NEW CULICIDÆ FROM THE WEST COAST OF AFRICA.

By Fred. V. Theobald, M.A.

The new Culicidæ described here were sent me by Mr. Austen, of the British Museum, and were collected at Bihé, Angola, Portuguese West Africa, by Dr. Creighton Wellman in 1904, and at Sierra Leone by Major Smith, D.S.O., R.A.M.C.

The new *Danielsia* and *Ædimorphus* are very marked and beautiful species. The *Pyretophorus* was pointed out as being distinct from *P. costalis*, Loew, by Mr. Austen, after whom I have named the species. The *Anopheles* closely resembles *A. nigripes*, Staeger, but is clearly distinct.

The types are deposited in the National Collection. The strange genus *Heptaphlebomyia* is more fully described than in my Monograph, as fresh material was included in the collection from Angola.

Genus Anopheles, Meigen.

(Syst. Beschr. 1818, Meigen; Mono. Culicid. iii. p. 17, Theobald.)

Anopheles smithii, n. sp.

Head black, with a patch of frosty grey scales in front; proboscis black; palpi black, with three narrow pale bands, apex black. Antennæ with outstanding scales as well as hairs on the second segment, giving a tufted appearance. Thorax frosty grey in the middle, deep brown at the sides, and with a median dark line and brown hair-like scales. Abdomen black, with dull golden hairs. Legs black, unbanded. Wings unspotted, the veins clothed with dense dark brown scales.

♀. Head black, with a patch of frosty grey upright forked scales in front, dense black upright forked scales behind, over which shows a prominent tuft of large grey narrow-curved scales projecting forwards from the thorax; several thick black bristles project forwards between the eyes; proboscis and clypeus black, the former thin; palpi as long as the proboscis, thin, scaly, black, with three pale bands, the apical segment black. Antennæ black, the second segment with a small dense tuft of hairs on the inner side as well as the normal longer black ones. Thorax frosty grey in the middle, showing a median dark line and a pale yellowish brown one on each side of it in front, more or less tessellated behind, and with many small black specks, the sides deep brown, the pale frosty area contracted in front, thus widening the dark brown lateral areas; hairs or hair-like scales of thorax brown; scutellum and metanotum deep brown, posterior border-bristles of the former black. Abdomen black, with deep brown hairs. Legs long and thin, deep brown; ungues equal and simple, thin, rather long. Wings clothed with dense rather stumpy lanceolate scales, uniformly dark brown; the first submarginal cell considerably longer and narrower than the second posterior cell, its base nearer the base of the

wing than that of the latter, gradually becoming acute at the base, its stem about two-thirds the length of the cell; stem of the second posterior cell longer than the cell; supernumerary and mid cross-veins close together, the mid a little behind the supernumerary posterior cross-vein about its own length distant behind the mid. Length, 3·5 to 4 mm.

Habitat. Sierra Leone (800 ft.) (Major Smith).

Observations.—Described from several females collected by Major Smith. It is a very dark species, coming near *A. nigripes*, Staeger, but can be told at once by the denser wing-scales and banded palpi. The structure of the second antennal segment is very marked; the scales are rather long and outstanding, giving a tuft-like appearance.

Genus Pyretophorus, Blanchard.

(Comp. Rend. Soc. d. Biol. p. 795 (1902); Mono. Culicid. iii. p. 66, 1902, Theobald.)

Pyretophorus austenii, n. sp.

Head black, with grey scales in front; proboscis black, with two broad snowy white bands, the last forming a white apex to the palpi, and a third very narrow white band. Thorax brown, clothed with silvery grey scales; also the scutellum. Abdomen black, with golden hair. Legs black, with apical white tips. Wings with black and white patches of scales, costa with two small white spots and traces of a minute third spot towards the base; most of the veins pale-scaled, but prominent black spots at base of the second posterior cell and apex of lower branch of fifth long vein.

