent. Soc. London, ii. p. 70 (1837). ♀.
Ceropales ruficollis, Cam. Sjöstedt's Kilimandjaro-Meru Exp. ii. p. 260 (1910). ♀.

Hab. Cape Colony (*Shuckard*); British East Africa, Kikuyu Escarpment, Kijabe to Limoru, 7000 feet (*S. A. Neave*); Harar, Abyssinia (*G. Kristensen*).

Abyssinian specimens are darker on the legs and antennæ, which are only irregularly tinted with fusco-ferruginous, not almost entirely ferruginous as in the typical form.

Xanthampulex pernix, Bingh.

Ceropales pernix, Bingh. Journ. Linn. Soc., Zool. xxv. p. 425 (1896). ♂.

This species, though near to *X. trifur*, Schulz, in colour, is probably distinct. The eyes are strongly convergent towards the clypeus, as in the other species of the genus. The sculpture differs somewhat from the description of *trifur*,

especially on the head; but as the female only of *trifur* is known and the male only of *pernix*, there is a possibility that they are opposite sexes of the same species. *Ceropales parva*, Cam., which closely resembles *X. albovariegata* in colour, does not belong to the same genus, but I do not think that it is correctly placed in *Ceropales*, the eyes being without emargination.

Xanthampulex albovariegata, Cam.

Ceropales albovariegata, Cam. Mem. Manch. Lit. & Phil. Soc. xli. p. 84 (1896).

This species is mentioned, but without a name, by Schulz (Zool. Annal. iv. p. 145, 1911).

I cannot agree with Schulz as to the position of this genus, which I look on as closely allied to *Ceropales* in the structure of the pronotum and the emarginate eyes. The median segment is very unlike any of the Ampulicinæ, with which group Schulz connects the genus, and the frontal prominence is not similar in form to that in *Dolichurus*.

Family **Crabronidæ**.

Subfamily *Pemphredoninæ*.

Psen matalensis, sp. n.

♀. Nigra; tegulis, tarsis intermediis et anterioribus, tibiisque basi testaceis; segmentis abdominalibus primo apice secundo lateribus ferrugineis.

♀. Clypeus covered with dense, fine, silver pubescence, more than twice as broad as long, the anterior margin very slightly rounded and shallowly emarginate in the middle, moderately convex and with a very obscure carina from the base to the apex. Antennæ inserted nearly twice as far from each other as from the eyes, and separated from the base of the clypeus by a distance equal to half the length of the clypeus, the first joint of the flagellum very short, partly concealed in the apex of the scape, less than one quarter of the length of the second joint, which is more than half as long again as the third joint, the apical joints thickened but all much longer than broad, the whole antenna about equal in length to the thorax and median segment combined. Head shining, sparsely and very finely punctured, a very short longitudinal carina between the antennæ, the eyes separated on the front by a distance equal to twice the length of the scape. Thorax shining and sparsely punctured; the

mesopleuræ sparsely clothed with white pubescence, a vertical carina below the anterior wings joining a wide shallow vertical groove, a few very short horizontal striæ behind the carina. Median segment short, the basal area shorter than the scutellum and strongly longitudinally striated, a deep groove running from the apex of the basal area to the apex of the segment, which is very steeply sloped behind the basal area and very coarsely rugose. Petiole as long as the thorax without the median segment, not grooved or carinated; the abdomen shining, very minutely punctured, the four apical segments with sparse, short, grey pubescence. Pygidial area well defined, elongate-triangular and very coarsely punctured. First recurrent nervure received before one-third from the base of the second cubital cell, the second received by the third cubital cell very near the base; the second cubital cell not more than one-third of the length of the third on the radial nervure.

Black; the tegulæ, intermediate and anterior tarsi, the base of the intermediate and anterior tibiæ, and the spines of the tibiæ and tarsi testaceous; the apex of the first abdominal segment most broadly on the sides and the sides of the second ferruginous. Wings hyaline, nervures black, the stigma fusco-ferruginous.

♂. As in the female, but the petiole is slightly longer and the ferruginous colour is more extensive on the second dorsal segment; the apical joint of the antennæ is light brown.

Length, ♀ 11, ♂ 9 mm.

Hab. Matale, Ceylon, 2000 feet (*P. Beirne*).

Types in B. M.

Psenulus bicinctus, sp. n.

♀. Nigra; segmentis abdominalibus secundo, quinto sextoque rufis; alis hyalinis.

