New Oriental Saw-Flies *(Hymen. Tenthr.)*

By

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These descriptions were made several years ago, but increasing routine works at the Swedish Museum of Natural History prevented in later years the author to do any taxonomical works on saw-flies and also to prepare these notes for publication. When retired in Oct. 1959, the interest and activity of the author had shifted from the so long neglected saw-flies to studies of other diciplines (geology, Atlantis, and old paintings). A long and severe conflict with the former chief of the Entomological Dept. was concurrent to this growing indifference towards entomology. It is now the intension of the author again to take up entomology and at least publish the generic keys constituting the results of year long studies of the *Tenthredinoidea* of the world.

Genus *Abeleses* ENSLIN

Abeleses ENSLIN, Societas Ent., Vol. 25, p. 98, Frankfurt am Main 1911.

This genus is characterized by the very long hind coxae that makes the hind femora reaching beyond the apex of abdomen. Face evenly subconvex between the eyes with obsolate or only poorly defined frontal area. The anterior margin of the mostly punctured clypeus truncate or rounded. The powerful mandibles subsymmetric, each with a broad subapical tooth, shorter than the apical one. Malar space linear. The hind basitarsus mostly longer than the following tarsal joints combined; claws with basal lobe and the shorter subapical tooth placed somewhat lateral of the longer apical one. The front wings with 2 radial and 4 cubital cells. Basalis meets subcosta close to the base of cubitus, and is subparallel with the first recurrent vein. The anal cell broad, and with a long, oblique cross-vein at the apical third of the cell. The hind wings without closed middle cells and with sessile anellan cell. Type: *A. formosanus* ENSLIN.

Key to the hitherto known species:

1. The 3rd antennal joint distinctly l o n g e r than the 4th one. General colour black or blue black; white are at least labrum and scutellum 2
–. The 3rd antennal joint distinctly s h o r t e r than the 4th one. The hind basitarsus only little longer than the following tarsal joints combined. Black; whitish

are: mouth-parts; a small dot above the base of each antenna; the broad margin of the upper pronotal corners; the hind margin of the last tergite. The 4 anterior legs fulvous or dark reddish, except for the black base of coxae and at least most of the hind tibiae 4

2. The four or five apical antennal joints whitish in the ♀ only. General colour black without bluish tinge. Wings subhyaline, venation blackish, base of stigma whitish 3

–. Antennae black. Head, thorax, and abdomen black with a bluish tinge; the posterior trochanters white. Stigma dark brown. Antennae decidedly cylindrical. Face between the eyes to the ocelli with irregular large, sometimes confluent punctures; head behind and above shining with sparce irregular punctures. Frontal area obsolate or nearly so. Head, thorax, and legs densely clothed with white pile. Length ♀ 9 mm. (After ROHWER.)
Formosa (Taihorin) ..... *A. coeruleus* ROHWER 1916.

3. Head with fine, scattered punctures, shining, narrowing behind the eyes. Frontal area well defined. The supra-antennal pit large. Between the antennal basis a longitudinally carinated tubercle. Antennae tapering towards base and apex. The abdominal tergites with narrow white margins. Legs black, the anterior tibiae and tarsi whitish anteriorly, the posterior trochanters and the adjacent extreme base of femora white. The narrow pronotal margin white. Length ♀ 8 mm. (After ENSLIN and ROHWER.)
Formosa (Tainan and Kankau); China, Prov. Kiangsi (Kuling).
A. formosanus ENSLIN 1911.
Var. Pronotum entirely black. (After ROHWER.) Formosa (Taihorin).
A. formosanus notatus ROHWER 1916.

–. Legs and the two basal abdominal segments reddish (rufo-testaceis), the extreme apex of the posterior tibiae together with the broad base of the same metatarsi black; rest of tarsi yellow. A small dot beneath the base of the wings whitish. Head closely and strongly punctured, not narrowed behind the eyes, and with a shining spot lateral of the postocellar area; the lateral furrows of this area diverging backwards. Scutellum flattened, shining, and very sparcely punctured. Length ♀ 9 mm. (After TURNER.)
Annam (Hué) ..... *A. varicolor* (TURNER 1920).

4. Antennae black; the 4 apical joints white; the hind legs reddish without white, the apex of femora and of coxae more or less blackened; tegulae, parapterum, and the abdominal tergites black, the 3rd (and rarely also the 2nd) tergite whitish like the basal sternites, but in the ♂, the pale tergites with an infuscated spot in the middle above. Scutellum with appendage, postscutellum, and a middle spot on the 8th and 9th tergites white in the ♀ only. — Almost impunctate, only face with a faint indication of ill defined fine punctures. Antennae longer than abdomen, rather distinctly incrassated in the middle, the 3rd and 5th joints subequal in length. The anellan cell rounded at the apex, and nervellus meets it somewhat basade of the apex. Length ♂ 6—7, ♀ 8.5—9 mm. (13 ♂♂, 2 ♀♀.) Burma (Kambaiti at 2000 m.; Mt. Victoria, Chin Hills, 2400—2800 m.).
A. birmanus n.sp.

–. Antennae and the hind legs tricoloured; the basal three and a half antennal joints fulvous, the apical half of the 4th joint and almost the entire 5th one white, the apical 4 antennal joints black. Trochanter, the posterior side of coxae, and

the tarsi from the middle of metatarsus white, the entire femora, the extreme apices of the tibiae, and the basal half of metatarsus black. Tegulae, parapterum, and the 2nd—6th abdominal segments whitish, all tergites with a large black, transverse middle spot increasing in size backwards. Mesopleura entirely black. — Head and thorax with distinct, rather coarse, and fairly dense punctures, face with opaque lustre. The 3rd antennal joint distinctly longer than the 5th one. Nervellus meets the anellan cell at its acute extreme apex. Larger species. Length ♂ 8 mm; ♀ unknown. (1 ♂.)

Sikkim (Valley at Tista Bridge, 200m.) ..... *A. versicolor* n.sp.

Genus *Sunoxa* Cameron

Sunoxa Cameron, Mem. Philos. Soc. Manchester, Vol. XLIII, Nr. 3, p. 39, 1899.

This is one of the very few genera known to the present author from the original description only. *S. pupureifrons* Cameron is the type of the genus and at the same time the only known species belonging to it. The type specimen is missing, and only an empty label without a pin-hole marks its place in the collection of the Hope Dept., Oxford. The type must accordingly be regarded as lost.

Genus *Heptamelus* Haliday

Heptamelus Haliday, Nat. Hist. Rev., Vol. 2, p. 60, 1855. (Type: *Melicerta ochroleuca* Stephens.)

Melicerta Stephens (nec Schrank 1803), Nom. Brit. Insects, Ed. 2, p. 129, 1833.

Caenoneura C. G. Thomson, Opusc. Ent., Vol. 2, p. 270, 1870.

Key to the species of the genus *Heptamelus* Hal.

1. Malar space not twice as long as the diameter of an ocellus, linear if not stated differently. Wings only faintly subinfumated if not stated differently 2

–. Malar space twice as long as the diameter of an ocellus. The interocellar furrow sharp, deep, and combined with the equally sharp, deep and angular postocellar furrow; the postocellar area thus acutely limited anteriorly, and this area is twice as broad as it is long, its sharp, deep, and broad lateral furrows diverging backwards and continue lateral of each lateral ocellus at a very obtuse angle. The pale anterior margin of clypeus extremely shallowly emarginated, almost truncate. In front of the middle ocellus a round pit almost of the same size as the supra-antennal one. Mesopleura with a dorso-ventral band of rather distinct punctures (15—20), and scutellum likewise with distinct punctures in its posterior part. Front wings distinctly infumated, with brown stigma. Head and thorax black; abdomen dark brown; pale yellow are: labrum, palpi, and legs except for the base of coxae. Length ♂ 6 mm; ♀ unknown. (1 ♂.)

Burma near the Yünnan frontier (Kambaiti at 2000 m.) ..... *H. genalis* n.sp.

2. Mesopleura with at least some, more or less distinctly rounded punctures. The postocellar furrow wanting, and the same area reaching between the lateral ocelli to the middle one. Colour blackish, base of antennae pale, the pale of

abdomen rather variable when present, from reddish to pale fulvous. Legs yellowish to fulvous, the extreme apex of the hind tibiae infuscated. Pronotum and tegulae brown to very pale 3

–. Mesopleura shining and impunctate with only faint traces of quite obliterate, confluent punctures in the upper part. The supra-antennal pit entirely obliterate. Scutellum and the postocellar area with extremely minute, scattered punctures, the latter area with very deep lateral furrows, each continued in a straight line lateral of the lateral ocellus; the interocellar furrow deep and distinct, reaching from the middle ocellus to the very faint postocellar furrow, and sometimes continued anteriorly as a shallow longitudinal middle fovea. Anterior of the middle ocellus, but smaller than it, a deep elongated pit. Face not wrinkled. Clypeus angularly incised. ♀ unknown. — Black; reddish yellow are: legs (the tarsi somewhat infuscated), abdomen (the apical segments black, and likewise more or less of the basal tergites, but the 3rd and 4th tergites infuscated in the middle only in one specimen); labrum and base of antennae more or less brownish. Length ♂ 5—6 mm. (7 ♂♂.)
East Java, Idjen Plateau (Bondowoso, Blawan, Kawah, and Ongop-Ongop, 1000—2000 m.) ..... *H. ruficinctus* n.sp.

3. Face transversally wrinkled between the antennal basis and the middle ocellus. Mesonotum and scutellum with extremely fine and scattered, although distinct punctures; head above likewise, but the punctures are ill defined. The lateral furrows of the postocellar area diverging backwards and their prolongation lateral of the ocelli accordingly angularly bent. The interocellar furrow reduced to a pit close behind the middle ocellus, subequal in size to the middle supra-antennal pit, but smaller than the pit anterior of the same ocellus. The punctures of the mesopleura deep and distinct. The anterior margin of clypeus quatercircularly incised. — Abdomen blackish, the anterior tergites with pale posterior margin. Length ♂ 4.5—6 mm; ♀ unknown. (2 ♂♂.)
Sumatra (Medan, and Fort de Kock, 920 m) ..... *H. rugifrons* n.sp.

–. The subconvex face smooth 4

4. Punctures of the mesopleura distinct and deeply sunken. The lateral furrows of the postocellar area sharp, diverging backwards, and continuous lateral of the ocelli at a more or less blunt angle 6

–. Punctures of the mesopleura very shallow and ill defined. Scutellum impunctate; mesonotum and head above with extremely minute and rather ill defined punctures. Abdomen unicoloured dark brown 5

5. The supra-antennal pit very broad and deep, rounded in outline, almost twice as broad as the diameter of the middle ocellus or as the pit in front of it. The circumocellar furrow visible behind the middle ocellus as a narrow depressed margin. The deep lateral furrows of the postocellar area twice as long as they are broad, faintly diverging backwards, and almost separated from their prolongation lateral of the ocelli. The anterior margin of the black clypeus rather deeply incised. Head and thorax, except for the basal half of antennae, black; abdomen and tegulae unicoloured dark brown. Length ♂ 6 mm; ♀ unknown. (1 ♂.)
Burmese Southern Shan States (Taunggyi at 1500 m) .... *H. brunneiventris* n.sp.