♀. Head black, with upright snowy white forked scales in front, black ones behind; proboscis black; palpi black-scaled, densely at the base, with two broad white bands towards the apex, one forming the apex of the palpi, and a third small one towards the basal half. Antennæ black, with grey pubescence. Thorax black, with scattered broad curved snowy white scales; also the scutellum. Abdomen black, densely clothed with golden hairs; the two lobes with black scales. Legs black, the apices of all the segments, except the last in the fore and mid legs, with a narrow white band; in the hind legs all the segments are banded; ungues equal and simple, rather long. Wings with rather dense *Pyretophorus*-like scales; the costa with three white spots, the apical one large, the second smaller, and the third very small; all three spread fairly evenly on to the first long vein, which has in addition a small white spot between the two apical costal ones, and another near the third spot, its base mostly white. On the base of the costa is another small white spot not reaching the top of the costa; the branches of the third long vein are black at the tips and bases near the fork, and there is another black patch near its base; the third long vein pale, except for a black spot *near* the apex, and two near the base; the fifth has two black spots *near* the apices of its branches, a *large* black-scaled area in front of and including the base of the fork and its stem near the fork, rest of the vein pale-scaled; the sixth has three black spots, the median one the largest; wing-

fringe with a pale area at the junction of all the veins. First submarginal cell considerably longer and a little narrower than the second posterior cell, its base nearer the base of the wing, its stem about one-fourth the length of the cell; stem of the second posterior cell rather more than two-thirds the length of the cell; supernumerary cross-vein a little behind the mid, the posterior about its own length distant behind the mid; posterior border-scales of the fringe long, narrow, and curved. Length, 5 mm.

Habitat. Bihé, Angola (Dr. Creighton Wellman).

Observations.—Described from a single perfect female. The chief characters are in the thoracic squamose structures and marked wing ornamentation.

Genus Danielsia, Theobald.

(The 'Entomologist,' p. 78, March, 1904.)

Danielsia wellmanii, n. sp.

Head creamy white, with two median black spots. Palpi and proboscis brown. Thorax deep brown, with a broad creamy area on each side, expanding in front, and passing around the front of the mesonotum, and with a short creamy median line arising from the pale anterior area; numerous golden brown bristles posteriorly. Abdomen black, with basal white lateral spots on basal segments, becoming median on the apical ones. Legs deep brown, front pair unbanded, mid and hind with a broad basal pale band to the metatarsi and first tarsal segments.

♀. Head deep brown, with rather loosely applied flat creamy scales, with two large patches of flat dark scales above, and with creamy narrow-curved scales behind. Clypeus and proboscis black; palpi rather long, black; antennæ black, with indistinct narrow grey bands. Thorax black, clothed with narrow-curved bronzy-brown scales, with a broad creamy scaled area on each side, which expands anteriorly, and which meets around the front, and sends a narrow short median line of creamy scales into the brown area; a few pale scales in front of the scutellum and numerous golden brown bristles over the roots of the wings; prothoracic lobes with small flat creamy scales; scutellum with rather broad narrow-curved scales, narrowest on the lateral lobes; border-bristles bright golden brown; mesonotum black; pleuræ with white puncta. Abdomen black, with deep violet reflections; the basal segments with basal white lateral spots, which become median on the last two or three segments, the latter having a few white scales extending on to the dorsum and in the middle, but not forming bands; border-bristles small, pale golden. Venter with basal white bands. Legs deep blackish brown, the front pair with only a faint trace of a pale band at the base of the metatarsus; the mid and hind with a broad white basal band to the metatarsi and first tarsus; venter of base of fore and mid femora white; base of hind femora white, and white knee-spot. Ungues uniserrated, the tooth long. Wings with the first submarginal longer and narrower than the second posterior cell, its stem nearly two-thirds the length of the cell; stem of the second posterior as long as the cell; posterior cross-

vein about twice its own length distant from the mid; lateral vein-scales long and straight. Halteres creamy. Length, 4·0 mm.

Habitat. Bihé, Angola.

Observations.—Described from a perfect female. It is a very distinct species, easily told by the thoracic and abdominal ornamentation and leg-banding. It clearly comes in the genus *Danielsia*, but the scutellar scales are rather broader than in the type (*D. albolineata*).

(To be continued.)

PREOCCUPIED NAMES IN COLEOPTERA.

By T. D. A. Cockerell.

There is urgent need for someone to go over the generic names used for Coleoptera, and sift out the homonyms. For some reason coleopterists seem extraordinarily careless about homonymy, and it is evident that some of them, while proposing numerous new generic names, never take the trouble to consult the indices of Scudder or Waterhouse. *Alexia*, Steph., 1835, is the name still in use for a genus of Endomychidæ, but it is invalid because of the molluscan *Alexia*, Leach, 1818.* Fairmaire still uses the name *Anodon*, proposed in the seventies, for a Dynastine beetle, but Oken used *Anodon* in Mollusca in 1815. The Dynastine genus may take the name *Paranodon*, n. n. *Coryphus*, Cski, 1902, for an Endomychid genus, would be considered by many a homonym of *Corypha* (Gray, 1840; Walker, 1860), but I think it may be allowed to stand.† Weise, in 1902, proposed *Stenella* and *Spilonota* as the names of two Chrysomelid genera, but both names are invalid (Gray, 1870; Stephens, in Lepidoptera). *Stenella* may be changed to *Stenellina*, n. n., type *Stenellina marginata* (Weise), and *Spilonota* may become *Spilonotella*, n. n., type *Spilonotella sagax* (*Spilonota sagax*, Weise). The original descriptions are in Arch. Naturg. vol. 68, pp. 145 and 151. In the same paper, Weise proposes a genus *Sphondylia*, which many would consider too like *Sphondyla* (Illiger, 1805).