Long. 8–9 mm.

♀. Clypeus very finely and closely punctured, thickly clothed with silvery-white pubescence, more than twice as broad as long, the anterior margin nearly straight, with two small teeth near the middle. Antennæ inserted a little further from each other than from the eyes, and separated from the base of the clypeus by a distance equal to the length of the clypeus, gradually thickened to the apex, shorter than the thorax and median segment combined; the second joint of the flagellum nearly as long as the first and third combined; a very narrowly V-shaped carina between the antennæ, which extends to a transverse feebly arched carina

less than halfway between the base of the antennæ and the clypeus, the transverse carina reaching halfway from the middle of the front to the eyes and produced upwards at its extremities so as to touch the base of the antennæ. Front between the eyes as broad as the length of the scape and three basal joints of the flagellum. Head shining, opaque on the front, closely and very minutely punctured; thorax shining, finely and rather sparsely punctured; mesopleuræ more closely and minutely punctured, with a deep vertical groove below the anterior wings. Median segment shining and almost smooth, with long white pubescence on the sides; a narrow transverse depression at the base, with about six short oblique carinæ on each side, produced in the middle and joining a deep longitudinal groove which reaches to the apex of the segment and is transversely striated. Abdomen smooth and shining, petiolate; the petiole as long as the posterior tibia, with a shallow and narrow groove from the base to the apex; pygidial area feebly defined, elongate-triangular and finely punctured. First recurrent nervure interstitial with the first transverse cubital nervure, second received by the third cubital cell very near the basal angle; the second cubital cell is less than half as long as the third on the radial nervure. Cubital nervure of the hind wing originating just beyond the apex of the anal cell.

Black; the second, fifth, and sixth abdominal segments entirely and the apical margins of the other segments very narrowly ferruginous red; spines of the tibiæ and tarsi testaceous. Wings hyaline, nervures black, stigma fusco-ferruginous.

Length 8–9 mm.

Hab. Shillong, Assam, 6000 feet (*Turner*). Four specimens.

Subfamily *Ampulicinæ.*

Dolichurus bipunctatus, Bingh.

Dolichurus bipunctatus, Bingh. Journ. Linn. Soc., Zool. xxv. p. 439 (1896). ♂.

Dolichurus reticulatus, Cam. Ann. & Mag. Nat. Hist. (7) iv. p. 56 (1899). ♀.

Hab. Burma; Assam; Sikkim; Kangra Valley, N.W. India.

The female differs from *taprobanæ,* Sm., in the slightly greater length of the median segment, the lesser development of the lateral spine on the posterior truncation of the median

segment, and the less strongly punctured front. The two species are very closely allied, and may possibly prove to be mere local forms of one species.

Dolichurus taprobanæ, Sm.

Dolichurus taprobanæ, Sm. Trans. Ent. Soc. London, p. 304 (1869). ♀.

Smith's type is a female, not a male as stated by him in the description. So far as I know, the male is unknown, but Bingham appears to have seen a male differing from his *bipunctatus*, unless, indeed, he has been misled by Smith.

Hab. Ceylon; Nicobar Isl.; Sikkim.

Dolichurus gilberti, sp. n.

♀. Nigra; segmentis abdominalibus 4–6 rufis; segmento mediano postice lateribus haud denticulatis.
Long. 9–10 mm.
♂. Omnino niger; fronte longitudinaliter striata.
Long. 6 mm.

♀. Eyes separated from each other on the vertex by a distance almost equal to the length of the second and third joints of the flagellum combined; the posterior ocelli very close together, nearly twice as far from the eyes as from each other. Front longitudinally striate-rugulose, the plate above the base of the antennæ smooth and shining; the space round the ocelli punctured; the vertex shining, with sparse and fine punctures. Clypeus with a longitudinal carina not reaching the apex. Second joint of the flagellum almost half as long again as the third. Thorax shining, finely punctured; mesopleuræ rugulose. Median segment broader than long, truncate posteriorly, the angles without spines, the dorsal surface transversely striated, with five longitudinal carinæ, the two lateral carinæ forming raised margins and meeting at the apex; the three middle carinæ not reaching the apex, the outer two parallel at the base, curved and forming a broad enclosed area posteriorly; the surface of the truncation coarsely rugulose. Abdomen smooth and shining. Spines of the tibiæ testaceous. First abscissa of the radius as long as the third, but a little shorter than the second.