–. The supra-antennal pit extremely shallow and furrow-shaped; the pit in front of the middle ocellus much deeper and broader; the one behind the same ocellus quite minute; the circumocellar furrow otherwise wanting. The lateral furrows

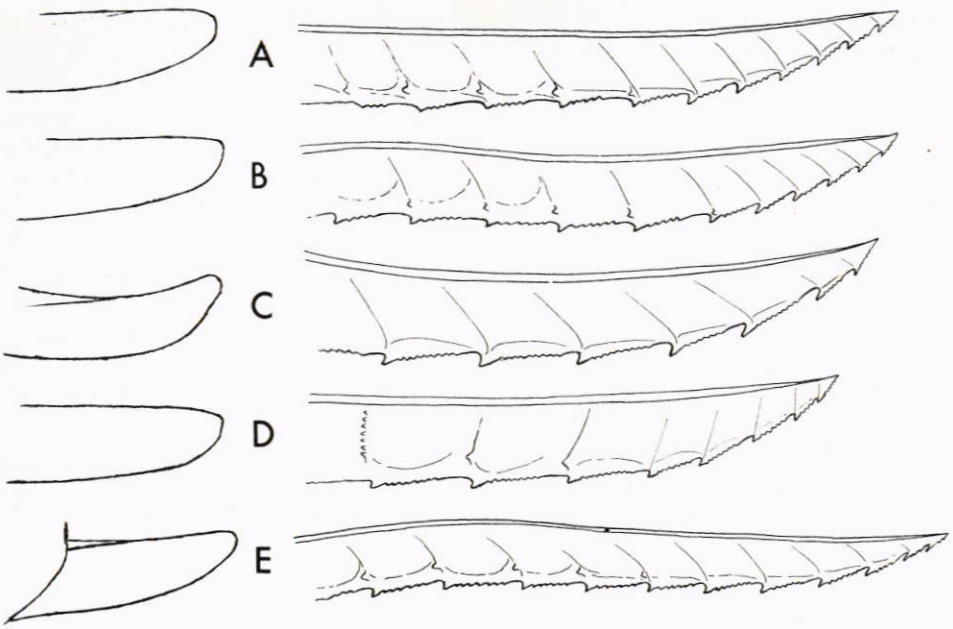

Fig. 1. Saw-sheaths and saws in lateral view of ♀♀ in the genus *Heptamelus* HAL. **A.** *ochroleucus* HAL., **B.** *magnocularis* MAL., **C.** *marginatus* n.sp., **D.** *birmanus* n.sp., **E.** *ussuriensis* MAL.

of the postocellar area sharp, diverging backwards, angularly bent, but otherwise uniformly continued into the furrow lateral of the ocelli. Teguli and palpi whitish. Saw-sheath and Saw (Fig. 1, E). Length ♀ 5 mm; ♂ unknown. (Type-♀.)
Vladivostock (Suchan) ..... *H. ussuriensis* MALAISE 1931.

6. Clypeus entirely black, its anterior margin rather deeply, angularly, or quater-circularly incised (Fig. 2, B. p. 237). Scutellar appendage smooth and shining with few (2—3) large punctures at the base 7

–. The broad anterior margin of clypeus pale and shallowly emarginated (Fig. 2, A, p. 237); labrum entirely pale. The mostly rounded supra-antennal pit larger than the pit anterior of the middle ocellus. Abdomen pale fulvous beneath in both sexes, the dark colour black in the ♀, but more variable in the ♂, from black with an irregular pale longitudinal stripe to entirely pale leaving only propodeum and the 2nd tergite more or less infuscated. Thorax may, as in the ♀, also in the ♂ be black with pale tegulae, but the fulvous colour may breack through on the entire mesonotum, scutellum, on a triangular spot on the mesopleura, and on the base of the antennae. Saw-sheath and saw (Fig. 1, C). Length ♂ 3.5—5 mm, ♀ 7 mm. (8 ♂♂, 1 ♀.)
Burma (Kambaiti at 2000 m) ..... *H. marginatus* n.sp.

7. Thorax and abdomen black, at least in the ♀; tegulae and genitalia mostly pale. Scutellum impunctate. Behind the middle ocellus a minute rounded pit 8

–. At least abdomen beneath with pale markings in both sexes. Mesonotum with minute scattered punctures. The pit anterior of the middle ocellus deep and as

broad as the ocellus itself; the pit behind the same ocellus indistinct and furrow-shaped (=interocellar furrow) 9

8. The mesonotal lateral lobes with fine but distinct, scattered punctures. The supra-antennal pit rounded, as large as the one anterior of the middle ocellus. Scapus and pedicellus black. Abdomen black in the ♂ too, only genitalia pale. Saw-sheath and saw (Fig. 1, B). Length ♂ 4.5 mm; ♀ 6 mm. (Types-♂♂ and 1 ♀.) Kamchatka (Elisovo at the Avatcha River, and Petropavlovsk).
H. magnocularis MALAISE 1931

–. Mesonotum without distinct punctures. The supra-antennal pit ill defined, much smaller than the pit anterior of the middle ocellus. Scapus and pedicellus pale, more or less in both sexes. According to BERLAND 1947 the ♂ has: pronotum, mesonotum, mesosternum, and metapleura reddish; abdomen reddish yellow, except for propodeum and traces of a longitudinal stripe above that are blackish. Saw-sheath and saw (Fig. 1, A). Length 5 mm. (5 ♀♀.)
Europe (Britain, Danemark, Germany, Macedonia, Sweden).
H. ochroleucus HALIDAY 1855 (*Caenoneura dahlbomi* THOMSON 1871).

9. Scutellum distinctly punctured in its posterior half. The pit anterior of the middle ocellus very large, deep, and about twice as long as it is broad. The supra-antennal pit in the shape of a narrow furrow, almost obliterate. The straight lateral furrows of the postocellar area continued with a short branch lateral of the ocellus at an angle of about 150°. Labrum and tegulae pale brown, possibly whitish in the unknown ♀. Wings brownish infumated. Length ♂ 5.5 mm. (Type-♂.)
Java (Gunung Ungaran and Gunung Gedeh) ..... *H. javanus* ENSLIN 1912

–. Scutellum impunctate. The pit anterior of the middle ocellus not elongate; the supra-antennal pit minute, but very distinct and abruptly sunken. The not quite straight lateral furrows continued lateral of the ocellus almost at a right angle (about 110°). Labrum and tegulae whitish. The reddish abdomen black only at the extreme base and apex, Wings subhyaline. Saw-sheath and saw (Fig. 1, D). Length ♀ 7—7.5 mm; ♂ unknown. (2 ♀♀).
Burma at the Yünnan frontier (Kambaiti at 2000 m). ..... *H. birmanus* n.sp.

Genus *Heterarthrus* STEPHENS

Heterarthrus STEPHENS, Illustr. Brit. Ent. Mandib., Vol. 7, p. 94, 1835.
Phyllotoma FALLÉN (nec LEACH 1819), Mon. Tenthr. Suec., p. 25, Lund 1829.
Decatria STEPHENS, Illustr. Brit. Ent. Mandib., Vol. 7, p. 94, 1835.
Druida NEWMAN, Ent. Mag., Vol. 5, p. 484, 1838.
Phlebatrophia MACGILLIVRAY, Can. Ent., Vol. 41, 1909.

H. birmana n.sp. Black; white are: labrum, the narrow truncate anterior margin of clypeus, palpi, the very apex of the roundly shaped and subequally long scapus and pedicellus, all trochanters and adjacent parts of coxae and femora, the apex of all femora, the base of all tibiae, the anterior side of the four anterior tibiae and tarsi. The pale colour breaking through the black on a large spot on the otherwise quite black inner orbita below near the malar space, and in the middle of the supraclypeal area. — Head as in *H. ochropoda* (KLUG) and with the same deep depression behind the ocelli in front of the postocellar area, but, here the lateral furrows of this area

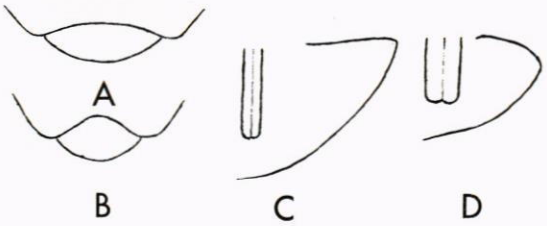

Fig. 2. Clypeus and labrum of: **A.** *Heptamelus marginatus* n.sp., **B.** *H. ochroleucus* HAL., **C.** Saw-sheaths in dorsal and lateral view of: *Heterarthrus birmana* n.sp. and **D.** of *H. ochropoda* (KLUG).

constitute a prolongation of the antennal furrows that are increasing in depth lateral of the ocellus. In this new species the antennal furrows become obsolate lateral of the ocellus, and the extremely deep, short, and broadly pit-like lateral furrows of the postocellar area are abruptly sunken, and their direction is strongly diverging backwards. Frontal area subconvexly elevated above a level with eyes. The middle fovea broad and deep, connecting the middle ocellus with the large middle supra-antennal pit: the median fovea from this pit to the middle ocellus is true enough continous, but less distinct on the incline up to the frontal area. (In *ochropoda* this fovea on the same level between the equally high supra-antennal ridges). Antennae uniformly thick until the 6th or 7th joints, then becomes narrower; the 3rd joint almost twice as long as the 4th one (In *ochropoda* uniformly thick, and the length of the 3rd and 4th joints as 3: 2, and flagellum is pale along the underside). Saw-sheath (Fig. 2, C). Length ♀ 4 mm. (1 ♀).

Burma (Kambaiti at 2000 m. (7000 feet)).

Genus *Hoplocampa* HARTIG s. str.

Hoplocampa, HARTIG, Familien der Blattwespen u. Holzwespen, p. 276, Berlin 1837.

H. sino-birmana n.sp. General colour pale yellowish; pale reddish brown are: head above antennae, mesonotum, mesopleura, scutellum with appendage, postscutellum, and abdomen above. The three mesonotal lobes and the 4th—8th tergites in the middle with a faint indication of infuscation. The apical half of antennae turning fulvous. Wings vitreous; venation extremely pale yellowish. — Head and thorax finely and indistinctly punctured with an oily general lustre. The inner margins of the eyes subparallel. Frontal area subconvexly elevated, but otherwise obsolate. The postocellar area distinctly subconvexly elevated, about three times as broad as it is long; the postocellar furrow sharp and only faintly roundly curved, almost straight, the lateral furrows minutely punctiform just behind the outer edge of each ocellus. Malar space longer than the diameter of an ocellus. The anterior margin of clypeus semicircularly incised with rounded lateral teeth (Fig. 3, D). The main part of scapus rounded, shorter than the more slender pedicellus; the 3rd antennal joint quite inconsiderably longer than the 4th one, but shorter than the last joint. Claws simple, with a minute subapical tooth on the hind legs only. Saw-sheath (Fig. 3, B) diverging apically in dorsal view, roundly pointed in lateral view. Saw with the main teeth diverging from the central direction of the saw. Length ♀ 4 mm. (1 ♀.)

Burma, Kambaiti (taken on wings on the very pass-point to China, Yünnan, 8000 feet).

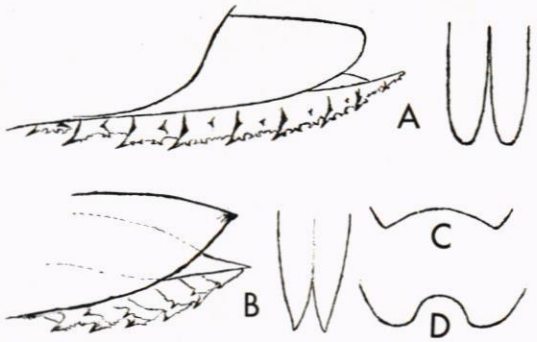

Fig. 3. Saw-sheath with saw in lateral and dorsal view of: **A.** *Hoplocampa formosana* n.sp. and **B.** of *H. sino-birmana* n.sp. Anterior margin of clypeus in: **C.** *Hoplocampa formosana* n.sp. and **D.** *H. sino-birmana* n.sp.

H. formosana n.sp. General colour pale fulvous; blackish are: antennae, except towards the apex beneath and scapus beneath, an extremely minute dot around each ocellus, meso- and metanotum, mesosterna, all abdominal tergites above, but not the downturned sides, all ventrites, saw-sheath, the apex of the hind tibiae, more or less of the tarsi, the hind ones almost entirely. Wings evenly infuscated, stigma and the larger veins dirty fulvous, remaining veins brownish. — Head and thorax with fine, scattered, and ill defined punctures producing an oily general lustre. The inner margins of the eyes extremely faintly converging downwards, almost subparallel. Frontal area obsolate, but subconvexly elevated. The postocellar area subconvex, broader than it is long, as 2 : 1; the distinctly roundly curved postocellar furrow rather sharp; the lateral furrows very deep, a little longer, and just as broad as the diameter of an ocellus. Clypeus broadly roundly emarginated (Fig. 3, C). Scapus subequal in length with pedicellus, and only faintly broader, the 3rd antennal joint just distinctly longer than the 4th one. Claws with a short subapical tooth. Saw-sheath and saw (Fig. 3, A). Length ♀ 3.5 mm. (1 ♀.)

