

in which selection has been by far the more potent factor, so much so that the intermediate grades between the two forms have been so far eliminated as to be on the verge of extinction.

Salisbury, Mashonaland,
May 1898.

POSTSCRIPT.—I have previously (Proc. Zool. Soc. 1897, p. 6) suggested that the application of a distinctive scientific name to each seasonal form of a dimorphic species is hardly more reasonable than in the case of sexual forms, and that the difficulty might be met by the general adoption of a set of signs, similar to those used for the sexes, to represent the extreme and intermediate stages. As I am not aware that any such signs have yet been proposed, I make bold to suggest the following, which I have found very useful in my own notes :—

Wet-season or summer	♂ =	⊗♂
Dry-season or winter	♂ =	⊙♂
Intermediate	♂ =	⊖♂

and similarly for the ♀. Should it be desired to mention only the form without reference to sex the circle and internal sign alone might be used, *e. g.* dry-season form = ⊙. The system doubtless has its drawbacks, but these, I venture to think, would be outbalanced by the advantage gained in preventing the continual repetition of such cumbersome phrases as wet-season form and summer form, neither of which cover the facts of the case, and further in checking the undue multiplication of varietal names.

VII.—*Descriptions of new Longicorn Coleoptera from East Africa.* By C. J. GAHAN, M.A., of the British Museum (Natural History).

THE new species of Longicorn beetles described in the following paper are, with a few exceptions, from the collections made by Dr. J. W. Gregory during his expedition to Mount Kenya and by Mr. C. S. Betton in the tract of country traversed by the railway running inland from Mombasa.

Xystrocera Ansorgei, sp. n.

Capite, prothorace et corpore inferiore brunneo-testaceis; elytris osseis, fusco punctatis et maculatis; pedibus brunneo-testaceis

plus minusve infuscatis, clavis femorum subtus nigris; antennis rufo-brunneis, apicibus articularum infuscatis, articulo 1° antice ad apicem fortiter angulato.

Long. 25, lat. $5\frac{1}{2}$ mm.

Hab. Uganda (*Dr. W. J. Ansorge*). One female specimen.

Head, prothorax, and underside of body reddish brown in colour, the two former with a thin greyish pubescence, which on each side of the pronotum is condensed to form two sericeous spots—one larger, on the dilated middle region, the other smaller, placed close to the anterior margin. Pronotum with a deep arcuate impression anteriorly, and with two shallow oblique depressions on the disk. Elytra bone-white in colour, but marked with a large number of small rounded fuscous spots, from which the anterior sixth of the disk is free with the exception of a single spot close to the base of each elytron; the side of each elytron for some distance from the base and the apical border are dark brown in colour; apices sharply rounded, but not spined; the surface of the elytra presents a number of minute granules, each of which bears a short seta, while close to each granule is a small shallow puncture.

This species of *Xystrocera* may be easily recognized by the peculiar and unusual colour of the elytra.

Margites lineatus, sp. n.

Rufo-piceus, griseo-fulvescente subtiliter pubescens; elytris utrinque lineis quatuor vel quinque denudatis notatis; prothorace rugoso-granulato; antennis (σ) quam corpore multo longioribus, (♀) corpore longitudine æqualibus, articulis 3° 4°que (σ) apice incrassatis, 3° quam 1° vel 4° sesqui-longiore; elytris apicē rotundatis.

Long. 11–17, lat. 3–4 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*), and Murchison Range, Transvaal (*C. R. Jones*).

This species is allied to *Margites humilis*, Gah., from which it is to be distinguished by the less close and less silky pubescence of the elytra and the four or five denuded lines which run along each elytron (these lines are, however, only well seen in fresh and unrubbed specimens). The antennæ also are longer; the third joint is half as long again as the first, the fourth is scarcely longer than the first, the fifth equal in length to the third, the sixth and succeeding joints subequal to one another, each longer than the fifth.

Ploederus Peelei, sp. n.

Piceus; elytris, pedibus antennisque rufo-brunneis, griseo subtiliter pubescentibus; prothorace transversim rugoso, haud longitudinaliter impresso; elytris crebre punctulatis, et punctis parum majoribus sat sparse dispersis impressis, apice quadrispinosis; antennis (σ) quam corpore multo longioribus, articulo 1^o piceo, crasso, rugoso et punctulato, articulo 3^o ad apicem noduloso, antice haud angulato, articulis 4^o ad 10^{um} apice antice dentato-productis.

Long. 25, lat. 7 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*) and Somaliland (*C. V. Peele*).

Head, thorax, and underside of body dark brown, covered with a thin greyish pubescence. Prothorax armed with a conical tubercle on each side, transversely wrinkled above, without longitudinal impressions or smooth spaces on the disk. Elytra reddish brown, closely and finely punctured, with some larger punctures rather thickly spread on the basal region, but becoming sparser towards the middle and almost entirely absent from the posterior area; surface covered with a greyish pubescence, not sufficiently dense to conceal the punctures or the colour of the derm; each elytron bispinose at the apex. Antennæ much longer than the body in the male, a little longer than the body in the female; first joint stout, rugose, and slightly curved; third joint thickened, but not angulate at the apex; fourth and following (the last excepted) each produced into an acute angle at the apex.