♂. The carina of the clypeus reaches the apex; the surface of the frontal plate is punctured, not smooth, and the carinæ on each side of the median carina of the median segment are convergent towards the apex, not parallel at the base. The calcaria are whitish.

Hab. Shillong, Assam, 5000 feet (*G. Turner*) ; May, 5 ♀, 2 ♂.

The male differs from the European *D. corniculus,* Spin., in having the posterior ocelli nearer together and the front more coarsely sculptured, also in the convergence of the carinæ of the median segment. The female is without the lateral spines of the median segment, and has the posterior ocelli nearer together and the front more coarsely sculptured than in the same sex of *corniculus.* The shape of the cubital cells does not seem to be quite constant, and cannot be relied upon for small specific distinctions. It is just possible that this species may be identical with the S.-European *D. hæmorrhous,* Costa, which I have not seen. But Schulz (Zool. Annal. iv. p. 147, 1911) treats that form as a mere colour-variety of *corniculus.* From the similarly coloured *D. ignitus,* Sm. (syn. *D. tertius,* Sauss.), from S. Africa, this species differs in the sculpture of the front and median segment, in the lesser distance between the posterior ocelli, and the greater distance between the eyes on the vertex.

The female is the type.

Genus Trirhogma, Westw.

Trirhogma cærulea, Westw.

Trirhogma cærulea, Westw. Trans. Ent. Soc. Lond. iii. p. 225 (1842). ♂; Westw. Arc. Ent. ii. p. 67 (1844). ♂ ♀.

It is remarkable that all males which I have seen from India are of the form *prismatica,* Sm., which has a large tubercle on the scutellum and the base of the mandibles white ; Westwood's description does not make any reference to these points, though taken from a North-Indian specimen. All females from India seem to be without the tubercle. Males in the British Museum collection from Celebes answer well to Westwood's description, and Colonel Bingham's account of *cærulea* ♂ (Faun. Brit. Ind., Hym. i. p. 262) seems to be taken from these rather than from Indian specimens. I have not seen the types, but if the type ♂ is similar to the Celebes form, I do not consider that it can be the ♂ of the usual Indian form, for which the name *prismatica,* Sm., would have to stand. A male from Hongkong in the British Museum collection has the tubercle on the scutellum less strongly developed than Indian specimens. I consider that only one species of the genus occurs in India.

Ampulex approximata, sp. n.

♀. Nigra; mandibulis, clypeo apice, scapo subtus pygidioque obscure fusco-ferrugineis; alis hyalinis, venis fuscis.
Long. 10 mm.

♀. Clypeus strongly convex, with a median carina, produced into a tooth at the apex, with a smaller tooth on each side. Head subopaque, microscopically punctured, the frontal carinæ very short, the median one scarcely developed and continued by a narrow and shallow sulcus which is lost halfway between the base of the clypeus and the anterior ocellus, the lateral carinæ extending very little above the base of the antennæ. Second joint of the flagellum nearly twice as long as the third. Eyes separated on the vertex by a distance equal to the length of the second joint of the flagellum; posterior ocelli nearer to each other than to the anterior ocellus. Thorax shining, very minutely punctured; the pronotum convex, longer than the breadth in the middle, with a narrow median sulcus from the base not reaching the apex, without a tubercle; mesonotum with an obscure median sulcus and a much deeper sulcus on each side, between which and the tegulæ is a deep depression. Scutellum with a depressed transverse row of very deep punctures at the base. Median segment longer than broad, with a distinct median carina and two slightly oblique lateral carinæ on each side, the space between the carinæ transversely striated, the distance between the carinæ at the base of the segment almost equal, the posterior angles of the segment without spines. The narrow petiole of the first abdominal segment is considerably shorter than the broadened portion of the segment; second segment distinctly longer than broad, the ventral surface rather strongly convex. The third dorsal segment has fine white pubescence at the base, the apical segment compressed laterally. Fourth tarsal joint reaching to the middle of the apical joint. Two cubital cells; the second abscissa of the radius a little longer than the first, the third half as long as the second.

Hab. W. India, Bombay Presidency.

Nearly allied to the European *A. fasciata,* Jur., from which it differs in the sculpture of the median segment, on which the carinæ are strongly developed, in the greater length of the second cubital cell, the almost complete absence of fuscous colouring on the fore wing, and the greater proportionate length of the second abdominal segment.