Formosa (Daibu).

Genus *Thrinax* Konow

Thrinax Konow, Wien. Entom. Zeitschr., Vol. 4, p. 22, 1885.

T. birmana n.sp. Black; whitish yellow are: the broad pronotal angles with tegulae in the ♀ only, the 3rd and 4th abdominal segments, entirely in the ♀, beneath in the ♂; the broad apex of all femura and equally broad base of all tibiea in both sexes; in the type ♀ from Kambaiti most of the palpi also pale. Wings hyaline, the apical half faintly infumated; stigma and venation blackish, base of costa and of brachius pale. — Insect of elongate general shape. Head roundly narrowing behind the eyes, coarsely and densely punctured, opaque except on the upper- and hind orbits and on a belt along the sharp supraclypeal furrow. The inner margins of the eyes faintly emarginated, and their general direction thus more strongly converging downwards in their lower than in their upper half. The distance between the eyes below longer than the length of an eye. Face rather flat, hardly reaching above a tangent touching both eyes, the outline of the frontal area only faintly indicated. Antennal furrows wanting. The angular circumocellar furrow fine, but distinct. Postocellar area subconvex, about twice as broad as it is long, the postocellar

furrow fine and sharp, in the middle deepened behind into a pit-shaped middle furrow; the lateral furrows short, broad, oblique towards the area, and merging into the depressed parts of the temples lateral of the area. Malar space longer than the diameter of an ocellus. The carina of the hind orbits distinct only below and not sharp. Clypeus rather flat, coarsely rugose and opaque, its anterior margin acute, broadly and more or less distinctly angularly emarginated. Labrum very short, shining. Mandibles very broad, subsymmetric, and with two subequally long teeth. Palpi 3- and 5-jointed, the latter long and slender. Antennae stoutly filiform, somewhat longer than head and thorax combined in the ♀, as long as the abdomen in the ♂; scapus broadly triangular, distinctly broader than it is long; pedicellus twice as broad as it is long; the 3rd, 4th, and 5th antennal joints subequal in length. Thorax elongate, strongly shining. Scutellum with 4—5 large punctures on the border to the appendage, and, except in the type specimen, with scattered, ill defined punctures in the anterior half. Saw-sheath (Fig. 4, A). Legs normal, slender, the hind basitarsus shorter than the following tarsal joints combined. Claws with a short subapical tooth. Length 9—10 mm. (1 ♂, 5 ♀♀, three of the latter strongly dammaged by *Anthrenus*).

Burma (Kambaiti at 2000 m.; Mt. Victoria, Chin Hills, 2400—2800 m.).

T. sino-birmana n.sp. Black; withish are: the broad pronotal angles, tegulae, base of the front wings, apex of all femora, and base of all tibiae. In the ♂ also the rest of the front tibiae and the anterior side of the middle tibiae whitish, and the basal half of the hind tibiae likewise whitish to pale fulvous. The 3rd and 4th abdominal segments reddish, in the ♀ only in the middle above and below, but, in the ♂, the two segments are reddish with only a rounded black spot on each downturned side of the tergites. Wings hyaline, venation and stigma brown. — Head roundly narrowing behind the eyes. Face between the latter densely and strongly punctured, quite opaque. The inner margins of the eyes straight and converging downwards. Frontal area obsolate, above a line touching both eyes, drowned in the dense puncturation, and only faint traces of the frontal ridges noticeable, but the angular circumocellar furrow sharp. The postocellar area convex, twice as broad as it is long, still broader in the ♂, the postocellar furrow very deep, and the lateral one extremely so; a longitudinal middle fovea is only faintly indicated. The hind orbits indistinctly punctured, with an oily general lustre, their carina sharp only below. Malar space as long as pedicellus, which is twice as broad as it is long and less than half as long as scapus. Antennae stoutly filiform, longer than head and thorax combined, the 3rd joint distinctly shorter than the 4th one. Clypeus almost flat, opaque, its acute anterior margin only faintly emarginated. Thorax almost impunctate, shining. the abdominal tergites minutely micro-striated, with an oily general lustre. Legs normal, the hind basitarsus shorter than the following tarsal joints combined. Saw-sheath bilobed in dorsal view, shorter than cersi (Fig. 4, B). Length 7—8 mm. (2 ♂♂, 3 ♀♀.)

Burma (Kambaiti at 2000 m.)

In size, colour, and general appearance very like the European *T. contigua* KONOW, but the frontal area of the latter species is sharply limited and strongly shining in the middle, the face is broken over the crest, and the long side-lobes of the saw-sheath acutely pointed. The new species is flying on *Pteris aquilina* in the earliest spring (24/3—7/4).

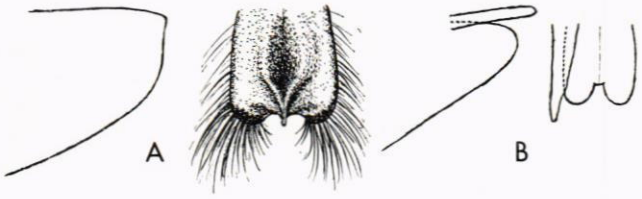

Fig. 4. Saw-sheaths in lateral and dorsal views of: **A.** *Thrinax birmana* n.sp. **B.** *T. sinobirmana* n.sp.

Genus *Caliroa* O. Costa

Caliroa O. Costa, Fauna Napoli Tenthr., p. 59, 1859.
Eriocampoides Konow, Deutsch. Ent. Zeitschr., Vol. 34, p. 293, 1890.
Periclistoptera Ashmead, Canadian Ent., Vol. 30, p. 255, 1898.

Several species of this genus are known as pests on fruit-trees. In this respect they have spread from their probable home in Europe to most countries of the Temperate Zone. The adult insects are very similar to another with few reliable characters to separate them. In the Burmese Southern Shan States, at an altitude of 1500 m, the author has collected three hitherto unknown species of *Caliroa* that differ from the remaining species of the Old World by their striking bluish black colour; all the known species are black. In addition the antennae of the new species are different and their face have more or less distinct punctures scattered over the surface. To begin with the author supposed there was only one single species with variable punctation and antennae, but, as also the saws were different and the saw-sheaths partly so, he became convinced he had three different species to deal with.

In the following key the differences between the three new species have been pointed out.

Key to certain species

1. General colour black without bluish tinge. (Species from Europe and China) . . 2
–. General colour strikingly bluish. The 3rd antennal joint not shorter than the 4 last ones combined. Apex of wings infumated from base of stigma, rest of the wings hyaline. Length ♂ 5; ♀ 5.5—6 mm 3
2. The 3rd antennal joint much shorter than the 4 last joints combined. (*annulipes* [KL.], *variipes* [KL.]).
–. The 3rd antennal joint subequal in length or little longer than the 4 last joints combined. (*limacina* [Retzius], *angustata* Forsius).

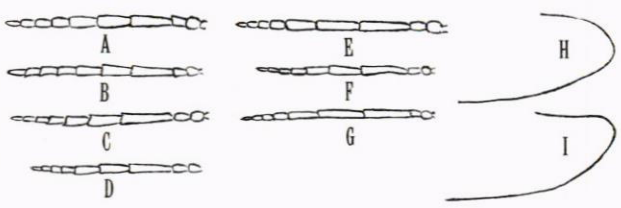

Fig. 5. Shape of the antennae in the genus *Caliroa* O. Costa. **A.** *annulipes* (Klug), **B.** *variipes* (Klug), **C.** *limacina* (Retzius), **D.** *angustata* Forsius, **E.** *cyanea* n.sp., **F.** *glabrifrons* n.sp., **G.** *coerulea* n.sp. Saw-sheaths in lateral view of *Caliroa*: **H.** *cyanea* n.sp., **I.** *coerulea* n.sp. and *glabrifrons* n.sp.

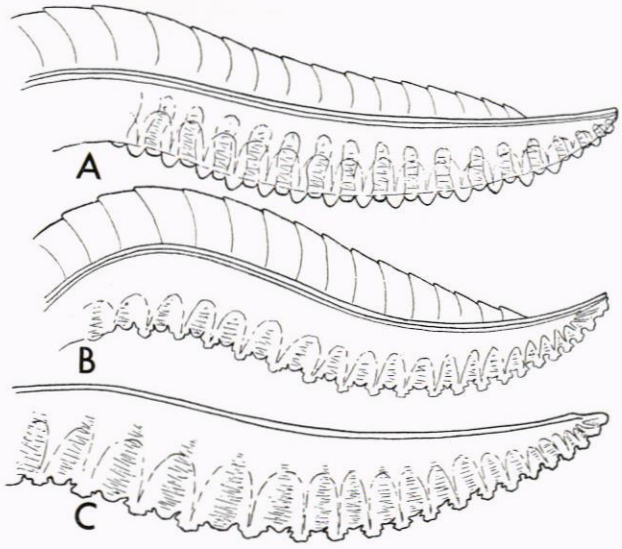

Fig. 6. Shape of the Burmese species of the genus *Caliroa* O. COSTA **A.** *coerulea* n.sp., **B.** *cyanea* n.sp., **C.** *glabrifrons* n.sp.

3. The 3rd antennal joint subequal in length to the 4th one (Fig. 5, G). Face between the eyes rather densely punctured, the distance between the single punctures on the frontal area hardly longer than the diameter of each puncture. Saw-sheath (Fig. 5, I). Saw (Fig. 6, A). (1 ♀.)
Burma (Road 37 kms East of Taunggyi) ..... *C. coerulea* n.sp.

–. The 3rd antennal joint distinctly longer than the 4th one (Fig. 5, E and F) .. 4

4. Face with some punctures also lateral of the frontal area; the distance between the single punctures on the frontal area longer than the diameter of the punctures. Saw-sheath (Fig. 5, H). Saw (Fig. 6, B). (2 ♂♂, 2 ♀♀.)
Burma (Taunggyi and road 37 kms East of Taunggyi; Kambaiti at 2000 m.). *C. cyanea* n.sp.

–. The inner orbits lateral of the frontal area impunctate and strongly shining. Frontal area proper with some scattered and ill defined punctures. Saw-sheath (Fig. 5, I). Saw (Fig. 6, C). (3 ♀♀, 10 ♂♂.)
Burma (Taunggyi) ..... *C. glabrifrons* n.sp.

Genus *Hemibeleses* Takeuchi

Hemibeleses Takeuchi, Trans. Nat. Hist. Soc. Formosa XIX, 105, p. 513, 1929 (*H. nigriceps* TAK.).

Key to the species

1. The postocellar furrow wanting; the postocellar lateral furrows very short, deep, and only very faintly diverging backwards, almost subparallel. The 3rd cubital cell less than one third longer on cubitus than on radius. Wings hyaline, the apical half infumated 2

–. The postocellar area rather convex with deep postocellar and backwards diverging lateral furrows. The 3rd cubital cell almost twice as long on cubitus as on radius, and the cubital corners of the cell acute. Pronotum with tegulae always pale, and more or less of mouth-parts, abdomen, and legs also pale 3

2. Entirely black; only the anterior tibiae and tarsi somewhat whitish. Antennae evenly thick, comparatively stout, so that the 4th joint is only 4 times as long as it is thick; pedicellus distinctly conical, its thickness at the apex two thirds of its length. The postocellar lateral furrows as broad as they are long. Length in both sexes 5 mm. (1 paratype ♂.)
Himalaya (Simla) ..... *H. melanopoda* (CAMERON 1902).