Three examples of this species have been seen—two collected by Mr. Botton, the third by Mr. Peele.

APIOCEPHALUS, gen. nov. (*Toxotides*).

Head strongly but gradually narrowed behind the eyes, the latter prominent, coarsely faceted, and very feebly emarginate in front. Antennæ longer than the body; first joint slightly curved, gradually thickened from base to apex, and equal in length to the second and third united; fourth joint a little shorter than the third and distinctly shorter than the fifth; succeeding joints subequal to one another and to the fifth. Prothorax much narrower in front than at the base, furnished with an acute conical tubercle at the middle of each side, and with four tubercles on the disk—two smaller just in front of, and two larger just behind, the middle. Elytra with the sides nearly parallel in the anterior two thirds, thence converging more strongly towards the apex, where each elytron

is truncate. Spurs of tibiæ rather short; first joint of middle and posterior tarsi about equal in length to second and third joints united. Anterior coxal cavities closed in behind by the junction of the epimera with the prosternal process.

This genus seems best placed near *Otteissa*, Pasc., from which it differs chiefly in having a much shorter front to the head, a distinct conical tubercle on each side of the prothorax, the anterior coxal cavities closed in behind, and the fourth joint of the antennæ shorter than the third.

Apiocephalus punctipennis, sp. n.

Capite supra rufo-testaceo, fulvo-pubescente, subtus nigro, rugoso-punctato; antennis rufo-testaceis, subtiliter griseo-pubescentibus; prothorace lateraliter nigro, sparsim fulvo-pubescente; disco inter tuberculos pube fulvo-cinerea dense vestito; elytris cervino-pubescentibus, maculis nigris, glabris, fortiter crebreque punctatis notatis, maculis utrinque ante medium dense aggregatis; corpore subtus pedibusque hic illuc infuscatis, pube griseo-fulva tenuiter vestitis.

Long. 11, lat. $3\frac{1}{2}$ mm.

Hab. Brit. E. Africa (*C. S. Betton*).

Head rugosely punctured and black underneath, reddish testaceous above, with a black spot in front, and having a scattered fulvous pubescence. Prothorax with a cinereous pubescence covering middle of disk; the sides black, with a scattered tawny pubescence. Elytra with a fawn-coloured pubescence, interrupted by glabrous black spots, which are seen to be strongly and very closely punctured; these spots are closely crowded on each side in front of the middle, where they form an almost complete black patch. Body underneath and legs partly testaceous, partly dark brown in colour, the whole thinly clothed with tawny pubescence.

Compsomera Ansorgei, sp. n.

Nigra; elytrorum dimidio posteriore et vittis duabus utrinque antice viridi-metallicis.

Long. 26, lat. 7 mm.

Hab. Uganda (*Dr. W. J. Ansorge*).

This species is very closely allied to *C. nigricollis*, Gah., which it resembles exactly in the markings of the elytra, with the exception that the metallic-blue colour in the type of *C. nigricollis* is here replaced by metallic green. It differs chiefly from *C. nigricollis* in having the head, legs, and antennæ quite black in colour.

Hypargyra similis, sp. n.

Atra, opaca; prothoracis lateribus argenteo-sericeo vittatis, disco omnino nudo, creberrime punctato; elytris viridi-metallicis, fortiter creberrimeque punctatis, ad apicem obtuse rotundatis; metasterno abdomineque in medio sparse punctatis et setosis, ad latera argenteo-sericeis; femoribus tibiisque pedum quatuor anticorum et basibus femorum posteriorum rufo-testaceis; antennis (σ) quam corpore paullo longioribus, versus apicem leviter dilatatis.

Long. 12–15 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Closely allied to *H. cribripennis*, but somewhat smaller in size, with the disk of the prothorax quite destitute of pubescence and the middle of the hind breast and abdomen almost naked, being furnished only with very short scattered setæ arising from the punctures.

In colour and sculpture this species has considerable resemblance to certain species of *Helymæus*, Thoms., but is easily distinguished by the following characters:—Antennæ scarcely dilated towards the apex; sides of the prothorax very feebly rounded; apices of the elytra obtusely rounded and not truncate. It is, however, a transitional form, and seems to show that *Hypargyra* is more nearly allied to *Helymæus* than to the genus *Jonthodes*, with which I at first associated it.

Syndere apicalis, sp. n.

Nigra, subopaca; corpore subtus tenuiter griseo-sericeo; elytris flavo-testaceis, plaga communi apicali marginem exteriorem haud attingente, nigra; prothorace disco basin versus crebre punctato, apicem versus minus dense, et lateraliter sparsim punctato; elytris dense punctatis, apice quadridentatis, dentis exterioribus longioribus; antennis medium elytrorum haud superantibus, articulo 3^o quam 4^o fere duplo longiore, 5^o, 4^o æquali, ceteris ad 10^{um} gradatim decrescentibus.

Long. 7 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Black; elytra yellowish testaceous, with an oblong black patch on each at the apex touching both the apical and sutural border, but not reaching the outer margin. Prothorax longer than broad, slightly rounded in the middle at each side; the disk closely punctured near the base, less closely in front, and sparingly towards the sides. Middle tibiæ carinate along the antero-ventral edge.

DITYLODERUS, gen. nov.