Ampulex latifrons, Kohl.

Ampulex latifrons, Kohl, Ann. natur. Hofmus. Wien, viii. p. 461 (1893). ♀.
Ampulex brevicornis, Cam. Entomologist, p. 312 (1902). ♀.
Ampulex pulchriceps, Cam. Ann. & Mag. Nat. Hist. (7) v. p. 38 (1900). ♂.

Ampulex longicollis, Cam.

Ampulex longicollis, Cam. Entomologist, p. 263 (1902). ♀.
Ampulex trichiosoma, Cam. Ann. & Mag. Nat. Hist. (7) x. p. 55 (1902). ♂.

Ampulex crudelis, Bingh.

Ampulex crudelis, Bingh. Fauna Brit. India, Hym. i. p. 258 (1897). ♀.
Ampulex trigona, Cam. Entomologist, p. 264 (1902). ♀.

Ampulex sodalicia, Kohl.

Ampulex sodalicia, Kohl, Ann. naturh. Hofmus. Wien, viii. p. 417 (1893). ♀.
Ampulex tricarinata, Cam. Ann. & Mag. Nat. Hist. (7) ix. p. 245 (1902). ♀.
Ampulex striatifrons, Cam. Journ. Straits Br. Asiat. Soc. xxxvii. p. 95 (1902). ♂.

The type of Cameron's species from Borneo has the red colour of the hind and intermediate femora and coxæ very strongly suffused with green, but does not seem to differ otherwise.

Hab. Sikkim ; Assam ; Malacca; Borneo.

Ampulex hospes, Sm.

Ampulex hospes, Sm. Cat. Hym. B. M. iv. p. 272 (1856). ♀.
Ampulex foveifrons, Cam. MS. ?

Specimens marked as type and co-type of *foveifrons* are in the British Museum, but I cannot find that the name has been published.

A. cognata, Kohl, is at most a local form of this species, differing in the more strongly punctured pronotum and the greater depth of the pronotal longitudinal furrow. The specimen recorded by Bingham from the Khasi Hills is now in the British Museum, and answers well to Kohl's description, being thus apparently identical with the Java variety rather than with Bornean specimens. Cameron, whose work on this genus is very careless, throws doubt on Bingham's record without any cause.

Ampulex sibirica, Fabr.

Sphex sibirica, Fabr. Ent. Syst. ii. p. 207 (1793). ♂.
Ampulex sibirica, Sm. Cat. Hym. B. M. iv. p. 209 (1856).
Ampulex compressiventris, Guér. Iconogr. Règn. Anim., vii. Insect. p. 436 (1845). ♀.
Chlorampulex sibirica, Sauss., Grandidier, Hist. Madagascar, xx. p. 444 (1892).

From an examination of the Fabrician type, I have no doubt that Saussure was quite correct in his identification of the species. He had probably seen the type, though he does not say so. Kohl, in his excellent monograph of the genus, does not seem to have thought of the possibility of this, and puts aside Saussure's identification too lightly. The locality given by Fabricius is, of course, erroneous, the species being West African.

Subfamily *Sphecinæ*.

Sphex hæmorrhoidalis, Fabr.

Sphex hæmorrhoidalis, Fabr. Spec. Insect. i. p. 443 (1781).
Sphex nigripes, Sm., var. *volubilis*, Kohl, Ann. naturh. Hofmus. Wien, x. p. 64 (1895).

Hab. Sierra Leone; Uganda.
Type in the Banksian Collection.
The name *hæmorrhoidalis* must stand as the specific name and the name *nigripes*, Sm., as only subspecific. The typical form has the wings dark, whereas in the Indian form they are flavo-hyaline, clouded with fuscous at the apex. In specimens from Ceylon the wings are fusco-violaceous, as in the African form.

Sphex (*Parasphex*) *elegantulus*, sp. n.

♀. Nigra; albo-hirta, abdomine læte ferrugineo; petiolo segmentisque dorsalibus 3–5 nigris, lateribus ferrugineis, apice anguste flavo-testaceis; alis subhyalinis, venis fuscis.
Long. 25 mm.