–. Black with whitish markings; pale are: labrum, palpi, a dot along each inner orbita, the broad pronotal angles, tegulae, parapterum, a dot behind postscutellum, triangular middle spots on the 1st—6th tergites, abdomen beneath except towards the apex, all legs entirely except for the somewhat infuscated hind tarsi, the underside of pedicellus. Antennae long and slender, the 4th joint 6 times as long as it is thick. Pedicellus very faintly conical, subcylindrical. The lateral furrows of the postocellar area narrow and much longer than broad. Length ♂ 5 mm; ♀ unknown. (1 ♂.)
Burma (Kambaiti at 2000 m=7000 feet) ..... *H. ventripicta* n.sp.

3. Wings infuscated, especially towards the base. Length of ♀ 7 mm. Fulvous; black are: antennae, head except mandibles, labrum, clypeus, a spot on the supraclypeal area, mesonotum, most of metanotum, and mesosternum. Legs fulvous; apex of tibiae faintly brownish. ♂ unknown. (After TAKEUCHI.)
H. athalioides TAKEUCHI 1929. (*athaliodes* TAKEUCHI 1929 err. typi)

–. Wings hyaline. Smaller species. Abdomen pale with black apex. Labrum and palpi whitish 4

4. Pale colour fulvous. Mesopleura entirely fulvous and at least the anterior half of mesonotum likewise so; mesosterna black in the ♂, but pale in the ♀; in the ♀ the pale colour of mesonotum extending to the anterior half of scutellum (always?). Base of mandibles and the anterior half of clypeus fulvous; in the ♀ also the supraclypeal area fulvous. Antennae shorter than abdomen and rather stout, the 4th joint is only 3.5 (♀) to 4 (♂) times longer than it is thick. Length ♂ 5; ♀ 5—6.5 mm. (1 ♂, 1 ♀.)
Japan (Kyoto) ..... *H. nigriceps* TAKEUCHI 1929.

–. Pale colour whitish. Thorax black; in the ♀ only pronotum with tegulae and parapterum pale, in the ♂ underside of thorax pale except for the upper half of mesopleura that are brownish black. Clypeus and base of mandibles black in the ♀, pale in the ♂. Antennae slender, longer than abdomen, the 4th joint about 6 times as long as it is broad. Length ♂ 4; ♀ 5 mm. (2 ♂♂, 1 ♀.)
Burma (Kambaiti at 2000 m) ..... *H. nigronotum* n.sp.

Genus *Ocla* MALAISE

Ocla MALAISE, Ent. Tidskr. 78, p. 13, 1957. (*O. albinigripes* MALAISE.)

Two more new species of the genus *Ocla* have been discovered in the material collected by the author. The three hitherto known species may be distinguished with the help of the following key:

1. Trochanters, femora, and base of tibiae of at least the 4 hind legs white. Only the apical half of the front wings subinfumated. Eyes subequal in length to

the distance between the eyes below. The lateral furrows of the postocellar area extremely fine, strongly diverging backwards, and rather indistinct. The postocellar furrow very fine and shallow. The interocellar furrow extremely fine, almost wanting, but the circumocellar one angular, rather broad, and distinctly sunken. Head impunctate above the antennae. Length ♂ 5—6; ♀ 6—6.5 mm. (17 ♂♂, 5 ♀♀.)

Burmese Southern Shan States (Taunggyi and Tamsang at 1500 m. altitude).

O. albinigripes m. 1957.

–. Uniformly black with uniformly infumated wings; the knees or front tibiae may be indistinctly whitish. The distance between the eyes below distinctly longer than the length of an eye. Length 5—5.5 mm. 2

2. Head and clypeus impunctate and strongly shining. The backwards diverging lateral furrows of the postocellar area fine, sharp, almost straight, and more than twice as long as the diameter of an ocellus. The postocellar- and the angular circumocellar furrows distinct, but the interocellar furrow wanting, or is indistinct and extremely short. (4 ♂♂, 2 ♀♀.)

Burma, at the Yünnan frontier (Kambaiti at an altitude of 2000 m).

O. glabrifrons n.sp.

–. Face below the ocelli with fine scattered punctures. The faintly diverging lateral furrows of the postocellar area indistinct, except just behind each lateral ocellus where they are sunken into a punctiform pit. The postocellar- and circumocellar furrows wanting, but the interocellar one deep, sharp, and as long as the diameter of an ocellus. (1 ♂, 2 ♀♀.)

N.E. Burma (Kambaiti at an altitude of 2000 m) ..... *O. punctata* n.sp.

Genus *Ungulia* n. gen.

Belongs to the *Selandriinae* and related to the genus *Hemiphytus* m. 1947.

Front wings with 2 radial and 4 cubital cells; the 2nd and 3rd of the latter ones subequal in length, and each receiving a recurrent vein. Basalis subparallel to medius, and joins subcosta close to the base of cubitus. Nervulus at the apical two fifths of the cell. Anal cell with a cross-vein at the apical fourth of the cell, this cross-vein nearly perpendicular with an angle of about 80°. Hind wings without closed middle cells, but the radiellan and anellan cells closed, the latter long petiolate. Nervellus perpendicular only against the mediellan, but not against the brachiellan vein. Head impunctate, roundly narrowing behind the eyes. The hind orbits not carinated behind except very faintly close to the mandibular basis. The inner margins of the eyes subparallel (Fig. 7, A). Frontal area roundly elevated above a line touching both eyes, without carinas, and laterally unsharply limited by the roundly depressed antennal furrows. The subconvex postocellar area broader than long, as 3 : 1 (to the posterior ends of the strongly diverging lateral furrows); the fine postocellar furrow complete and equally distinct as the inter- and circumocellar furrows. Malar space as long as, or longer than pedicellus. Clypeus subconvex, its anterior margin roundly emarginated. Mandibles subsymmetric, roundly curved, each with a subapical tooth near the apex. Antennae long; flagellum filiform, the 3rd and 4th antennal joints subequal in length; scapus and pedicellus longer than broad, the former oboval, the latter roundly conical. Thorax impunctate; mesopleura without presterna.

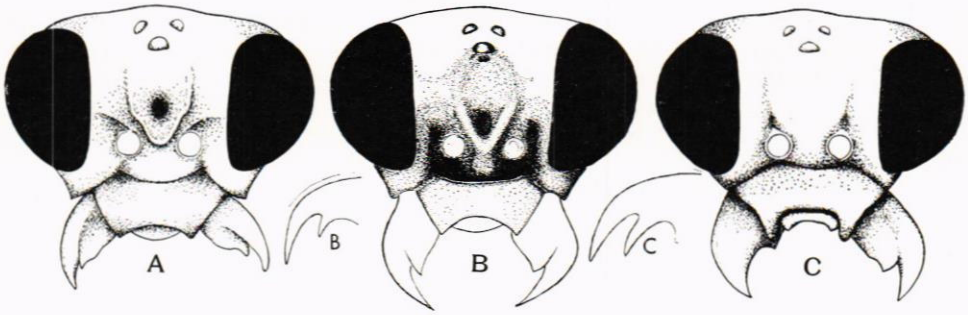

Fig. 7. Mouth-parts and claws in the new genera: **A.** *Ungulia* (The claws are here simple), **B.** *Oralia*, **C.** *Clypea*.

Abdomen and legs normal; the hind basitarsus subequal in length to the following tarsal joints combined. Claws simple. — General colour black; white are: clypeus, labrum, base of mandibles, a transverse spot on mesopleura, and the anterior border of pronotum; pale whitish yellow are: palpi and the entire legs except for the extreme base and apex of all tibiae, and most of tarsi above; pale fulvous are: the underside of abdomen and parts of tegulae. Type of genus: *Taxonus nigritarsis* CAMERON 1902.

The two known closely related species may be separated by the following key:

1. The 4th and 5th abdominal tergites fulvous in the middle. Frontal area quite flat between the middle ocellus and the large middle supra-antennal pit. Length ♂ 3.5—4.5 mm; ♀ 5—5.5 mm. (5 ♂♂, 3 ♀♀.)
   Burma at the Yünnan frontier (Kambaiti at 2000 m [7000 feet]).
   U. fasciativentris n.sp.

–. All abdominal tergites black above. Frontal area with a broad and deep furrow from the middle ocellus to the large middle supra-antennal pit. Length 6 mm. (1 paratype-♀.)
   Himalaya (Simla) ..... *U. nigritarsis* (CAMERON 1902).

Genus *Oralia* n. gen.

Belongs to the *Selandriinae* and related to *Ametastegia* A. COSTA 1882.

Front wings hyaline, with 2 radial and 4 cubital cells. Basalis subparallel with the first recurrent vein and meets subcosta shortly before the base of cubitus. Nervulus joins medius in the vicinity of the middle of the discoidal cell. Anal cell with a short, nearly perpendicular cross-vein, which is placed in the apical fourth of the cell, viz. much further apically than in most genera. In the hind wings, closed middle cells are wanting, and the closed radiellan and anellan cells both with a short petiole at the apex; nervellus not perpendicular, neither with the mediellan, nor with the brachiellan veins. Impunctate and strongly shining. Head strongly narrowing behind the eyes; the hind orbits angularly carinated behind, at least near the mandibular base. The inner margins of the eyes faintly converging downwards. The roundly

elevated frontal area elevated above a line touching both eyes; the inter- and circumocellar furrows fine and deep. The postocellar area subconvex, with deep and sharp lateral furrows, but the postocellar furrow almost wanting. Malar space very long, twice as long as the diameter of an ocellus, subequal in length to pedicellus. Clypeus faintly subconvex, almost flat, the anterior margin quatercircularly emarginated with broadly triangular, acute lateral teeth (Fig. 7, B). Labrum short, inflated, and with a transverse bulge. Mandibles subsymmetric, each with a broad subapical tooth. Antennae stout, not compresses, as long as abdomen; scapus broadly conical, longer than it is broad at the apex; pedicellus also conical, but only faintly longer than it is broad at the apex; the 3rd, 4th, and 5th antennal joints almost subequal in length and each about as long as the 6th and 7th joints combined. Thorax, abdomen, and legs normal; mesopleura without presterna; the hind basitarsus inconsiderably shorter than the following tarsal joints combined. Claws with a subapical tooth near the base (Fig. 7, B). — General colour black; whitish are always: labrum and trochanters with adjacent parts of coxae and femora; head with antennae and abdomen black in both sexes, thorax black, mostly with reddish colouring in the ♀ only. Type of genus: *O. pallidipes* n.sp.

Key to separate the known species

1. Clypeus white, sometimes infuscated at the base. Thorax with reddish colour in the ♀ only, in the ♂ as the general colour black, legs more or less white .. 2

–. Clypeus entirely black like the general colour in both sexes; white are only: labrum and trochanters, the latter together with the adjacent extreme base of femora and very apex of coxae; the base and anterior side of all tibiae whitish in the ♀ only. In both sexes a more or less distinct dirty whitish colour breaking through the black of most of the front tarsi, of the anterior side of the front femora towards the apex, and of the tibiae towards the base. Front wings with a faintly indicated dark cross-band over stigma, distinct in the ♀ only. The frontal area bluntly rounded in outline anteriorly between the antennal bases, and its surrounding ridges rather indistinct. The supra-antennal pit very deep and large. The subconvex postocellar area broader than it is long, as 2 : 1, the backwards faintly diverging lateral furrows fine and rather sharp, depressed into a punctiform pit just behind each lateral ocellus; the postocellar furrow wanting or indistinct. Antennae as long as abdomen, the 3rd and 4th joints subequal in length. Length ♂ 5.5—6, ♀ 7—7.5 mm. (9 ♂♂, 3 ♀♀.)
Burma at the Yünnan frontier (Kambaiti at 2000 m.) .... *O. nigroclypeata* n.sp.

2. Legs whitish, only the tarsal claw-joints infuscated. Mouth-parts including base of mandibles and palpi whitish, and likewise parapterum and an horizontal spot posteriorly in the lower part of mesopleura in both sexes; thorax otherwise black in the ♂, but, in the ♀, mesopleura, mesosterna, and a broad longitudinal band including the posterior half of the mesonotal middle lobe, the medial and posterior parts of the mesonotal lateral lobes, scutellum, and scutellar appendage reddish. Tegulae whitish in the ♀; more or less completely brown in the ♂. The postocellar lateral furrows straight, faintly diverging backwards, and equally deeply sunken in their anterior and posterior parts. The frontal area triangular or rather romboidal in outline, its central depression reaching from the deep

and large middle supra-antennal pit to the middle ocellus. Length ♂ 5—5.5; ♀ 7 mm. (5 ♂♂, 1 ♀.)
Burma-Yünnan frontier (Kambaiti at 2000 m) ..... *O. pallidipes* n.sp.