Female.—Head rather broadly concave between the antennary tubercles. Epistome distinct. Last joint of palpi narrowed towards the apex. Eyes rather small, emarginate, with the lower lobes somewhat oblique. Prothorax bispinose on each side, binodose on disk. Elytra subovate, fused together, each with a short basal crest, a stronger mid-dorsal crest, and a subserrate lateral carina, which reaches from the shoulder almost to the beginning of the posterior third of the elytron; apices obliquely truncate and enclosing an angle. Legs of moderate length; posterior femora scarcely reaching to the tip of the abdomen; middle tibiæ with an oblique groove below the middle of their length; claws of tarsi divergent. Prosternal process simply arched, gradually expanded behind, with its posterior margin slightly bowed in. Metasternum very short. Intercostal process of abdomen triangular in form. Antennæ scarcely reaching beyond the middle of the elytra; scape without cicatrix, reaching as far as the anterior lateral spine of prothorax; third joint about equal in length to the scape, the rest gradually shortening; anterior face of the fourth joint near its apex and of each of the succeeding joints along its whole length presenting poriferous depressions.

The species for which this genus is constituted has some resemblance to species of *Phrissoma*, but it is excluded from the group Phrissomides owing to the absence of a cicatrix from the scape of the antennæ, and according to Lacordaire's system of arrangement must be placed in the group Parmenides.

Dityloderus fuliginosus, sp. n.

Niger, indumento fuliginoso obtectus; prothorace utrinque bispinoso, supra nodis duobus magnis instructo; elytris utrisque cristis duabus—una basali, secunda pone medium—et carina laterali subserrata a humero ad partem tertiam posteriorem extensa instructis.

Long. 18, lat. ad humerum 6 mm.

Hab. N'Giriama, Brit. E. Africa (*Dr. J. W. Gregory*).

Black, covered with a dark brown indumentum. Prothorax armed on each side with two spines arising from a common elongated base, the larger spine at about the middle of the length of the prothorax, the smaller between the middle and the anterior margin; disk furnished with two large obtuse knobs, somewhat oblong-ovate in outline, and

placed almost wholly in front of the middle. Each elytron furnished at the base with a short crest, which is more raised behind than in front, and behind the middle with a second more prominent crest, which is less raised anteriorly, where it is preceded by a row of small tubercles. The somewhat serrated lateral carina extends from the shoulder almost up to the beginning of the posterior third of the elytron. The tibiæ are annulated with an obscure greyish pubescence above and below the middle of their length.

Idactus Bettoni, sp. n.

Capitis fronte genisque cinereis, fronte inter oculos fusco-bifasciata, lateribus occipiteque fulvescentibus; prothorace supra griseo-fulvescente lateraliter fusco-vittato, disco tuberculis quinque, quarum quatuor minimis, instructo, ad basin signatura fusca, litera Y-inversa simulante, notato; elytris antice late cinerascentibus, postice fulvescentibus, lateribus prope basin et fascia obliqua prope medium infuscatis; utroque elytro pone basin crista brevi longitudinali, et pone medium fasciculis quatuor vel quinque, instructo; corpore subtus cum pedibus cinerascentibus. Long. 9-13, lat. 3-4½ mm.

Hab. Samburu and Voi, Brit. E. Africa (*C. S. Betton*).

Head with a dense ashy-grey pubescence on the cheeks and front, the latter marked between the lower lobes of the eyes with two narrow, transverse, fuscous bands. Prothorax with a broad and distinct tubercle on each side and with five tubercles on the disk, of which one, placed in the middle, is much larger than the rest; the disk covered with greyish or tawny pubescence, and having between the median tubercle and the base a dark brown mark resembling an inverted letter Y. A dark brown band runs along each side of the prothorax just below the lateral tubercle. The pubescence covering the elytra is of a greyish or fawn-colour over the whole of the anterior part of the disk and yellowish tawny over the posterior part; between these two differently coloured parts there is an oblique fuscous band, sharply limited in front, and continued along the side of each elytron up to the base. Behind the base of each elytron there is a short longitudinal crest, while at the anterior border of the fuscous band there are three or four small tufts of hair, a few similar tufts being placed a little further back. The elytra are strongly and closely punctured towards the base, especially at and around the shoulders, and are somewhat broadly depressed behind the basal crests. The legs and the underside are of a yellowish or testaceous colour, covered over with an ashy-grey

pubescence. Antennæ a little longer than the body in the male; first joint grey, third fuscous at apex, the rest almost entirely fuscous, each having but a narrow grey ring at the base.

Idactus lateralis, sp. n.

Pube fulvo-grisea brunneo-commixta vestitus; elytris lateribus fusco-velutinis; prothoracæ lateraliter in medio leviter tuberculato, supra haud tuberculato, antice posticeque transversim bisulcato; elytris utrisque prope basin tuberculo parvo et fasciculo minuto fusco instructis, disco inter basin mediumque vix depresso; antennis (♀) quam corpore paullo longioribus.

Long. 14, lat. 5 mm.

Hab. N'Giriama, Brit. E. Africa (*Dr. J. W. Gregory*).