♀. Clypeus slightly convex at the base, flattened at the apex and broadly truncate, the base and sides closely covered with silvery pubescence intermixed with long white hairs. Eyes very slightly convergent towards the clypeus, separated on the vertex by a distance about equal to the length of the three basal joints of the flagellum combined. Posterior ocelli a little further from each other than from the eyes; second joint of the flagellum nearly twice as long as the

third. Head sparsely, thorax more closely punctured; scutellum without a median sulcus, slightly emarginate at the apex. Dorsal surface of the median segment narrow and very slightly concave, the sides above the spiracles smooth and shining, the rest of the segment covered with pubescence. Petiole fully half as long again as the broadened portion of the first dorsal segment, as long as the second, third, and fourth joints of the hind tarsi combined. Fifth ventral segment deeply emarginate at the apex,

Hab. Lo-Fou Mountains, S. China (*ex coll. Perkins*).

Very nearly allied to the common *S. viduatus*, Chr., from which it differs in the distinctly slenderer form, the greater proportionate length of the second joint of the flagellum, the smooth sides of the median segment above the spiracles, the absence of a sulcus on the scutellum, and the distinctly longer petiole. The sculpture of the dorsal surface of the median segment is somewhat concealed by pubescence, but is certainly not so strong as in *viduatus*.

Subfamily *Philanthinæ*.

Cerceris greeni, sp. n.

♀. Nigra; clypeo, margine interiore oculorum sub insertione antennarum latissime, carina frontali, scapo subtus, macula post oculos, pronoto angulis posticis, tegulis macula parva, segmentis dorsalibus 2–3 fascia apicali angustissima, tibiis anticis et intermediis subtus, tarsisque anticis subtus albido-flavis; clypeo late emarginato, segmento mediano area basali longitudinaliter striata, segmento ventrali secundo area basali elevata nulla; alis fusco-hyalinis, cæruleo-tinctis.

Long. 14 mm.

♀. Eyes divergent towards the clypeus; posterior ocelli more than half as far again from the eyes as from each other. Mandibles with a triangular tooth on the inner margin a little before the middle. Clypeus very widely emarginate, the angles of the emargination slightly produced and forming short teeth; a very short longitudinal carina just before the teeth. Head very broad; the cheeks nearly as broad as the eyes; the clypeus short, subconcave, very broadly truncate at the base, separated from the base of the antennæ by a distance equal to the length of the second joint of the flagellum, which is almost equal in length to the first and third joints combined. Pronotum transverse, the margins slightly raised. Head and abdomen rather closely and not finely punctured; thorax coarsely and closely punctured,

the postscutellum almost smooth, the triangular area at the base of the median segment strongly longitudinally striated. First abdominal segment twice as broad as long ; pygidial area transversely rugulose, nearly three times as long as broad, the sides almost parallel, truncate at the apex. Ventral segments more sparsely and finely punctured ; second segment without a raised basal area, sixth segment deeply and narrowly emarginate and ending in two small spines on each side, the outer spine the shortest. First recurrent nervure received at three-fifths from the base of the second cubital cell, second at about one-sixth from the base of the third cubital cell.

Hab. Kharkur, Nilgiris, S. India (*E. E. Green*) ; May 1910.

Type presented to the British Museum by the Bombay Natural History Society.

This is another species of the small group of which *ferox*, Sm., may be taken as the typical species. The group hitherto has only been known from Borneo, Sumatra, Siamese Malaya, and Southern Burma.

Subfamily *Bembecinæ*.

Bembex scotti, sp. n.

♂. Niger; clypeo albido, nigro bimaculato ; labro scapoque subtus pallide flavis ; mandibulis basi, carina frontali, linea post oculos pedibusque flavis ; pronoto linea postice, callis humeralibus, mesonoto lateribus et macula parva utrinque in medio marginis postici, scutello postscutelloque fascia subapicali, segmento mediano fascia arcuata angulisque anticis et posticis, mesopleuris macula magna, segmento dorsali primo fascia late emarginata, segmentis 2–6 fascia bisinuata, septimo macula magna basali, segmentisque ventralibus basi nigris, secundo macula magna triangulari nigra, flavo-olivaceis ; segmento dorsali septimo spinis lateralibus ; alis hyalinis, venis fuscis.
Long. 16 mm.

♂. Basal joint of fore tarsi with seven spines, all the tarsi, tibiæ, and femora simple, not broadened or serrate. Clypeus not very strongly serrate, a distinct carina between the antennæ ; eyes almost parallel. Four apical joints of the flagellum excavate beneath, the apical joint longer than the penultimate, slightly curved, rounded at the apex, the ninth to eleventh joints of the flagellum slightly produced beneath at the apex, the sixth joint a little thickened at the apex, the seventh at the base beneath, but not spinose. Second ventral segment without a carina ; sixth with a delicate carina on

the apical half, shallowly sinuate at the apex; seventh unarmed. Seventh dorsal segment narrowly rounded at the apex, with a spine on each side near the base.