* Since writing the above I have found that, according to Mr. B. B. Woodward (Journ. of Conch. 1903, p. 361), the date given for the molluscan *Alexia* in the 'Nomenclator Zoologicus' is wrong; that is, it is the date of Leach's *manuscript*, which was not actually published until 1847. Hence the coleopterous name stands, and it is the familiar molluscan *Alexia* which has to go.

† It may be added that the arachnid genus-name *Coryphæus*, Cambridge, 1895, is a homonym of *Coryphæus*, Gistl, 1848.

Vertex rugosely punctured, the front closely longitudinally reticulated-striated. Clypeus as long as it is broad, rounded broadly above, the apex with an incision on its apex, where it is wider than its greatest length; it becomes gradually wider towards the apex, the sides being sharply pointed. Apices of mandibles rufous. Temples reticulated-punctured closely. Apex of pronotum transverse, the lateral angles not acute. Pro- and mesopleuræ more coarsely rugose than the mesonotum; the metapleuræ, except near the base above, closely striated obliquely, the striæ intermixing and forming almost reticulations in places. Lateral angles of metanotum forming, with the base, almost a triangle, *i.e.* the sides are produced into a blunt point in the middle. Scutellum quadrangular, broader than long, its base obliquely sloped. Apex of post-scutellum smooth, obliquely sloped. Centre of metanotum hollowed, smooth; the keel in the centre widened towards the apex. Basal abdominal segment cup-shaped; the second slightly longer than the width at the apex, which is smooth and turned up. The flagellum of antennæ is brownish beneath; the hook is brown, stout, reaching to the apex of the joint. There are two lines on the post-scutellum.

Comes near to *O. posticus* and *O. silvaensis*. The former I do not know in nature, but the latter may be separated from my species as follows:—

Apical segments of abdomen and basal half of antennæ red, a yellow line in the eye-incision, the sides of the median segment not dilated in the middle (sometimes yellow) . . . . . *silvaensis*, Sauss.

Apical segments of abdomen and antennæ not red, no yellow line on the eye-incision, the sides of median segment dilated in the middle . . . *vaalensis*, sp. nov.

The specimens of *silvaensis* which I have seen (there is a specimen from the Transvaal in the Albany Museum, Grahamstown) is Saussure's variety, they having the post-scutellum and sides of metanotum yellow. The tibiæ, too, are yellow on the outer side (*cf.* Saussure, 'Vespides,' i. p. 214).

NEW CULICIDÆ FROM THE WEST COAST OF AFRICA.

By Fred. V. Theobald, M.A.

(Concluded from p. 104.)

Genus Ædimorphus, Theobald.

(Mono. Culicid. iii. p. 290, 1903; Genera Insectorum, Culic. p. 20, 1904.)

Ædimorphus alboannulatus, n. sp.

Head dark brown; proboscis black, with a white band on the apical half. Thorax deep rich brown, with scanty golden scales; a silvery white spot on each prothoracic lobe; pleuræ pale brown, with

silvery white puncta; scutellum silvery white. Abdomen deep brown, unbanded, with basal white lateral spots. Legs deep brown, with apical silvery white bands, most pronounced in the hind legs, the last hind tarsal being all white.