Head rather convex in front; the occiput with two small fuscous Λ -shaped marks. Prothorax with a feeble tubercle at the middle of each side; the disk without tubercles, but marked just in front of the middle with an impressed arcuate line, which is seen only when the covering pubescence is rubbed away. Elytra each with a small tubercle and small tuft of fuscous hairs near the base, with a dark brown band running along the side from the base to the apex, the upper border of the band not being straight, but somewhat sinuous near the base, and angularly emarginate at one or two other points.

PARIDACTUS, gen. nov.

Allied to the genus *Idactus*, from which it is to be distinguished by its cylindrical thorax, the sides of which are almost straight and quite unarmed. The elytra are parallel-sided for some distance from the base, and evenly convex above, except near the base, where each carries a short feebly raised crest. The tarsi are broadly dilated.

Paridactus tarsalis, sp. n.

Capitis fronte cinerea, inter oculos transversim fusco-bifasciata, capite supra pronotoque et elytris flavo-griseo-pubescentibus; prothoracæ lateraliter utrinque fusco-vittato, supra tuberculo mediano instructo; elytrorum lateribus a basi usque ad medium, et vitta arcuata pone medium disci, infuscatis; corpore subtus cum pedibus flavo-testaceis, cinereo tenuiter pubescentibus; tarsis late dilatatis, supra nigris, pube cinerea tectis; antennis (♀?) quam corpore paullo longioribus, griseis, articulis a tertio apice fusco-annulatis.

Long. 9, lat. 3 mm.

Hab. Voi, Brit. E. Africa (*C. S. Betton*). Two examples, which appear to be females.

In general shape this species resembles several species of the genus *Eunidia*, to which, however, it is by no means closely allied.

Prosopocera marmorata, sp. n.

Albido-cinereo pubescens; elytris cinereo et brunneo-griseo marmoratis; antennis (σ) articulis 3^o 4^oque crassis, griseis, articulis 5^o ad 10^{um} prope apicem fusco-annulatis; processu frontali (σ) (interdum parvo vel nullo) antice concavo, versus apicem curvato, et ad apicem bifido.

Long. 18-25, lat. 6-8 $\frac{1}{2}$ mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Head, thorax, legs, and underside of body covered with an ashy-white pubescence, which also forms numerous small spots and one or two larger patches on the elytra. First four joints of the antennæ with a grey pubescence, the third and fourth having each a narrow glabrous fuscous ring near the apex; the joints from the fifth to the tenth are cinereous, with a broad fuscous ring on each near the apex; mesosternum very feebly tubercled.

In the male the third and fourth joints of the antennæ are thickened; the frontal process, which in small male specimens is very small or even entirely wanting, reaches in large specimens a length of about 3 millim.; it is concave and densely hirsute in front, slightly curved upwards and deeply notched at the extremity.

In general structure this species most nearly approaches *P. Dejeani*, Gah., and *P. cornifrons*, Gah., but is readily distinguishable by its coloration.

PROTOMOCERUS, gen. nov.

Head with strongly raised and divergent antennary tubercles, each of which is slightly emarginate at the apical border, with a small projecting angle on the inner side. Front of the head furnished with a cariniform tubercle in its upper part in both sexes and with a similar tubercle in its lower part in the female. In the male a large process projects obliquely downwards from the lower part of the front, and towards its free end curves slightly forwards. Prothorax furnished on each side with a large median conical tubercle, preceded by two smaller and more obtuse tubercles, one of which is close to the anterior margin; pronotum feebly

bisinate at the basal margin, somewhat produced and rounded in the middle at the anterior margin. Prosternal process rather narrow, nearly vertical in front, thence gradually sloping and expanding behind. Mesosternal process with a small tubercle at about the middle of its length. Middle tibiæ with an oblique groove on the outer edge. Claws of tarsi divergent. Antennæ with a short fringe of hairs underneath, about twice as long as the body in the male; the scape stout, with an open cicatrix at the apex; third joint longer than the first and shorter than the fourth, fourth to sixth subequal or slightly increasing in length, seventh to tenth gradually shortening; third joint thickened in the female.

This genus seems best placed in Lacordaire's group *Proso-pocerides*, though the head cannot, as in the definition of that group, be described as "broadly but moderately concave between the antennary tubercles, with the latter short," &c., for the head is, in fact, strongly concave between the prominent and diverging antennary tubercles.

Protomocerus Gregorii, sp. n.

Pube albido-cinerascente vestitus; capite, antennis, prothoracis plaga magna laterali utrinque, et elytrorum humeris subfuscis; elytris fasciculis brevibus fulvis sat dense ornatis; pedibus brunneo canoque variegatis, tarsis supra griseis.

Long. 24, lat. $8-8\frac{3}{4}$ mm.

Hab. Bagamoyo, and Brit. E. Africa (*Dr. Gregory*).

General pubescence of an ashy-white colour. On the head, the antennæ, the shoulders of the elytra, and over a large area on each side of the prothorax, as well as spots on the legs, especially of the two hinder pairs, the pubescence is somewhat dark brown or fulvous brown in colour, while numerous small tufts of fulvous hairs are scattered over the elytra. The ashy-white area on the disk of the pronotum between the lateral brown areas is in the form of a triangle, with its apex in front and marked by a small elevation; small granular elevations are scattered over the central part of the disk. The prothorax is marked on each side anteriorly with an oblique groove, which, commencing at the side of the median elevation, curves slightly backwards and then outwards between the two anterior tubercles on the side.