♀. Second ventral segment shining and very sparsely punctured in the middle; sixth dorsal segment subtriangular, rounded at the apex.

Hab. Zungeru, N. Nigeria; November 1910 (*J. W. Scott-Macfie*).

Very nearly allied to *B. bidentata*, Lind., but the intermediate femora of the male are not toothed, the shape of the seventh dorsal segment is different in both sexes, and the colouring is very different.

Bembex johnstoni, sp. n.

♂. Niger; mandibulis, apice nigris, labro, clypeoque maculis binis nigris, flavis; antennis, pedibus capiteque (vertice nigro excepto) ochraceis; pronoto, tegulis, lateribus mesonoti, segmentisque abdominalibus sexto septimoque fusco-ferrugineis; abdomine obscure iridescenti; alis hyalinis, venis fuscis.

Long. 24 mm.

♂. Antennæ with the three apical joints strongly excavated beneath, the apical joint much longer than the penultimate, slightly curved and rounded at the apex, the eighth and ninth joints of the flagellum with a small spine beneath, the sixth emarginate beneath, the seventh with a very minute spine near the base. Eyes almost parallel on the inner margin; front distinctly carinated between the antennæ, the carina continued on the base of the clypeus, which is strongly convex. Fore tarsi normal, the basal joint with seven spines on the outer margin; none of the femora serrate, intermediate tibiæ not produced at the apex, basal joint of intermediate tarsi normal. Second ventral segment with a low longitudinal carina ending in an acute spine, sixth segment produced and bluntly tuberculate at the apex, seventh segment with an indistinct median carina. Seventh dorsal segment narrowly rounded at the apex, the sides not sinuate. Finely and closely punctured, the ventral segments more sparsely punctured. The apical margins of the dorsal abdominal segments are very narrowly tinted with testaceous, the whole abdomen with a blue iridescent sheen. Wings very feebly tinted with fuscous towards the base.

Hab. Uganda (*Sir H. Johnston*).

Allied to *B. möbii*, Handl., but in that species the seventh dorsal segment is toothed at the sides. In the type of the present species, however, the seventh segment is so much

withdrawn that it is quite possible that the spines are really present, though I cannot see them. The colour is very distinct, the apical dorsal segment is narrower at the apex and rounded, not subtruncate as in *möbii*, and the structure of the eighth and ninth joints of the flagellum is different.

Bembex albofasciata, Sm.

Bembex albofasciata, Sm. Ann. & Mag. Nat. Hist. (4) xii. p. 296 (1873). ♂.

Bembex karschii, Handl. Sitzungsb. Akad. Wiss. Wien, cii. p. 742 (1893). ♂ ♀.

These descriptions undoubtedly refer to the same species. The range does not appear to be very extensive, the series in the National Collection being mostly from the Southern Transvaal, with one or two specimens from Basutoland and Zululand.

Bembex diversipennis, Sm.

Bembex diversipennis, Sm. Ann. & Mag. Nat. Hist. (4) xii. p. 297 (1873). ♂ ♀.

The localities in the National Collection are from Angola to Nyasaland, Mashonaland, and Harar, Abyssinia.

Subfamily *Nyssoninæ*.

Genus Ammatomus, Costa.

Ammatomus, Costa, Fauna Napoli, Nyssonid. p. 36 (1859).

Gorytes, Handl. (pars) Sitzungsb. Akad. Wiss. Wien, xcvii. p. 317 (1888).

Tanyoprymnus, Cam. Trans. Amer. Ent. Soc. xxxi. p. 375 (1905).

I cannot agree with Handlirsch in sinking this genus in *Gorytes*, though I think that Ashmead goes too far in removing it from his family Nyssonidæ and placing it with his Stizidæ. In addition to the list of species given by Handlirsch in the supplement to his most valuable monograph as belonging to the species group of *coarctatus*, Spin. (*Ammatomus*), the following species should be included :—

A. alipes, Bingh. Fauna British India, Hymen. i. p. 273 (1897). (*Gorytes a.*)

A. ornatus, Sm. Trans. Ent. Soc. London, p. 248 (1868). (*Gorytes o.*) (nec Sm. 1856). Syn. *Gorytes decoratus*, Handl.

A. icarioides, Turn. Proc. Zool. Soc. London, p. 499 (1908). (*Gorytes i.*)

A. longitarsis, Cam. Trans. Amer. Ent. Soc. xxxi. p. 376 (1905). (*Tanyoprymnus l.*)

The latter is probably a synonym of *A. moneduloides*, Pack.