–. At least the posterior tibiae and tarsi entirely black 3

3. Palpi pale; base of mandibles and mesopleura mostly with indistinct whitish spot. Femora white with black apex, this black colour extends basally on the front femora and, in the ♂, more or less also on the posterior ones so that the femora appears infuscated and only a narrow stripe along the underside may remain pale. The entire mesonotum with tegulae, scutellum, and its appendage, and the upper half of pro- and mesopleura reddish in the ♀. The lateral furrows of the postocellar area deeply, pit-like sunken close behind each lateral ocellus. The frontal depression as in the previous species. Length ♂ 5—5.5; ♀ 6.5 mm. (3 ♂♂, 1 ♀.)
Burma (Kambaiti at 2000 m); S. Shan States (40 kms East of Taunggyi at 1500 m). *O. fossulata* n.sp.

–. Palpi, mandibles, and thorax entirely black in the ♂. Clypeus, labrum, and the posterior femora entirely white, and the hind coxae black only at the extreme base; the 4 anterior femora black, except at the very apex. The lateral furrows of the postocellar area straight, and equally deep the entire length. Frontal area not depressed, and the deeply sunken supra-antennal pit not prolonged to the middle ocellus. Length ♂ 6.5 mm; ♀ unknown. (1 ♂.)
Burmese Southern Shan States (Taunggyi at 1500 m) ..... *O. nigripalpis* n.sp.

Genus *Clypea* n. gen.

Belongs to the *Selandriinae* (*Allantinae*) and closely related to the genera *Taxonus* HARTIG 1837 and *Ametastegia* A. COSTA 1882.

Front wings with 2 radial and 4 cubital cells; the 2nd and 3rd cubital cells subequal in length, and each receiving a recurrent vein. Basalis subparallel with medius and joins subcosta a distance from the base of cubitus that is shorter than the length of the first cubital cross-vein. Nervulus joins medius somewhat basally of the middle of the discoidal cell. Anal cell with an oblique, rather long cross-vein and joins both brachius and analis at an angle of about 45°. Hind wings with closed radiellan and anellan cells, but without closed middle cells; the anellan cell petiolate at the hind apex. Nervellus perpendiculate against the mediellan vein, and nearly perpendiculate against the brachiellan one. Head and thorax impunctate, the former roundly narrowing behind the eyes. The hind orbits angularly carinated only near the mandibular base. The inner margins of the eyes distinctly converging downwards, almost straight in the ♀, very faintly curved inwards in the ♂. Frontal area roundly elevated just above a line touching both eyes, and without sharp carinas. The postocellar area convex, broader than long, as 3 : 2 to the end of the very deep and sharp, subparallel lateral furrows; the postocellar furrow ill defined if present at all. Malar space about as long as the diameter of an ocellus in the ♀, almost linear in the ♂. Clypeus similar to that in the genus *Taxonus*, but swelled up or inflated, very finely rugosely punctured and accordingly with an oily general lustre, the anterior margin deeply and broadly, roundly subsquarely incised, the lateral teeth long and narrow (Fig. 7, C). The bluntly triangular apex of labrum flat and some-

what depressed, strongly shining. Mandibles asymmetric, the right one simple, the left one with a broad subapical tooth. Antennae rather stout, shorter than abdomen, the 4 apical joints distinctly but not strongly depressed beneath and towards the apex; scapus longer than pedicellus, the 3rd and 4th joints almost subequal in length. Mesopleura normal, without presterna. Abdomen elongate, smooth. Saw-sheath protruding, narrow and gradually tapering in dorsal view. Legs normal; the hind basitarsus subequal in length to the following tarsal joints combined. Claws with a large subapical tooth and indistinct basal lobe (Fig. 7, C). — General colour in the two known species black with reddish abdomen; whitish are: teeth of clypeus, labrum, base of mandibles, the very narrow posterior margin of pronotum mostly, and all trochanters with adjacent parts of coxae and femora; pale fulvous to whitish are: most of tibiae and tarsi in the ♂, but in the ♀, only the anterior side of the front ones pale as well as traces at the extreme basis on the posterior tibiae and tarsi. The two basal abdominal segments always black, and likewise the three apical ones in all ♂. Type of genus: *C. sino-birmana* n.sp.

Key to separate the two hitherto known species

1. Abdomen reddish to the very apex in the ♀, only the saw-sheath proper black. Pedicellus conical, hardly longer than it is broad at the apex. The postocellar furrow distinct although faintly indicated. From the hind apex of the angularly shaped circumocellar furrow the interocellar furrow protruding backwards as a longitudinal furrow to the postocellar one. Length ♂ 5—6; ♀ 7—7.5 mm. (11 ♂♂, 4 ♀♀.)
   Burma-Yünnan frontier (Kambaiti at 2000 m altitude) .... *C. sino-birmana* n.sp.

–. The broad apex of abdomen black in both sexes. Pedicellus distinctly longer than it is broad at the apex. Postocellar furrow entirely wanting and likewise a real interocellar furrow; the two branches of the angular circumocellar furrow joined into an acute apex, but there not prolonged backwards into a longitudinal furrow. Length ♂ 6—6.5; ♀ 7—8 mm. (7 ♂♂, 2 ♀♀.)
   Burmese Southern Shan States (40 kms East of Taunggyi at 1500 m).
   C. shanica n.sp.

Genus *Formosempria* Takeuchi

Formosempria Takeuchi, Trans. Nat. Hist. Soc. Formosa XIX, 100, p. 85, Febr. 1929 (*F. varipes* Tak.).

This genus was described from a single ♀ in 1929 and has since not been mentioned in literature. The venation of this rather sturdy insect was pictured in the original description, but as a compliment to this original description the following characters taken from the Burmese species may be useful.

Head very strongly narrowing behind the eyes. The hind orbits extremely narrow, almost non-existant below, not carinated. The inner margins of the eyes straight, parallel in the Japanese species, but faintly converging downwards in the Further Indian specimens. Face between the eyes faintly subconvex, with scattered, very minute puncture, without antennal furrows, and the frontal area is entirely obsolate (Fig. 8, A). The postocellar area broader than it is long, with sharp surrounding furrows. The interocellar furrow sharp, and the circumocellar one distinct and mostly angular. The shape of

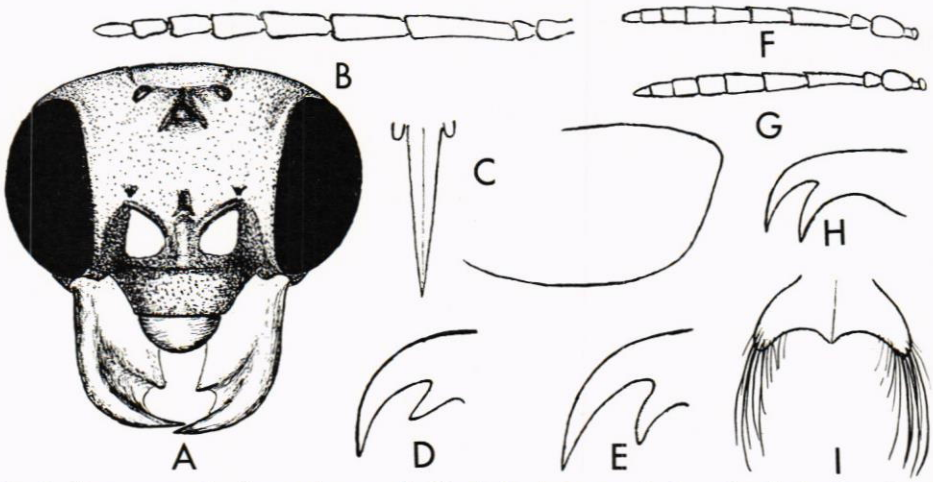

Fig. 8. *Formosempria shanensis* n.sp. **A.** Head, **B.** Antenna, **C.** Saw-sheath in dorsal and lateral view. Claws of: **D.** *Emphystegia,* **E.** *Monostegidia nigriceps* (CAM.), Antennae of: **F.** *Rhopographus formosanus* n.sp. **G.** *Rh. procinctus* (KONOW). The genus *Rhopographus* KONOW: **H.** Claw, **I.** Saw-sheath in dorsal view.

the isolated supra-antennal pits variable; in *annamensis* and in one of the *shanensis* specimens they are all roundly punctiform and subequal, but in the remaining specimens of *shanensis* the middle one is larger, furrow-like, and forking below. Clypeus rugosely punctured, its anterior margin truncate or bluntly protruding. Malar space linear. Mandibles subsymmetric, rather long and powerful, each with a large subapical tooth. Antennae sturdy, hardly as long as abdomen (or twice as broad as the head); scapus twice as long as pedicellus, the latter as long as it is broad at the apex. The length of the 3rd and 4th antennal joints as 3 : 2 (Fig. 8, B). Thorax and abdomen normal, impunctate. Mesopleura without presterna. Saw-sheath long and narrow in dorsal view, obtusely rounded in lateral view (Fig. 8, C). Legs normal. Claws with a large subapical tooth behind and slightly lateral of the longer apical one, and in addition with a broad basal lobe. Type of genus: *F. varipes* TAKEUCHI 1929.

In my manuscript key to the genera of the world I have placed this genus near *Hemibeleses* TAKEUCHI 1929. This latter genus has pedicellus as long as or longer than scapus, and the claws of the hind legs 3-toothed in the ♂ the ♂♂ of *Formosempria* are unfortunately yet unknown.

Key to the known species of *Formosempria*

1. The hind basitarsus shorter than the following tarsal joints combined. Postocellar area rather sharply convex. Saw-sheath slightly thickened apically in dorsal view. Head and thorax without distinct punctures. Clypeus gently convex, subtruncate anteriorly. The inner margins of the eyes parallel. Antennae half as long as the entire insect. Length ♀ 7 mm. (After TAKEUCHI.)
   Formosa (Sozan near Taihoku) ..... *F. varipes* TAKEUCHI 1929.

–. The hind basitarsus faintly longer than the following tarsal joints combined. Postocellar area faintly subconvex; the broad and shallow, but at the bottom rather sharp lateral furrows diverging backwards. The long and narrow saw-sheath gradually tapering into an acute apex in dorsal view. The inner margins of the eyes faintly but distinctly converging downwards 2

2. The anterior margin of clypeus truncate. Antennae longer than half the entire insect, as 5 : 7. The 2nd recurrent vein joins cubitus in the 3rd cubital cell removed from the 2nd cubital cross-vein. Length ♀ 7—8 mm. (5 ♀♀.)
Burmese Southern Shan States (Taunggyi at 1500 m) ..... *F. shanensis* n.sp.

–. The anterior margin of clypeus obtusely protruding or roundly pointed. Antennae half as long as the entire insect. The 2nd recurrent vein joins cubitus in the 3rd cubital cell quite close to the 2nd cubital cross-vein. Length ♀ 7 mm. (1 ♀.)
Annam (Phuc Son) ..... *F. annamensis* n.sp.

Genus *Emphystegia* n.gen.

Belongs to the *Selandriinae* (*Allantinae*) and is related to *Emphytus* KLUG 1815, *Ametastegia* A. COSTA 1882, and the above described new genus *Clypea* m., etc.