In the male the frontal process projects downwards and is curved slightly forwards at the extremity; it is concave in front and is covered with tawny hairs except along the median line.

The antennæ of the female are scarcely half as long again as the body; the third joint is but slightly longer than the first, and is shorter and distinctly thicker than the fourth.

Protomocerus socius, sp. n.

Præcedenti similis et affinis; sed fasciculis fulvis elytrorum bis numerosis, prothorace fere omnino cinereo, punctis paucis adspersis ad discum et macula parva utrinque pone tuberculum medium, fuscis, notato; antennis pallidioribus, densius pilosis et plus distincte fusco-annulatis.

Long. 26, lat. $8\frac{1}{2}$ mm.

Hab. Ntumbi in Agoniland, Brit. C. Africa. One female example.

This species is so like the preceding one that it may possibly prove to be only an extreme variety. The much greater number of the small tufts of hairs scattered over the elytra seems, however, to be a valid specific difference, and must be so regarded until it can be shown that the character is variable.

The female type of *P. socius*, as well as the male type of the preceding species, are in the collection of the Hon. Walter Rothschild at Tring Museum.

Alphitopala assimilis, sp. n.

Pube cretacea vestita; pedibus antennisque brunneo-testaceis griseo tenuissime pubescentibus; prothorace basi constricto et bisulcato, lateraliter in medio minute tuberculato; intercoxale mesosterni paullo protuberanto, antice verticali; antennis (♀) quam corpore vix longioribus.

Long. 20, lat. $6\frac{3}{4}$ mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Covered above and below with a dense chalk-white pubescence; legs and antennæ with a much fainter greyish pubescence, through which the reddish-brown colour of the derm is easily seen. Prothorax almost as wide in front as at the middle, narrowed at the base, where also it is marked by two distinct transverse grooves, furnished on the middle of each side with a very small black tubercle.

The antennæ in the female scarcely reach beyond the apex of the elytra, and by means of this character the species may be distinguished from *A. lactea*, Thoms., which it closely resembles in coloration, though differing by its somewhat more elongated form, its broader interocular face, its more convex elytra, and the absence of brown spots from the base of the elytra.

Alphitopola ventralis, sp. n.

Capite, pronoto elytrisque pube luteo-fulva vestitis; scutello, corpore subtus cum pedibus albido-pubescentibus; antennis griseis; mesosterno paullo protuberanto.

Long. 18, lat. $5\frac{1}{2}$ mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*). One female example.

Head, pronotum, and elytra closely covered with a yellowish-brown pubescence; scutellum white; the whole of the underside of the body and the legs with a whitish pubescence, that on the legs being less dense and less distinctly white in colour. Prothorax with a very minute tubercle on each side. Elytra visibly punctured at the base and along the sides as far as the middle; the derm where rubbed bare of pubescence is seen to have a reddish-brown colour. Antennæ in the female a little longer than the body.

Alphitopola antennalis, sp. n.

Fulvo-cinereo-pubescentis; utroque elytro plagis fuscis tribus vage notato; prothorace utrinque breviter tuberculato; antennis (σ) quam corpore sesqui-longioribus, cinereis, articulis 4^o, 5^o 6^oque utrisque subtus macula elongata, elevata, fusca notatis.

Long. 20, lat. $6\frac{1}{2}$ mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*). One male example.

Clothed with a pubescence which is partly ashy grey, partly tawny in colour. Each elytron with three ill-defined patches of a dark brown colour—the first behind the shoulder, the second behind the middle, the third (which is the smallest) near the apex. Prothorax with a small but distinct tubercle on each side; the two anterior and two posterior transverse grooves distinct, the second anterior groove bowed backwards in the middle. Elytra strongly but somewhat sparingly punctured.

Antennæ about half as long again as the body in the male, cinereous grey in colour; joints fourth, fifth, and sixth each having an elongated dark brown area underneath. This area is slightly raised and almost nude; it runs along almost the whole length of the fifth joint, but is confined to the distal half of the fourth and the proximal half of the sixth joint. Similar areas to these (which are possibly of a sensory nature) are present also on the corresponding joints of the male antennæ in *A. bipunctata*, Th., but in the latter are slightly more pubescent, and therefore less easily seen.

Alphitopola Bettoni, sp. n.

Piceo-brunnea, griseo-pubescent; prothoracis lateribus et vitta media dorsali postice abbreviata, albis, vitta dorsali ad medium disci nigro-ocellata, lateribus utrisque medio nigro-maculatis; elytris maculis plagisque albis ornatis, viz. macula in depressione humerali, macula ad suturam paullo pone scutellum, plaga obliqua nigro-biocellata ante medium, macula rotunda nigro-ocellata pone medium, et macula minore paullo ante apicem; mesosterno medio tuberculato; pectore abdomineque lateraliter albo-maculatis.

Long. 10-12, lat. 3-4 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

In general shape and in style of marking this species somewhat resembles *A. vitticollis*, Gah., but is easily distinguished by the number and position of the white spots and bands.

Alphitopola unicolor, sp. n.

Pube fulvo-cinerea omnino vestita; antennis griseis, quam corpore (♀) paullo longioribus; prothorace lateraliter inermi, supra sulcis duobus glabris—uno pone apicem, altero ante basin—impresso.