I suspect that *A. rufonodis*, Rad., will prove to be a synonym of *A. amatorius*, Sm.

The genus seems to me to be most nearly related to *Kohlia*, Handl., though differing in the convergence of the eyes and the clavate antennæ.

Ammatomus africanus, sp. n.

♀. Nigra; clypeo, fronte sub antennis, scapo subtus, pronoto postice angustissime, mesonoto macula minuta angulis posticis, segmento dorsali primo macula transversa utrinque, segmentis 2–5 fascia angusta apicali, tibiis supra tarsisque albido-flavis; alis hyalinis, venis nigris.

Long. 9 mm.

♀. Eyes strongly convergent towards the clypeus, at the base of which they are separated by a distance equal to about two-thirds of the length of the scape; posterior ocelli nearly twice as far from each other as from the eyes. Antennæ clavate, the four apical joints as broad as long or broader. Opaque, covered with very delicate, close-lying, white pubescence; head almost smooth, with a well-marked frontal sulcus reaching the anterior ocellus; thorax and median segment sparsely punctured; the basal area of the median segment distinctly defined, triangular, and very sparsely punctured. Mesopleuræ rather closely punctured, the sides of the median segment almost smooth, with a few scattered punctures. Abdomen shallowly and rather sparsely punctured; first segment narrow, nearly three times as long as the apical breadth, of almost equal width throughout, not constricted or inflated at the apex, about equal to the second segment in length, but not more than one-third of the apical breadth of the second segment. Hind tarsi very long and slender, fully as long as the tibia and femur combined; hind tibiæ with very short feeble spines; anterior tarsi without a comb. Second abscissa of the radius about equal to the first, but distinctly less than half as long as the third. Both recurrent nervures received by the second cubital cell, the distance between them on the cubitus slightly exceeding the length of the second abscissa of the radius (in one specimen slightly less). Cubitus of hind wing originating a little before the transverse median nervure.

The yellow band at the apex of the second dorsal segment is narrowly interrupted in the middle.

Hab. Pakasa, N. Rhodesia (*Silverlock*); January, 2 ♀♀.

This is the first species of the genus recorded from the

Ethiopian Region. It seems to be most nearly allied to *mesostenus,* Handl., which I have not seen, but is more finely and sparsely punctured. As in other species of the genus, there is a strong elbow close to the cubitus on the first transverse cubital nervure, from which on the inner side branches the stump of a nervure continued as a scar to the base of the stigma.

Gorytes (*Harpactus*) *escaleræ,* sp. n.

♀. Nigra; clypeo, mesopleuris, scutello, postscutello, segmento dorsali secundo basi et linea lata, longitudinali, mediana, segmento ventrali secundo fascia lata interrupta, segmentoque quinto dorsali albido-flavis; alis fusco-hyalinis, venis fuscis.
Long. 7 mm.

♀. Eyes almost parallel on the inner margin; posterior ocelli twice as far from each other as from the eyes. Clypeus broad, transverse at the apex. Head and thorax opaque, very finely and closely punctured, mesopleuræ and abdomen more sparsely but a little more deeply punctured and shining; a transverse crenulated groove between the mesonotum and the scutellum. Second ventral segment only slightly convex; first abdominal segment broad and short; pygidial area well defined, flat, rather narrowly triangular, and more deeply punctured than the other segments. Basal area of the median segment well defined, coarsely longitudinally rugose-striate, with a distinct median sulcus. Third abscissa of the radius longer than the second by one-quarter, both recurrent nervures received by the second cubital cell, the distance between them on the cubitus scarcely greater than that between the second recurrent nervure and the apex of the second cubital cell. Cubitus of the hind wing originating distinctly beyond the transverse median nervure.

Hab. Mogador, S.W. Morocco (*Escalera*).

The absence of the ferruginous colouring prevalent in the group and the great extent of the yellow markings on the mesopleuræ and second abdominal segment distinguish this species at a glance. It is more robust than most of the allied species, and the pygidial area is more distinctly margined.