Front wings with 2 radial and 4 cubital cells. Basalis almost straight and parallel to the 1st recurrent vein, and it meets subcosta almost in the same point as cubitus. Anal cell with an oblique cross-vein, which meets both medius and brachius at an angle of about 60°. Hind wings without closed middle cells. The closed radiellan cell with a long, oblique spur beneath near the apex. Nervellus joins the anellan cell removed from the very short brachiellan petiole. Head distinctly, but not very strongly narrowing behind the eyes; with carinated hind orbits. The inner margins of the eyes subparallel, very faintly diverging above and below. Distance between the eyes below a little longer than the length of an eye. Malar space somewhat longer than the diameter of an ocellus. Clypeus as in the genus *Emphytus,* viz. bluntly or subconvexly refracted near the base subparallel to the roundly emarginated acute anterior margin. Labrum flat and large. Mandibles asymmetric, the right one simple, the left one with a broad subapical tooth. Palpi long and slender. Antennae long, subequal in length to thorax and abdomen combined; the main part of scapus oval, longer than broad, as 3 : 2; pedicellus conical, only inconsiderably longer than it is broad at the apex; the 3rd antennal joint hardly as long as the 4th one; the 4 last flagellar joints distinctly, but not strongly compressed. Frontal area oval in outline and surrounded by bluntly elevated ridges, and the frontal area gradually deepening towards the very large and deep middle supra-antennal pit. The postocellar area subconvex, somewhat broader than it is long if counting to the posterior end of the sharp, distinctly curved, and backwards gradually deepening lateral furrows, longer than broad if counted to the hypothetical hind margin of the head; the circum-, inter-, and postocellar furrows sharp. Thorax normal, impunctate as the head; presterna wanting. Legs normal; the hind basitarsus subequal in length to the following tarsal joints combined. Claws with a rather short subapical tooth (Fig. 8, D).

E. apicimacula n.sp. Black, with white, pale fulvous, and brown markings.

White are: clypeus, labrum, base of mandibles, pronotal angles, the posterior (upper) side of the 4 hind coxae, and middle spots on: scutellum, postscutellum, parapterum and the 2 last tergites. Fulvous to whitish are: base of palpi, all ventrites except for the last one, all trochanters, and the 2nd—5th tergites laterally and on the posterior margin.

Brown are: base of antennae to the middle of the 4th joint; most of palpi; tegulae; femora, tibiae, and tarsi of the 4 front legs; the hind tibiae, except for the apex. Wings subhyaline; venation and lower half of stigma blackish brown, costa and rest of stigma transluscent. Length ♀ 9 mm. (2 ♀♀.)

Burmese Southern Shan States (Road 40 kms. East of Taunggyi at 1,500 m. altitude).

Genus *Rhopographus* Konov

Rhoptroceros Konow (nec Ratzeburg 1848), Ent. Nachr. 24, p. 276, 1898.
Rhopographus Konow, Ibidem 25, p. 79, 1899.
Jacobsoniella Forsius (nec Melichar 1914), Notulae Ent. IX, p. 65, 1929.

This genus is characterized by its long and narrow wings and elongate general appearance. It may be guessed the genus flourished during the Tertiary, and that it is bound to ferns of the tropical forests. The descriptions given by Konow and Forsius need not be repeated, but they are not quite clear regarding claws, saw-sheath, and antennae. The shape of these are, therefore, given in Fig. 8. Only two species are known and they may be separated with the help of the following key:

1. Front wings only faintly yellowish hyaline, both radial cells entirely brownly infuscated and this infuscation extends over on the 1st cubital cell. The middle flagellar joints of antennae twice as thick as the base of the entirely black 3rd antennal joint (Fig. 8, G). The strait and backwards diverging lateral furrows of the convex and subquadrate postocellar area very deep, and as broad as an ocellus, and they are still deeper depressed in their posterior half. The inter- and postocellar furrows sharp but much less deep than the lateral ones. Head bluish black, the supraclypeal area and a spot below each antenna (lateral of clypeus) dirty yellowish. Mesopleura and mesosterna dirty yellowish surrounded by black. Mesonotum entirely black. The hind tarsi and the saw-sheath pale. Length ♀ 10—11 mm. (3 ♀♀.)
   Malaya (Perak and Selangor), Sumatra (Fort de Kock), Java.
   R. procinctus (Konow 1898). (*J. brachycera* Forsius)

–. The infuscation of the front wings not very pronounced and confined to both sides of the apical half of the radial vein. The black middle joints of flagellum inconsiderably thicker than the pale 3rd antennal joint (Fig. 8, F). The postocellar area subconvex and distinctly broader than it is long; the postocellar-, interocellar-, and lateral furrows almost subequally deep, sharp, and broad, the lateral ones uniformly deep and roundly curved. Black are: head proper, mesopleura, mesosterna, saw-sheath, and the posterior tarsi, but the mesonotal middle lobe is pale in the middle; colour otherwise as in *procinctus*. Length ♀ 10 mm (the abdomen dried up; in life longer). (1 ♀.)
   Formosa (Hoozan) ..... *R. formosanus* n.sp.

Genus *Neoxenapates* Forsius

(Compare Fig. 9, B)

Neoxenapates Forsius, Rev. Zool. Botan. Afric., XXV, 4, p. 403, 1934.
Neoxenapates Malaise, Ent. Tidskr., 78, p. 16, 1957.

On dealing with this genus in 1957 two Asiatic species were omitted owing to a mistake. The revised key to the Asiatic species runs as follows:

1. Abdomen with pale markings, at least towards the base; head and apex of abdomen black with bluish tinge 2
–. Head, thorax, abdomen, and legs bluish black; base of tibiae with a white stripe 3
2. Pro-, meso-, and metanotum and mesopleura reddish; the 3rd and 4th tergites whitish. Trochanters and adjacent parts of coxae and of femora, like most of the tibiae and of the 4 anterior tarsi whitish. Length ♂ 8—9, ♀ 9—11 mm. (13 ♂♂, 8 ♀♀.)
Burma; Shan States, Tonkin; China ..... *N. incertus* (Cameron 1876).
–. Abdomen pale reddish brown, only the 3 apical segments black; thorax black, the reddish brown colour breaking through on the depressed parts of meso- and metanotum; tegula whitish (most of them). Legs black; tibiae and trochanters white. Length ♀ 12 mm. (1 ♀.)
Cochin China ..... *N. cochinsinensis* Malaise 1957.
3. All trochanters and the extreme base of the hind femora white. The postocellar area as long as it is broad to the end of the deeply sunken, only somewhat roundly curved, and very faintly backwards diverging lateral furrows. The 3rd antennal joint only little longer than the 4th one, as 5 : 4. Length ♂ 7—9, ♀ 9—11 mm. (15 ♂♂, 8 ♀♀.)
South India (Nilgiri Hills, Cherangode at 1000 m.; Anamalai Hills, 1500 m). *N. tamuli* n.sp.
–. The whitish colour of the legs confined to the base of tibiae. The postocellar area a little broader than it is long; the lateral furrows very fine, very faintly sunken, distinctly roundly curved and diverging backwards. The 3rd antennal joint much longer than the 4th one, as 3 : 2. Length ♂ 9 mm. (1 ♂.)
Burma (Rangoon) ..... *N. birmensis* n.sp.

Genus *Empronus* Malaise

Empronus Malaise, Ent. Tidskr. 56, p. 175, 1935 (*E. obsoletus*).

E. styx n.sp. Entirely black, only labrum whitish; the extreme base of the hind basitarsus also incospicually dirty whitish. Front wings very faintly uniformely infumated, the hind ones almost hyaline; venation and stigma blackish. Antennae hardly compressed, the 3rd joint distinctly shorter than the 4th one. The supra-clypeal area subconvexly elevated. The strongly subconvex postocellar area without distinct longitudinal middle furrow. Length ♂ 7 mm. (1 ♂.)

Burma near the Yünnan frontier (Kambaiti at 2000 m. altitude).

In comparison with a ♂ of the Japanese *Empronus obsoletus* m., the latter has the following characters: Much larger, 11 mm; not entirely black, mouthparts and face below antennae and legs partly dirty whitish; the pale supraclypeal area abruptly elevated in a cushion-like fashion; antennae strongly compressed, the 3rd and 4th antennal joints subequal in length; the postocellar area with a deep but not sharp middle furow that broadens triangularly behind.

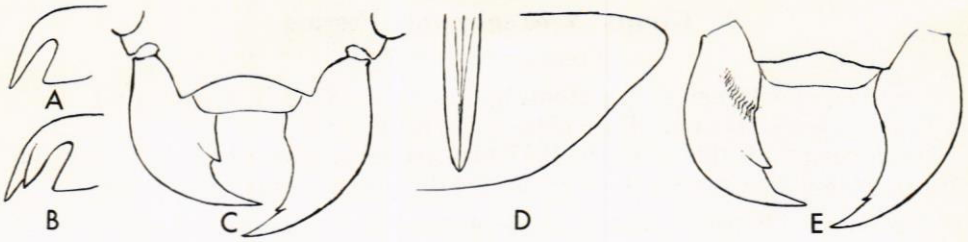

Fig. 9. Claws of: **A.** The genus *Xenapatidea* MAL. **B.** The genus *Neoxenapates* FORS. **C.** Mouth-parts of *Empronus fulvus* n.sp. **D.** Saw-sheath of *Empronus fulvus* n.sp. **E.** Mouth-parts of *Empronus styx* n.sp. (♂).

E. fulvus. n.sp. Head, thorax, and abdomen fulvous; black are: antennae entirely, palpi towards the apex, a minute ocellar dot, the apical fourth of all femora together with a longitudinal stripe above, all tibiae and tarsi except for the spurs and the extreme base of each tarsal joint. Infuscated are: apex of saw-sheath, cenchri, and the narrow elevated ridges laterally of scutellum and of postscutellum. Wings rather uniformly infumated, this infuscation increasing towards the base; venation black, stigma blackish brown. Head roundly enlarged behind the eyes to the same width as these, very finely punctured except on a spot lateral of the elevated frontal area. The inner margins of the small oval eyes subparallel. The postocellar area rather convex with deep and sharp surrounding furrows, broader than it is long, as 3 : 2, without longitudinal middle furrow. The backwards diverging, straight lateral furrows very deep and sharp, and just behind each lateral ocellus depressed into a punctiform pit. (This pit is wanting in *E. styx* n.sp.) The angular postocellar furrow very broad and shallow. The above somewhat flattened frontal area with a deep middle fovea, very broadly V-shaped in cross-section, and lateral of this fovea the frontal area with two low, diverging ridges, each originating from the corresponding lateral ocellus. The broad, and in the middle rounded supra-antennal pit with flat bottom and has faintly angularly diverging lateral furrows. This pit is not communicating with the median fovea. The anterior margin of clypeus roundly emarginated (Fig. 9, C). (In *E. obsoletus* and *styx* the anterior margin of clypeus irregularly, angularly, and very shallowly emarginated (Fig. 9, E). Antennae as long as abdomen, the 3rd joint faintly but distinctly shorter than the 4th one. Saw-sheath very long and high, roundly curved beneath in lateral view, strongly and acutely flattened in dorsal view (Fig. 9, D). Length ♀ 9 mm. (♂ unknown.) (1 ♀.)

N.E. Burma (Kambaiti at 2000 m).

This genus was originally described from Japan, and the occurrence of two additional species in Burma makes it probable that the genus *Empronus* represents a remnant from the Tertiary fauna. It is possible, but hardly probable, the two new species represent the different sexes of one single species. The similar colour of the two sexes in the Japanese species makes it probable the colour may be similar in the two sexes also in the Burmese species. The different shape of the lateral furrows of the postocellar area in the two Burmese species speaks also in favour of a specific difference.

Genus *Kambaitia* n.gen.

Belongs to the *Selandriinae* and closely related to the genus *Monostegidia* ROHWER 1902.