Long. 13, lat. 4½ mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Covered with a rather dense pubescence of a yellowish-grey colour. Antennæ grey. Prothorax unarmed at the sides, marked above with two distinct transverse black lines—one a little behind the apex, the other a little in front of the base. Intercostal process of the mesosternum feebly tubercled, with its anterior face vertical.

Tragiscoschema ornata, sp. n.

Atra, flavo-ornata; capite punctis duobus in fronte, fascia utrinque ad genam, et vittis duabus vertice flavis; prothoracis disco utrinque late flavo-vittato; elytris utrisque macula oblonga medio-basali, maculis duabus parvis ad marginem externam, macula subrotunda ante medium, et macula transversa vel fascia pone medium flavis ornatis.

Long. 11-12 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Black, with yellow spots and bands as follows:—a transverse band on each side of the head below the eye; a small spot on each side of the front close to the inner margin of the eye; two vittæ on the vertex of the head; a broad band on each side of the prothorax just above the lateral spine; an

oblong spot on the disk of each elytron near the base, a round spot just in front of the middle, a transverse band between the middle and apex of each elytron, and two small spots at the outer margin—one just under the shoulder, the other placed a little further back from the base; four spots on each side of the abdomen and spots at the sides of the breast and prosternum.

Eumimetes brevicornis, sp. n.

Pube grisea brunneo variegata vestita; pronoto vittis tribus fuscis interdum haud distinctis ornato; corpore subtus pedibusque punctis nigris glabris sat dense notatis; prothorace utrinque pone medium sat valde tuberculato, supra sparsim nigro-granulato; elytris versus basin fortiter denseque punctatis, humeris prominulis; antennis (♂) quam corpore paullo brevioribus, cinereis, articulis a tertio late fusco-annulatis.

Long. 13-15, lat. 6-7 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Head with a grey pubescence, interrupted by glabrous punctured spots. Prothorax rather strongly tubercled behind the middle of each side, evenly convex above, and marked with three more or less distinct fuscous vittæ and numerous small scattered black granules. Scutellum short and broad, truncate behind. Elytra with prominent shoulders, and each with a prominence at the base close to the scutellum; strongly and rather closely punctured, especially towards the base; covered with a grey pubescence, indistinctly spotted with brown. Legs and underside with an ashy-grey pubescence, changing to yellowish grey towards the sides of the body; marked with numerous small glabrous black points.

Crossotus validus, sp. n.

C. plumicorni (Serv.) similis, sed antennis subtus sparse breviterque fimbriatis, utroque latere prothoracis bituberculato; elytris utrisque pone basin crista brevi longitudinali summo fulvo-pilosa instructis.

Long. 17, lat. $7\frac{1}{2}$ mm.

Hab. Machuma, Taru Desert, Brit. E. Africa (*C. S. Betton*).

In colour and punctuation this species resembles *C. plumicornis*, Serv., and *C. robustus*, Jord., from both of which it may be distinguished by the short longitudinal crest, surmounted with fulvous hairs, which is placed a little behind the base of each elytron. From *C. plumicornis* it is further

distinguished by having a second tubercle on each side of the prothorax and a dark brown spot and small tuft of hairs at the extreme base of each elytron. It resembles *C. plumicornis* in having three glabrous black lines on the vertex of the head.

Crossotus basalis, sp. n.

Pube grisea dense vestitus; prothorace lateraliter pone medium sat valde tuberculato, disco utrinque tuberculis duobus parvis instructo; elytris a basi ad medium fortiter subseriatim punctatis, interstitiis leviter costatis; corpore subtus cum pedibus nigro vel fusco punctatis; antennis (σ) corpore longitudine æqualibus, subtus usque ad apicem sat dense fimbriatis, (ρ) medium elytrorum vix superantibus, subtus versus basin dense, versus apicem sparsissime ciliatis.

Long. 9-10, lat. 4-4½ mm.

Hab. Taru Desert and Voi, Brit. E. Africa (*C. S. Betton*).

With a greyish pubescence, mottled in places with fulvous brown, especially on the front of the head, on the legs and underside. Prothorax with a distinct tubercle on each side behind the middle, lying in front of which is another very small tubercle; disk with four small tubercles forming with those of the sides two transverse series. Elytra strongly punctured in somewhat irregular rows from the base to the middle, beyond which some of the rows may be traced, but with the punctures much smaller in size; the intervals between the rows of punctures slightly raised, and sometimes covered with a brownish pubescence contrasting with the grey colour of the rest of the surface; each elytron with a small tawny tuft of hairs near the base and another behind the middle. Intercostal process of prosternum raised in a simple arch; that of the mesosternum truncate in front, with its anterior face almost vertical.

Male. Antennæ about as long as the body, with a fringe of hairs underneath which is pale grey in colour towards the base, blackish brown towards the apex.

Female. Antennæ scarcely reaching beyond the middle of elytra, with the fringe of hairs underneath becoming gradually thinner from the third to the sixth joint, and with the last three or four joints very sparsely ciliate underneath.

PLECTROPYGUS, gen. nov.