Subfamily *Crabroninæ.*

Rhopalum seychellense, nom. n.

Crabro (*Rhopalum*) *oceanicus,* Turn. Trans. Linn. Soc., Zool. (2) xiv. p. 373 (1911).

Nec *Crabro* (*Rhopalum*) *oceanicus,* Schulz, Spolia Hymen. p. 202 (1906).

The name *oceanicus*, being preoccupied, has to be changed, Schulz having priority.

Dasyproctus opifex, Bingh.

Crabro opifex, Bingh. Faun. Brit. India, Hym. i. p. 323 (1897). ♀.

Dasyproctus buddha, Cam.

Rhopalum buddha, Cam. Mem. Manch. Lit. & Phil. Soc. (4) ii. p. 18 (1889). ♂.
Crabro buddha, Cam. Mem. Manch. Lit. & Phil. Soc. (4) iii. p. 270 (1890). ♂ ; Bingh. Faun. Brit. India, Hym. i. p. 323 (1897). ♂.
Crabro brookii, Bingh. Journ. Linn. Soc., Zool. xxv. p. 444 (1896). ♀.

I think there can be no doubt that *buddha* and *brookii* are sexes of one species.

Dasyproctus orientalis, Cam.

Crabro orientalis, Cam. Mem. Manch. Lit. & Phil. Soc. (4) iii. p. 272 (1890).

Dasyproctus solitarius, Sm.

Crabro solitarius, Sm. Journ. Linn. Soc., Zool. iii. p. 162 (1858). ♀.

Crabro (*Ceratocolus*) *alatus*, Panz.

Crabro alatus, Panz. Faun. Insect. Germ. iv. (1797).
Crabro quadriceps, Bingh. Faun. Brit. India, Hym. i. p. 327.

Hab. Kumaun.

This wide-ranging species extends to N. China and N.W. India.

Crabro auricomus, Bingh.

Crabro auricomus, Bingh. Faun. Brit. India, Hym. i. p. 327 (1897). ♀.
Crabro khasianus, Cam. Ann. & Mag. Nat. Hist. (7) x. p. 61 (1902). ♀.

There is only a slight colour-difference between the types. The species seems to me to be a *Crabro* of the same group as *C. fossorius*, but I cannot see the structure of the mandibles distinctly. The striation of the mesonotum is transverse, not longitudinal.

Crabro, subgenus Solenius.

It is unfortunate that Ashmead, in selecting a type for *Solenius*, Lep., should have departed from Kohl's indication of the typical forms of the group and selected *C. interruptus*,

Lep., a North-American species, as the type. Kohl's indication can hardly be accepted as fixing the type, as he mentions two species, *C. vagus*, Linn., and *C. dives*, H.-Sch., as examples of the group. It would certainly have been more convenient if Ashmead had followed Kohl and selected *C. vagus* as the type of *Solenius*. The valuable work done by American authors in revision of nomenclature is unfortunately sometimes disfigured by inconvenient changes which might easily have been avoided. *C. vagus* and the allied eastern forms differ from Ashmead's definition of *Solenius* in not having the abdominal segments constricted and strongly punctured, and eventually may have to be separated. Provisionally the following species may be placed in *Solenius*, being allied to *C. vagus*, most of them having been described as *Crabro* without any definite indication of the subgenus to which they belong. In nearly all the specimens I have examined the mandibles are closed, and I have often been unable to distinguish clearly the tooth on the inner margin near the base.

Asiatic Species.

Crabro (*Solenius*) *agycus*, Cam.

Crabro agycus, Cam. Entomologist, p. 261 (1904).

Crabro (*Solenius*) *palitans*, Bingh.

Crabro palitans, Bingh. Proc. Zool. Soc. p. 446 (1896).

Crabro (*Solenius*) *alacer*, Bingh.

Crabro alacer, Bingh. Proc. Zool. Soc. p. 443 (1896).

XLIX.—*The Osteology and Classification of the Teleostean Fishes of the Order Apodes.* By C. Tate Regan, M.A.

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Order APODES.

Malacopterous physostomes with the pelvic fins, when present, abdominal. Body elongate, cylindrical, or compressed; scales vestigial or absent; gill-openings restricted; dorsal and anal fins contiguous to or continuous with the reduced caudal, when this is present; pectoral fins small and