Front wings with 2 radial and 4 cubital cells and distinct intercostal cross-vein. Basalis straight, meets subcosta close to the base of cubitus, and is parallel to the first recurrent vein. Nervulus joins medius at the middle of the discoidal cell. The cross-vein of the anal cell oblique (about 70°). Hind wings with closed radiellan, anellan, and one middle cell (the discoidellan one). Nervellus meets the long petiole of the anellan cell not perpendicularly. Head, like thorax impunctate, narrowing behind the eyes, and the hind orbits faintly and only angularly marginated close to the mandibular base. Inner margins of the eyes subparallel. The postocellar area subconvex, all furrows around it and the ocelli fine and sharp. Frontal area roundly elevated above a tangent touching both eyes, its frontal depression broad and deep, and reaching from the middle ocellus to and including the broad and deep middle supra-antennal pit. The frontal ridges thus distinct and roundly elevated, but they are separated from the elevated brim of the antennal sockets by a very fine furrow. The distance between the eyes below, longer than the length of an eye. Malar space almost twice as long as the diameter of an ocellus. Clypeus rather flat, the not very acute anterior margin deeply roundly incised, the blunt lateral teeth shorter than the length of clypeus between the teeth. Labrum rather large and flat, its anterior margin rounded, and depressed anteriorly in the middle. Mandibles asymmetric, the right one with a broad subapical tooth, the left one with a very minute subapical tooth, almost simple (comp. Fig. 9, C). Antennae longer than abdomen, hardly tapering towards the apex, the 4 last joints faintly compressed; scapus and pedicellus much broader than flagellum, each of them little longer than they are broad at the apex. Thorax and abdomen normal; mesopleura without presterna. Legs normal; the hind tibiae and tarsi subequal in length, the hind basitarsus much shorter than the following tarsal joints combined. Claws with basal lobe, and the subapical tooth as long as the apical one, and distinctly broader (Fig. 10, A). (*K. maculiscuta* n.sp.)

In most genera with asymmetric mandibles the right one is simple and the left one with a large subapical tooth. In the *Monostegidia*-Group the right mandible has a large subapical tooth and the left one with only a minute such tooth, that is almost simple. To this group belongs also the genus *Empronus* m. The long malar space, the closed discoidellan cell in the hind wings, the short hind metatarsus, and the long antennae with the short 3rd antennal joint makes this group a rather natural one. To this group may still a new genus, *Kambaitina*, be added. It is so closely related to the above described genus *Kambaitia* that the only noticed differences may be expressed in the following key:

1. Clypeus deeply roundly incised with blunt lateral teeth. The hind orbits distinctly (angularly) carinated near the base of the mandibles 2
–. Clypeus with distinctly sculptured surface, its acute anterior margin almost truncate (very faintly angularly emarginated). The hind orbits rounded without any traces of carination. The anal cross-vein strongly oblique, its general direction with an angle of less than 45° (about 40°). Nervellus not perpendicular to the petiole of the anellan cell. Claws without basal lobe, and the subapical tooth

only little shorter than the apical one (Fig. 8, E). (*E. obsoletus* MALAISE 1935.)
Japan; Burma (Kambaiti at 2000 m) ..... Genus *Empronus* MALAISE 1935.

2. Both pedicellus and scapus distinctly longer than they are broad at the apex. Nervellus not perpendicular to the anellan petiole. The subapical tooth of the claws as long as, and somewhat stronger than the apical one, both almost perpendicular to the general direction of the claw (Fig. 10) 3

–. Pedicellus much, scapus only distinctly broader than they are long. In the hind wings nervellus joins the petiole of the anellan cell perpendicularly. Claws without basal lobe, the subapical tooth shorter than the apical one, neither of them perpendicular to the main direction of the claw (Fig. 8, E, p. 248). (*Poecilosoma nigriceps* CAMERON 1902.)
Himalaya (Simla, Sikkim) ..... Genus *Monostegidia* ROHWER 1915.

3. Claws with distinct basal lobe. Scutellum very faintly subconvex, not reaching a level touching all three mesonotal lobes. Tibia and tarsus subequal in length in the hind legs. The lateral furrows of the postocellar area not reaching the posterior side of the head; the posterior seams of the same area indistinct. (*K. maculiscuta* n.sp.).
Burma (Kambaiti at 2000 m) ..... genus *Kambaitia* n.gen.

–. Claws without basal lobe. Scutellum subconvexly elevated, reaching a level touching all three mesonotal lobes. Tibia distinctly longer than tarsus in the hind legs, almost as 5 : 4. The subparallel lateral furrows of the postocellar area reaching the brim of the head, and there communicating with the distinct seams of the same area on the back of the head. (*K. fulvipicta* n.sp.).
Burma (Kambaiti at 2000 m) ..... Genus *Kambaitina* n.gen.

Kambaitia maculiscuta n.sp. Black with fulvous and whitish markings; whitish are: mouthparts, the inner orbits, the lower third of the hind orbits, malar space, a squared spot on the supra-clypeal area, the apical 3 antennal joints entirely, apical half of the 6th antennal joint, the broad upper and lateral margins of pronotum, basal part of tegulae, parapterum, the narrow margins of propleura, a paired dot on the hind apex of the mesonotal middle lobe, a middle spot on scutellum, a large triangular spot on mesopleura, all trochanters with adjacent parts of coxae and femora, the apical half of the hind tarsi, the middle of the ventrites, and the narrow margin of the 2nd and 3rd tergites. Fulvous are: temples and upper part of the hind orbits, the medial side of scapus, abdomen except for propodeum, and the rest of the legs. Wings hyaline; the extreme base of stigma pale, rest of stigma and venation blackish brown. The 3rd and 5th antennal joints subequal in length, the 4th joint longer than the 3rd one. The faintly diverging and curved lateral furrows of the postocellar area ending on the upper side of the head. The seams of the same area on the back of the head indistinct. Length ♀ 9 mm. (6 ♀♀, two of these dammaged by pests.)

Burma at the Yünnan frontier (Kambaiti at 2000 m. altitude).

Kambaitina fulvipicta n.sp. Black with whitish and pale fulvous markings; whitish are: Face below and between the antennae, the lower hind-, and the entire inner orbits, the 6th and 7th antennal joints together with the adjacent halves of the 5th and 8th joints, pronotum almost entirely, tegulae, parapterum, the triangular posterior half of the mesonotal middle lobe, scutellum with appendage and postscutellum, a large triangular spot on meso-

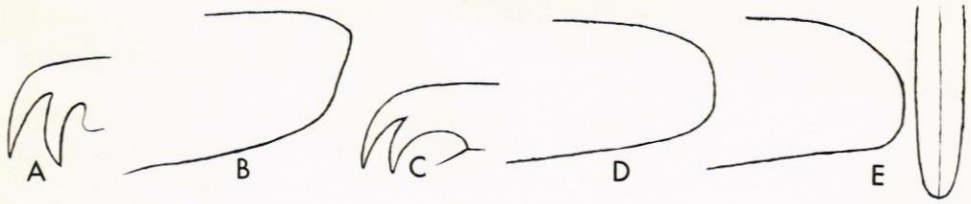

Fig. 10. *Kambaitia maculiscuta* n.gen., n.sp. **A.** Claw. **B.** Saw-sheath in lateral view. *Kambaitina* n.gen. **C.** Claw. **D.** Saw-sheath in lateral view of *K. fulvipicta* n.sp. **E.** Saw-sheath in lateral and dorsal views of *K. albipicta* n.sp.

pleura, the posterior margin of propodeum in the middle, the downturned sides of the remaining tergites, the broadly triangular posterior margin of all ventrites, trochanters with adjacent part of femora, the hind femora entirely, and all coxae except for their extreme base. Fulvous are: the hind orbits, temples, an irregularly triangular spot on the postocellar area, rest of legs, and abdomen above including the saw-sheeth, but except for paired black spots on propodeum (triangular) and on the 4th—7th tergites (subsquared). Wings hyaline; the basal half of stigma pale, rest of stigma blackish brown as also venation, but costa pale brownish. The 4th antennal joint inconsiderably longer than the subequally long 3rd and 5th ones. The subconvex postocellar area broader than long, as 5 : 4. Saw-sheath (Fig. 10, D). Length ♀ 7.5 mm. (2 ♀♀, one partly eaten by pests.)

Burma at the Yünnan frontier (Kambaiti at 2000 m.).

Kambaitina albipicta n.sp. Black; white are: mouthparts, the broad inner- and the lower half of the hind orbits, a spot on the supraclypeal area, a spot on each temple, the broad pronotal angles and the narrow lower pronotal margins, tegulae, parapterum, a spot on the hind apex of the mesonotal middle lobe shaped like an arrow-head, a large spot on scutellum and one on postscutellum, a large subtriangular middle spot on each mesopleurum, a spot on each metapleurum, the broad complete hind margin of each abdominal segment, the entire downturned parts of all tergites, the apex of antennae from the middle of the 4th joint leaving the 9th joint entirely black, all coxae except for the base, all trochanters, the adjacent extreme base of the hind femora, the hind tarsi from the middle of metatarsus, and a stripe along the back of the 2nd—4th joints of the middle tarsi (indistinct on the front ones). Legs rufeous in the remaining parts. A spot on the temples at the upper hind corner of each eye rufeous and blackish mixed. Wings faintly yellowish hyaline; venation and stigma blackish brown, costa partly pale brown. — Antennae long and slender, the length of joints 3, 4, and 5 as in *fulvipicta*. Head indistinctly punctured, with an oily general lustre, the elevated frontal area strongly sculptured, opaque. Postocellar area as in the previous species. Claws without basal lobe, or with a very small one only, then with a bristle (Fig. 10, C). Saw-sheath (Fig. 10, E). Length ♀ 9 mm. (1 ♀.)

Burma, at the Yünnan frontier (Kambaiti at 2000 m.).

Genus *Busarbina* n.gen.

Belongs to the *Selandriinae* and is closely related to the genus *Busarbidea* ROHWER 1915 (*Canoniades* FORSIUS 1929).

Front wings with 2 radial and 4 cubital cells (Fig. 11). Basalis distinctly curved, but its general direction subparallel to the 1st recurrent vein. An intercostal cross-vein wanting. Anal cell with an almost perpendicular cross-vein. The hind wings with closed radiellan, and two middle cells. The anellan cell with a short pedicule at the apex. Head strongly narrowing behind the protruding eyes; like thorax impunctate and strongly shining. The inner margins of the eyes straight and distinctly converging downwards. The hind orbits carinated only below. The postocellar area strongly roundly elevated in its posterior part, and depressed anteriorly (the postocellar furrow thus extremely broad and deep). This elevated part is convex in outline anteriorly and emarginated behind, and the elevation is prolonged on the temples to the upper corner of each eye, but is less accentuated there than on the postocellar area itself. The lateral furrows of the same area are extremely deep, broad, sharp, and strongly slanting backwards, thus interrupting the transverse elevation of the head. Frontal area faintly refracted, pentagonal in outline, surrounded by distinctly elevated, but not acute carinas, and anteriorly enclosing or broadly interrupted by the extremely deep and large supra-antennal pit; inside the area anterior of the middle ocellus there is also a punctiform minute pit. From the middle of the frontal carinas branching carinas extend laterally and perpendicularly towards the inner margins of each eye thus accentuating the refraction of the area. Malar space longer than half the diameter of an ocellus. Clypeus subconvex, the acute anterior margin truncate. Labrum short, convex. Mandibles subsymmetric, rather long, faintly curved, and with a subapical tooth near the apex (Fig. 11). Antennae about as long as thorax and abdomen combined; flagellum filiform, the 3rd antennal joint distinctly shorter than the 4th one, as 3 : 4; the main part of scapus oval, about twice as long as it is broad, longer than pedicellus, as 3 : 2; pedicellus roundly conical, only little longer than it is broad. Thorax and abdomen normal, the mesopleura with distinct presterna. Legs normal, the hind basitarsus subequal in length with the following tarsal joints combined. Claws with a subequally large subapical tooth behind the apical one. Type of genus: *B. verticalis* n.sp.

B. verticalis n.sp. Black; pale fulvous are: labrum; palpi; the broad pronotal angles with tegulae in the ♀ (in the ♂, more or less infuscated to entirely black); all abdominal ventrites entirely; the 2nd—5th (6th) tergites in the middle; the entire legs, except for the last 3 joints of the hind tarsi that are infuscated. Scapus and pedicellus sometimes partly somewhat pale. Length in both sexes 4—5 mm. (4 ♂♂, 2 ♀♀.)

Burma, near the Yünnan frontier (Kambaiti at 2,000 m [7,000 feet]).