With the characters of the group *Hecyridides* of Lacordaire, but distinguished from the other genera of this group as follows:—Head as broad as the prothorax, the latter very

feebly tubercled on the sides and disk; antennæ much shorter than the body in both sexes; intercoxal process of the prosternum simply arched, not truncate in front; intercoxal process of the mesosternum gradually sloping in front, and broadly canaliculate along the middle.

Plectropygus mucoreus, sp. n.

Pube nigra ferrugineo variegata vestitus; elytris ad basin apicemque concoloribus sed in area intermedia albido-flavescente dense pubescentibus, maculis prope medium et ad marginem externam nigris; antennarum articulis a tertio nigris, utrisque basi angustim cinereis, apice angustim fulvis, subtus sparse nigro-fimbriatis.

♂. Antennis medium elytrorum paullo superantibus, segmento ultimo ventrali abdominis apice transversim excavato et fusco-fimbriato.

♀. Antennis medium elytrorum vix superantibus; segmento ultimo ventrali ad apicem paullo depresso et ad basin linea media brevissima impresso; pygidio apice valde emarginato et uncis duobus, uno alterum adverso, armato.

Long. 19-22, lat. 6-7 mm.

Hab. Mbuyuni, Brit. E. Africa (*C. S. Betton*); Nyasaland (*A. Whyte*).

Head, prothorax, legs, and the underside of the body with a blackish-brown indumentum interspersed with small patches of rust-red pubescence; anterior and posterior fourths of the elytra coloured like the body, but the intermediate half thickly covered with yellowish-white pubescence interrupted by a transverse black patch near the middle of each elytron, and a few spots alongside the outer margin. Prothorax with four feebly raised tubercles above, and two small obtuse tubercles on each side, with some rather large shallow punctures scattered over the disk. Elytra strongly punctured, with the punctures over the pale-coloured intermediate area almost entirely hidden by the pubescence; with two small tufts of black hairs on each near the base, one just within the shoulder, the other placed farther back and nearer to the suture.

Antennæ (slightly longer in the male than in the female) reaching a little beyond the middle of the elytra, with a thin fringe of dark brown hairs underneath; third joint the longest, fifth joint much shorter than the fourth, the sixth and following joints decreasing in length.

Male with a transverse excavation, somewhat oval in outline, at the apex of the last ventral segment, and with a

fringe of black hairs projecting slightly over the excavation from its anterior border.

Pygidium of the female deeply emarginate at the apex, and furnished with two hooks which turn inwardly towards the middle line.

BIOBESSA, gen. nov. (*Hecyridides*).

Allied to the preceding genus. Head as wide as the prothorax; the latter broader in front than at the base, furnished with a small conical tubercle behind the middle of each side. Antennæ much shorter than the body in both sexes, third joint twice as long as the first and a little longer than the fourth, fifth and following joints gradually diminishing in length, and, taken together, scarcely longer than the third and fourth united. Eyes divided. Prosternal process strongly arched, and furnished with two small tubercles in the middle; mesosternal process nearly vertical in front, horizontal behind, with two small tubercles at the edge between the two faces.

Biobessa beatrix, sp. n.

Pube brunneo-grisea dense vestita; capitis vertice fasciculis duobus fulvis minutis instructo; prothoracis disco utrinque tuberculis duobus parvis instructo, medio prope basin paullo elevato; elytris versus basin subrugosis, prope basin et inter medium apicemque fasciculis minimis fulvis nonnullis instructis.

Long. 13-15, lat. $4\frac{1}{2}$ -5 mm.

Hab. Taru Desert, Brit. E. Africa (*C. S. Betton*).

Covered above and below with a dense drab or tawny grey pubescence. Head with a finely impressed median line reaching from the clypeus to the occiput; crown with two small tufts of tawny hairs placed on two feeble elevations. Prothorax with two small tubercles on each side of the disk, the two hinder ones being in a line with the lateral tubercles, with a broader but more feebly raised tubercle in the middle, a little in front of the base. Elytra somewhat rugose towards the base, but with the rugosity scarcely evident, owing to the closeness of the pubescence. Legs and first joint of the antennæ slightly mottled with brown or tawny. Each of the abdominal segments with a short fringe of tawny setæ at the hind margin. Last ventral segment in the male with a deep but very narrow transverse excavation at the apex.

Eunidia mucorea, sp. n.

Capite et elytrorum tertia parte apicali fuscis, pube cinerea ferru-

gineo-commixta sparse vestitis; prothorace dense albido-pubescente, lateraliter in medio obtuse angulato; scutello fusco; elytris a basi ad partem tertiam posticam dense albido-cinereo-pubescentibus, prope basin maculis parvis ferrugineis; corpore subtus pedibusque cinerascentibus; antennis griseis, articulis 1^o-3^{um} et 11^o fuscis.

Long. 8, lat. 2½ mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Head and a little more than the posterior third of the elytra dark brown, with small scattered patches of grey and rust-red pubescence. Prothorax and the anterior two thirds of the elytra covered with a dense ashy-white pubescence; with the shoulders of the elytra slightly fuscous, and one or two spots on each elytron near the base rusty red. First three joints of the antennæ blackish brown, with some scattered greyish hairs, the eleventh joint and the apex of the tenth fuscous, rest of the antennæ grey.

Eunidia plagiata, sp. n.