♀. Head deep brown, clothed with dusky flat scales over most of the surface, and some flat creamy ones at the sides; around the eyes rather large golden narrow-curved scales, and smaller and duller ones at the back; over the whole surface very long deep black upright forked scales. Proboscis black, with a pale ochreous band slightly towards the apical half. Palpi deep brown and densely scaly; clypeus brown. Thorax rich deep chestnut-brown, with scattered small golden curved scales; silvery white flat scales on the prothoracic lobes; numerous black bristles over the roots of the wings; scutellum brown, clothed with silvery white flat scales and black border-bristles, six to the mid lobe and some smaller ones with them; pleuræ brown, with prominent silvery white puncta composed of flat scales; one large spot of these scales seems to project outwards, and can be seen when the insect is viewed from above, looking almost like a silvery spot close to the roots of the wings. Abdomen deep brown, with basal white lateral spots and pale venter. Legs black, with apical silvery white bands as follows: small but prominent on the femora and tibiæ of all the legs, on all the metatarsi, and on the fore and mid first tarsal segment; in the hind legs prominent on all the segments, the last tarsal being pure white. All the ungues equal and uniserrated. Wings with the first submarginal a little longer and narrower than the second posterior cell, its base nearly level with that of the second posterior, stem of the first submarginal cell about two-thirds the length of the cell, stem of the second posterior cell as long as the cell; posterior cross-vein nearly twice its own length distant from the mid. Halteres with pale stem and fuscous and white knot. The scales are dark brown, especially along the costa, with deep violet reflections towards the base, and a white patch of scales at the base of the costa and first long vein. Length, 4·5 mm.

♂. Palpi about the same length as the banded proboscis, the two apical segments small and about equal, a pale band at the base of the apical segment; on both apical segments, and on the apex of the antepenultimate, a few long brown hairs. Fore and mid ungues unequal, the mid more so than the front ones, both uniserrated, the tooth of the larger mid unguis near the base and small. Length, 4 to 4·5 mm.

Habitat. Sierra Leone, West Africa.

Observations.—Described from two specimens (a male and female) in perfect condition. It is a very marked species, the general ornamentation of the thorax and legs being characteristic. I cannot be certain as to the exact structure of the male ungues, as there is only one specimen, nor the genitalia, which are hidden in hairs and scales. No notes were sent with the specimens.

Genus Culex, Linnæus.

(Syst. Nat. 1738, Linnæus; Mono. Culicid. i. p. 326, 1901, Theobald.)

Culex hirsutipalpis, Theobald.

(Mono. Culicid. i. p. 378, 1901.)

Several males and females from Bihé, Angola. The males differ from the type in that there is no pale band at the apex of the palpi.

My figure of the male ungues (Mono. Culicid. i. p. 378) were drawn from a pinned specimen in which they could not clearly be seen. When mounted and examined flat the tooth of the larger fore and mid ungues is seen to be large and outstanding, almost at right angles to the claw, and the tooth of the smaller one is more pronounced and nearer the base. The series also shows great variation in size, some specimens being one-third less than the type.

Genus Heptaphlebomyia, Theobald.*

(Mono. Culicid. iii. p. 336, 1903.)

This genus was described from a single female. The fresh material sent from Angola by Dr. Creighton Wellman has enabled me to add fresh generic characters to those already given. The males sent by the collector do not agree with the females, and I am not sure if they are of the same species.

Characters of the Genus.—Head clothed with narrow-curved scales, and upright forked ones, except at the sides, where they are small and spathulate. Palpi of the female small but prominent, in the male acuminate, the last two segments hairy. Thorax clothed with narrow-curved scales, and also the scutellum and prothoracic lobes; the pleuræ in the female with patches of flat scales, which end in a sharp point; in the male they are rounded apically. The wings have the typical *Culex* venation, but the females have a distinct seventh long vein, scaled for part of its length with rather large elongated flat scales, which apparently vary in number from ten to fifteen. The scales of the wing are rather broader than in *Culex*, especially in the apices of the veins, including the branches of the fork-cells. In the males there does not seem to be a scaled seventh vein, but the sixth is markedly bent at right angles near the edge of the wing.

The two chief features in the genus are the presence of a scaled seventh vein in the female, and the peculiar form of the scales on the pleuræ, which I have not seen in any other Culicids. There is a superficial resemblance between the males and females, but the absence of the scaled seventh vein in the males makes it doubtful if they really belong here, although evidently they were taken together by the collector.

* Since this was sent to press, two very marked new species have been sent me from Madagascar. The descriptions will shortly appear in the 'Archiv der Parasitologie,' in a paper on Madagascan Culicidæ by M. Veutillon.

Heptaphlebomyia simplex, Theobald.

Head deep brown, with greyish scales; palpi of female thin, black, and white-scaled, of male thin, black; proboscis black, unbanded. Thorax deep brown, with small reddish golden narrow-curved scales, brown pleuræ with snowy white puncta. Abdomen deep brown, with basal white curved bands, and basal white lateral spots. Legs deep brown, unbanded; white femoral and tibial apical spots and traces of a very fine indistinct white line on femora and tibiæ. Ungues of female small, equal, and simple.