The related genus *Busarbidea* ROHWER has been revised and the hitherto known 8 species keyed by MALAISE (Arkiv f. Zool., Bd. 35 A, no. 10, p. 22, 1944). A number of characters will distinguish *Busarbina* from *Busarbidea*. The most striking characters of *Busarbidea* are: the acute carinas surrounding the frontal area, but not including the middle supra-antennal pit; the extremely long pedicellus, at least twice as long as it is broad (a rather

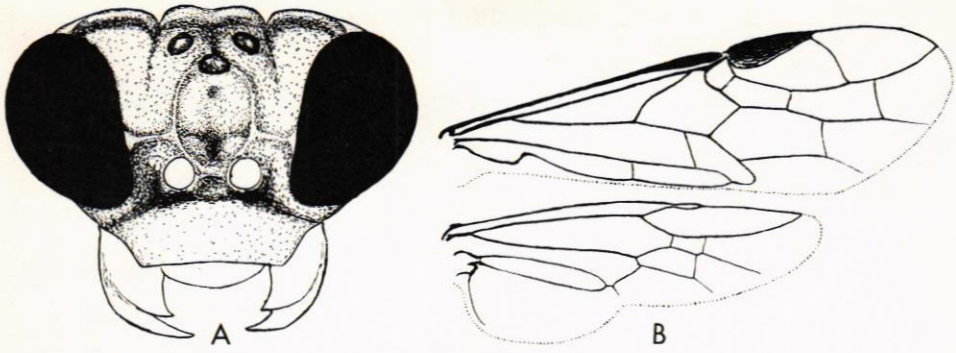

Fig. 11. *Busarbina verticalis* n.gen., n.sp. **A.** head in frontal view. **B.** Wings.

singular character); Clypeus is transversally refracted and its acute anterior margin is emarginated; the normal postocellar area and the wanting of the postocellar furrow. The diverging general directions of basalis and of the 1st recurrent vein in the front wing is a difference that has great taxonomic importance, but is not very striking. The short 3rd antennal joint may possibly be a specific character? (Compare *Busarbidea luchti* m.).

Genus *Ferna* n.gen.

Belongs to the *Selandriinae* (*Allantinae*) and related to *Monostegidia* ROHWER 1915.

Front wings (Fig. 12, C) with two radial and four cubital cells. Intercostal cell with a distinct cross-vein. Basalis meets subcosta a very short distance from the base of cubitus, shorter than the length of the first cubital cross-vein, and is subparallel to the first recurrent vein. The anal cell with an oblique cross-vein somewhat apically of the middle. This cross-vein is as long as or somewhat longer than the first cubital cross-vein, and it meets brachium at an angle of 60°—40°. Nervulus at about the middle of the cell. The hind wings with one closed middle cell; the radiellan vein continued as a short stump beyond the apex of the radiellan cell without distinct appendiculate cell; the anellan cell petiolate, and the petiole more or less distinctly perpendicular to nervellus. Head impunctate, roundly narrowing behind the eyes, the hind orbits sometimes angularly carinate near the mandibular base, The inner margins of the eyes very faintly converging downwards, almost subparallel. Frontal area roundly elevated above a line touching both eyes, and divided longitudinally from the deep middle supra-antennal pit to the middle ocellus by a broad and deep furrow. The postocellar area subconvex, broader than it is long, the lateral furrows sharp. The supraclypeal furrow extremely deeply sunken, and the supraclypeal area convex. Malar space mostly longer than the diameter of an ocellus. The anterior margin of the subconvex clypeus roundly incised, with broad, rounded lateral teeth (Fig. 12, A). Labrum depressed anteriorly. Mandibles subsymetric with a more or less blunt subapical tooth. Maxillar palpi slender; the labial ones short and sturdy. Antennae (Fig. 12, B) long and slender, the 4th joint in-

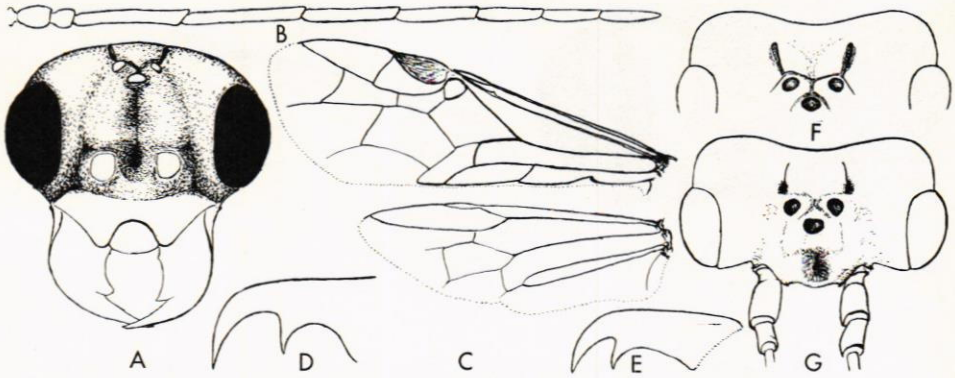

Fig. 12. The genus *Ferna* n.gen. **A.** Head of *Ferna bullifrons* n.sp. (frontal view). **B.** Antenna. **C.** Front and hind wings. **D.** Claw (ordinary shape). **E.** Claw (rare exceptional shape). **F.** *Ferna longiserra* n.sp. (Head from above with postocellar area). **G.** *Ferna punctifossa* n.sp. (Head from above with postocellar area).

considerably longer than the 3rd one. Thorax normal, impunctate and strongly shining; scutellum subconvex. Propodeum divided by a furrow along the middle. Saw-sheath narrow in dorsal view. The hind legs normal; the hind basitarsus shorter than the following tarsal joints combined; claws without basal lobe, the subapical tooth sometimes almost as long as the apical one (Fig. 12, D). General colour pale yellow below, black above; the black with rich pale markings, and the yellow with black ones; the mostly black mesopleura with a pale horizontal band. Not rare on low ferns. Type of genus: *F. longiserra* n.sp.

The species of this genus are very closely related and it is sometimes rather difficult to distinguish them from one another. The less numerous ♂ have the sculptural characters less prominent than the ♀. It may be expected more species will be discovered in the future. The hitherto known ones may be distinguished with help of the following key:

1. Malar space much longer (as 3 : 2) than the minimal thickness of the 3rd antennal joint near the base 2

–. Malar space as long as the thickness of the 3rd antennal joint in the ♀, shorter in the ♂. The subconvex postocellar area only little broader than it is long; the faintly curved lateral furrows fine, sharp, uniformly deep, and distinctly converging backwards, so that the area becomes somewhat broader anteriorly behind the ocelli than at the end of the furrows. The median fovea complete and reaching from the middle supra-antennal pit to the middle ocellus. The subapical tooth of the claws subequal in length with the apical one. Saw-sheeth (Fig. 13, B). Saw (Fig. 14, D). Length 5—6 mm. (7 ♂♂, 5 ♀♀.)
N.E. Burma (Kambaiti at 2000 m. altitude) ..... *F. brevigenata* n.sp.

2. The rather convex postocellar area more than twice as broad as it is long, counting to the end of the lateral furrows; these furrows subequally deep their entire length 3

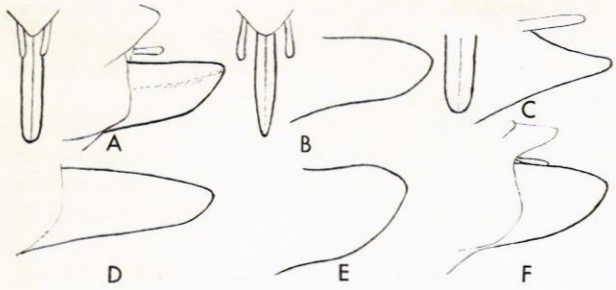

Fig. 13. Saw-sheaths in the genus *Ferna* n.gen. **A.** *latifrons* n.sp., **B.** *brevigenata* n.sp. **C.** *acutiserra* n.sp., **D.** *longiserra* n.sp., **E.** *punctifossa* n.sp., **F.** *bullifrons* n.sp.

–. The lateral furrows of the postocellar area faintly converging backwards, triangularly widened into a punctiform pit just behind each lateral ocellus, rest of the furrows very fine and rather inconspicuous (Fig. 12, G); the otherwise almost subquadrate postocellar area only little broader than it is long counting to the indistinct end of the lateral furrows. On the frontal area the median fovea broadens and becomes indistinct and almost flat before the middle ocellus. The subapical tooth of the claws almost as long as the apical one. Saw-sheeth (Fig. 13, E). Saw (Fig. 14, E). Length 5.5—6 mm. (2 ♂♂, 5 ♀♀.)
N.E. Burma (Kambaiti at 2000 m. altitude) ..... *F. punctifossa* n.sp.

3. The median fovea continuous and subequally broad and deep from the supraantennal pit to the middle ocellus. The angularly bent postocellar furrow deep and abruptly sunken; the interocellar furrow equally deep, but the angular circumocellar one less so; the lateral furrows still deeper, distinctly diverging backwards, and curved (Fig. 12, F). Saw-sheeth evenly triangular with broadly rounded apex in lateral view. The subapical tooth of the claws short and removed from the apex 4

–. The middle fovea begins to be deep and broad only half way to the middle supraantennal pit. The lateral postocellar furrows, faintly curved, hardly diverging, subparallel. The post-, inter-, and circumocellar furrows distinct, but hardly

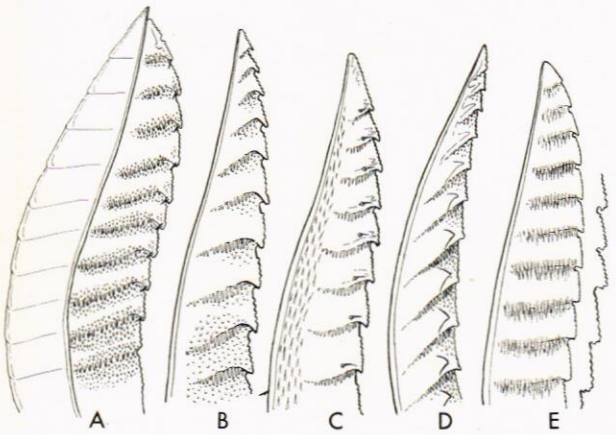

Fig. 14. Saws of the genus *Ferna* n.gen. **A.** *bullifrons* n.sp., **B.** *longiserra* n.sp., **C.** *latifrons* n.sp., **D.** *brevigenata* n.sp., **E.** *punctifossa* n.sp.

sunken. The frontal area in front of the middle ocellus broadly and roundly heart-shaped, gradually and only very faintly depressed towards the middle. The shape of the saw-sheeth in lateral view angularly bent beneath (Fig. 13, A). Saw (Fig. 14, C). Length 6 mm. (3 ♂♂, 5 ♀♀.)
N.E. Burma (Kambaiti at 2000 m. altitude) ..... *F. latifrons* n.sp.

4. The roundly elevated frontal ridges (lateral of the median fovea) distinctly flattened in front of each lateral ocellus (less pronounced in the ♂), and each flattened surface with a faint impression of the diverging and straight fork of the circumocellar furrow. The saw-sheet about two times as long as it is broad at the base in lateral view (Fig. 13, D). Saw (Fig. 14, B). Length 5—6 mm. (6 ♂♂, 30 ♀♀.)
N.E. Burma (Kambaiti at an altitude of 2000 m) ..... *F. longiserra* n.sp.

–. The frontal ridges lateral of the median fovea roundly elevated. Saw-sheath only little longer than it is broad at the base 5

5. Saw-sheath broadly roundly pointed in lateral view (Fig. 13, F). Saw (Fig. 14, A). Length 4.5—6 mm. (17 ♂♂, 25 ♀♀.)
N.E. Burma (Kambaiti at 2000 m), Burmese Southern Shan States (Taunggyi at 1500 m) ..... *F. bullifrons* n.sp.

– Saw-sheath acutely triangular in lateral view (Fig. 13, C) (Saw accidentally lost). Length ♀ 4.5 mm. (1 ♀.) ..... *F. acutiserra* n.sp.