Corpore subtus pedibusque et capite pube grisea dense vestitis; prothorace elytrisque albo-cinereis, his fusco-plagiatis; prothorace lateraliter utrinque obtuse tuberculato; tarsis supra infuscatis.

Long. 12, lat. 3½ mm.

Hab. Samburu (*C. S. Betton*).

Head, the underside of the body, and the legs covered with a dense greyish pubescence; prothorax and elytra with a paler, almost white, pubescence. Elytra each with a fulvous-grey patch at the base, a dark brown patch at the middle, and three dark brown spots between the middle and the apex. Prothorax with an obtuse tubercle placed high up on the middle of each side, with a slight constriction in front of and behind the base of the tubercle.

Eunidia piperita, sp. n.

Prothorace pone apicem et ante basin leviter constricto et sulcato, lateraliter in medio obtuse tuberculato; corpore subtus, prothorace et elytris pube fulva maculis fuscis albisque interspersa vestitis; pedibus fulvo-griseis, femoribus tibiisque macula fusca ad medium notatis; antennarum articulis 1^o-3^{um} griseis, ceteris fuscis.

Long. 8-11 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Prothorax with a distinct rounded tubercle or swelling placed high up on the middle of each side, with a slight con-

striction before and behind the tubercle and corresponding grooves across the upper surface. Underside, prothorax, and elytra clothed with a tawny pubescence, with small scattered spots—some dark brown, others white in colour, the latter being sometimes aggregated to form a large white patch near the base. Legs tawny grey, with a fuscous spot at the middle of each of the femora and tibiæ.

This species together with the two preceding form a section in the genus characterized by a relatively rather broad prothorax having an obtuse tubercle on each side.

Eunidia subfasciata, sp. n.

Capite in fronte griseo, supra et lateraliter plus minusve ferrugineo-pubescente; prothorace quam longitudine latiore, lateribus in medio leviter rotundato, disco pube grisea brunneo-mixta et maculis ferrugineis interspersa vestito; elytris pube grisea brunneaque vestitis, plaga apicali albida, fulvo-commixta, utrisque fasciis tribus fuscis parum distinctis notatis—prima paullo pone basin, secunda leviter arcuata mediana, tertia ad marginem anticam plagæ apicalis posita; corpore subtus cum pedibus griseo-pubescentibus, illo maculis brunneis ferrugineisque dispersis, clavis femorum sub pube nigris.

Long. 12–13, lat. $3\frac{1}{2}$ –4 mm.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Head with a pubescence which is greyish in front, and more or less rusty red around the eyes, on the crown, and on the sides. Prothorax broader than long, slightly rounded in the middle on each side; its pubescence grey mixed with brown, and with the anterior margin and a few spots on the disk rusty red. Elytra with a mixed grey and light brown pubescence, with some tawny patches at the base, and a well-marked white and tawny area at the apex; each with three dark brown bands: the first, which is the least distinct, at a short distance from the base, the second at the middle, the third forming an anterior border to the pale posterior area. Legs and underside grey; the abdomen with some dark brown and rusty-red patches. Seen through the pubescence, the derm of the legs is yellowish testaceous, except at the clubs of the femora, where it is black. Joints of the antennæ from the third dark brown at the apex.

Sophronica Bettoni, sp. n.

Testacea, fulvo-pubescentis; prothorace elytrorumque sutura et plaga laterali utrinque pone medium cinereis; elytris utrinque prope

basin macula obliqua fusco-nitida notatis; antennis (σ) corpore longitudine æqualibus.
Long. 10, lat. $3\frac{1}{2}$ millim.

Hab. Samburu, Brit. E. Africa (*C. S. Betton*).

Reddish brown, clothed with fulvous pubescence and with long erect setæ. The pubescence on the prothorax, on the sutural borders of the elytra from a little behind the base almost up to the apex, and on a lateral plaga behind the middle of each elytron is of an ashy-grey colour. Each elytron has an oblique nude spot near the base, the derm of this spot, as well as beneath the ashy-grey areas, being black in colour, whereas on the remaining parts of the elytra it is reddish brown. The elytra are strongly and somewhat thickly punctured, the punctures being irregularly spread, except along the middle, where two more or less regular rows may be distinguished.

Sophronica testacea, sp. n.

Testacea, subnitida, dense profundeque punctata; antennis ultra medium infuscatis.
Long. 9, lat. $3\frac{1}{4}$ millim.

Hab. Mpwapwa, E. Africa (*Dr. Kirk*).

Head and pronotum reddish testaceous; elytra, legs, and underside yellowish testaceous. Head, pronotum, and elytra thickly and deeply punctured, with the punctures of the elytra rather larger towards the base, and gradually diminishing in size towards the apex.

This species agrees pretty closely in structural characters with *S. carbonaria*, Pasc., but is relatively somewhat broader in form; the eyes are larger, with the upper lobes more approximate, and the scape of the antennæ is a little shorter and more thickened towards the apex. In colour it somewhat resembles *S. calceata*, Chevr., which is, however, a relatively narrower and more elongated species, having longer and more slender antennæ.

VIII.—*The Australian Scorpions of the Genus Urodacus*, Pet.
By R. I. POCKOCK.

THE genus *Urodacus* is the sole member of the family Scorpionidæ which is confined to Australia. It may be readily distinguished from the remaining members of the order that occur in this area by the possession of the following features:—