♀. Head deep brown, with narrow-curved grey scales, somewhat largest in the middle of the head, and black upright forked scales; small white flat lateral scales and a row of rather long and prominent deep brown bristles projecting from the front of the head, those of each side pointing inwards; clypeus and proboscis deep black; palpi thin, rather irregular in form, and clothed with black and white scales. Thorax deep brown, clothed with narrow-curved reddish golden scales, some grey ones in front near the head, another small patch in front of the roots of the wings, pale ones over the roots and before the scutellum; scutellum with pale dull creamy narrow-curved scales, with two series of border-bristles, the larger deep brown, the smaller pale golden; prothoracic lobes with narrow-curved pale scales, and some brown chætæ; pleuræ deep brown, with patches of flat-pointed white scales and short golden bristles here and there. Abdomen deep orange-yellow, clothed with deep blackish brown scales with violet reflections, and with basal white curved bands, those of the second, third, and fourth segments being in the form of almost median curved spots; all the segments with basal white lateral spots; border-bristles small and pallid, many pallid hairs at the sides of the body; venter mostly white, scaled with black. Legs deep black, the apices of the femora and tibiæ with a white spot; also on the femora and tibiæ is a rather indistinct ventral white line; ungues small, equal, and simple. Wings with the first submarginal cell longer and narrower than the second posterior cell, its base nearer the base of the wing than that of the latter, its stem varying from one-third to one-half the length of the cell; stem of the second posterior about two-thirds the length of the cell; the posterior cross-vein from one and a half to twice its own length distant from the mid; the seventh vein with scales which vary in number from ten to about fifteen. Length, 3·5 to 4 mm.

♂. Head clothed with narrow-curved pale scales, a more or less prominent median bare line; clypeus and proboscis deep brown; antennæ grey, with deep brown bands and verticillate hairs. Palpi deep brown, the apical segment acuminate, last two segments hairy, the antepenultimate segment thin and weak, with a trace of a pale band upon it, hairs black; two apical segments equal. Thorax very similar to the female, but does not show the pale scales. Abdomen banded as in the female, narrow, with rather scanty long pale brown hairs; the apical segment with scattered creamy scales, the penultimate with the pale basal band extending down each side of the segment. Fore and mid ungues unequal, both uniserrated, hind equal, simple, and small. Wings with the seventh vein apparently not scaled (*i. e.* only a fold and no true vein). The first submarginal cell consider-

ably longer and narrower than the second posterior cell, its base nearer the base of the wing than that of the second posterior cell, its stem about half the length of the cell; stem of the second posterior cell not as long as the cell; posterior cross-vein nearly twice its own length distant from the mid; sixth vein curved almost at right angles at the apex. The male genitalia have rather a narrow basal lobe, with a long curved lateral process composed of several narrow laminæ, and nearer the clasper another process, shorter, and composed of finer parts; the clasper terminates in a small jointed process. Length, 3·5 to 4 mm.

Habitat. Bihé, Angola, Portuguese West Africa (Dr. Creighton Wellman).

Observations.—The four females sent by Dr. Creighton Wellman all show the marked seventh scaled vein, but the males do not. There is variation in size, showing, as usual, that exact measurements of Culicids are of no diagnostic value. This species might easily be mistaken at first for *Culex fatigans*, Wied., and, on more careful examination, to be near *C. creticus*, Theob., owing to the white scaled line on the femora and tibiæ; but a microscopic, or even a careful hand-lens, examination will at once reveal the seventh scaled vein.

The original type is in the British Museum, and all the specimens redescribed here. There were three males sent with the females.

Further notes on this genus will shortly be issued in the 'Archiv der Parasitologie' on important material collected and described by M. Veutillon.

A LIST OF THE "MACRO-LEPIDOPTERA" OF LANCASTER AND DISTRICT.

By C. H. Forsythe.

(Continued from p. 135.)

Triphæna ianthina.—Generally distributed throughout the district; comes to sugared ragwort flowers in July and August.

T. interjecta. — Uncommon. I have only taken examples near Heysham, Hest Bank, and in the County Asylum grounds in July.

T. comes (*orbona*).—Comes freely to sugar in July and August, and is generally distributed. This species is very variable.

T. pronuba.—Abundant at sugar in July and August everywhere. This is another very variable species in colour—from silver-grey to black-brown

Amphipyra tragopogonis.—Fairly common everywhere at sugar in August.

Mania maura.—Comes to sugar in Aqueduct Wood and other localities on the banks of the Lune at the end of July. I have also taken specimens in the County Asylum grounds.