

- Fig. 5. *Lestes gracilis peregrinus* ♂, Japan.
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 Fig. 8, 9. *Davidius lunatus* ♂♀, Mandschurei.
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Tafel II.

- Fig. 1. *Davidius cuniculus* ♀, Japan.
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 Fig. 3, 4. " *agricola* ♂♀, Shanghai.
 Fig. 5. *Catlaeschna acutifrons* ♀, Süd-China.
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Tafel III.

- Fig. 1. *Macromia clio* ♀, Formosa.
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 Fig. 4. " *calliope* ♂, Tonkin.
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 Fig. 6. *Rhyothemis variegata imperatrix* ♀, Formosa.

Chalastogastra (Hym.).

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The Chalastogastra fauna of the island of Formosa has, until the recent collections made by Herr H. Sauter, been almost unknown. I am much indebted to Dr. Walther Horn, of the Deutsches Entomologisches Museum, for the pleasure of studying the interesting and well preserved collections made by Herr Sauter during the years 1910, 1911 and 1912. These collections have added much to our knowledge yet it is probable that only a small proportion of the sawfly fauna of Formosa is known. If we may judge of the relations of this fauna from the material which has been gathered together it will be found to be very similar to the Oriental mainland. We find the same preponderance of Selandriinae, both in individuals and species, and a preponderance of such Allantinae as *Athlophorus*, which is typically Oriental, in both regions. The presence of Nematinae, Cladiinae and Dolorinae, however, indicate there is a touch of the Palaearctic element in the Formosa fauna just as there is in the northern part of the Oriental region (as defined by Wallace).

At present known the Chalastogastra fauna of Formosa represents three families, (the larger family represented by ten subfamilies),

thirty-six genera and fifty-seven species. In this paper four new genera and thirty-three new species are characterized. The types of all of the new species are in the Deutsches Entomologisches Museum. In certain cases paratypes have been given the author who has deposited them in the United States National Museum.

The following species have been recorded from Formosa but are not represented in the collection before me.

Cibdela janthina v. *maculipennis* (Cameron).

Clavellaria (*Euclavellaria*) *formosana* Enslin.

Athlophorus sauteri Enslin.

Tenthredo fulvipennis (Mocsary).

Strombereros formosanus Enslin.

Tomostethus sauteri Enslin.

Family Xiphydriidae.

Genus *Xiphydria* Latreille.

Xiphydria formosana Enslin.

X. formosana Enslin, Deutsch. Ent. Nat. Bib. vol. 11 (23), 1911, p. 182.

X. sauteri Mocsary, Rovartani Lapok, vol. 19, 1912, p. 131-132.

No difference between specimens of *formosana* Enslin as determined by Enslin and the description of *sauteri* Mocsary could be found the two are therefore considered synonymous.

Five males from Fuhosho, Formosa, collected in March, 1909.

X. insularis new species.

Superficially this species resembles *X. formosana* Enslin, but may be readily separated from the species described by Enslin by the shape of the clypeus, the sculpture of the clypeus, and by the black scutellum and prescutum. In Konow's synoptic table of the species of *Xiphydria* it will fall in with *longicollis* Geoffroy and *buyssoni* Konow, if the second part of couplet 7 is made to read „second antennal joint subequal with or longer than the fourth“.

Male. Length 15 mm. Mandibles tridentate apically, basally granular; clypeus produced into a sharp triangularly shaped median tooth, surface longitudinally striato-reticulate; area around the ocelli with radiating striae, along the inner margins of the eyes strongly striato-reticulate with three of the longitudinal striae predominating in the middle; crest with two strong, predominating, oblique striae; lower portions of the cheeks finely striate; head above the supraorbital line shining, impunctate; antennae short, sharply tapering apically,

the scape but little shorter than the second and third joints; second joint subequal in length with the fourth, about one-third shorter than the third; prescutum with the median furrow foveolate, anteriorly the surface is finely granular, posteriorly it becomes sculptured as the scutum which is transversely striato-reticulate; scutellum coarsely reticulate; sides of the pronotum dorsally reticulate, ventrally shining; proepisternum strongly, obliquely striate anteriorly, posteriorly impunctate; mesepisternum dorsally reticulate, ventrally nearly impunctate; abdomen beyond the second and the middle of the second finely striato-granular or granular, the striae predominating at the sides; the sides of the second segment and the first segment irregularly, finely reticulato-punctate; the next to the last apical ventral abdominal segment with a median brush of long hairs; the apical abdominal segment very slightly emarginate medianly; cochlearium slender, straight above, rounded below, apex obtuse; posterior tibiae much longer than the femora, grooved externally; venation normal. Black; inner orbits and a line continued from them to the occiput, posterior orbits extending above to meet the other line which extends to the occiput, clypeus, malar space, proepisternum ventrally, the anterior dorsal margin of the pronotum, the ventral margin of the pronotum, first perapteron, an oblique spot on the mesepisternum and all the coxae beneath, yellowish white; the legs below the coxae and the first two joints of the antennae rufo-ferruginous; antennae piceous; wings hyaline, slightly dusky; venation dark brown.

Hoozan, Formosa. Described from one male collected by H. Sauter, September 7, 1910.

Type. In the Deutsches Entomologisches Museum.

Family Argidae.

Genus *Arge* Schrank.

Arge sauteri Enslin.

One female from Banshoryo District, Sukutsu, Formosa, June, 1912. Five females and three males from Taihorin, Formosa, 1909, 1911.

A. victorina (Kirby).

This species differs from *xanthogastra* (Cameron) in having the lower margin of the frontal basin rounded, (not pointed); and in having a cephal-caudad impression on the postocellar area. This is probably the *xanthogastra* recorded by Enslin from Formosa.

Two specimina from Taihorin, Formosa.

A. vulnerata Mocsary.

Six females and one male from Taihorin, Formosa, collected in April, June and August, 1910, 1911. One female from Shisa 5-6, Formosa, collected May or June, 1912. One female from Kanshirei, Formosa, collected May 22. One male from Kankau (Koshun), Formosa, collected June, 1912. One male from Hoozan, Formosa, collected August 7, 1910. One male from Leutai, Formosa, collected August 1907.

Family Tenthredinidae.**Subfamily Allantinae.****Genus *Athlophorus* Klug.*****Athlophorus formosacola* Rohwer.**

Two males and a female from Hoozan, 1910; six females and four males from Taihorin, 1910, 1911; and one male from Kankau (Koohun), 1912.

These specimens vary considerably and show that the black of the head and thorax may be replaced, to a large extent, by rufous; that the legs may be piceous or brownish-ferruginous. The white markings, however, remain fairly constant. The female has the head ferruginous (except for white markings which are the same as in the male) or with black spots on the vertex and between the antennae. The thorax dorsally is ferruginous except for a spot on the prescutum.

***A. formosana* Enslin.**

A female from Taihorin, Nov. 7, 1911.

***A. placidus* (Konow.).**

A female from Suisharyo, October, 1911, differs from the description in having the sides of the fourth abdominal segment black.

***A. terminatus*, new species.**

This species is readily differentiated by the long antennae, the bases of which are pale, and by the hyaline wings.

Male. Length 10 mm.; length of the antennae 5.5 mm. Labrum broadly rounded, slightly depressed apically; clypeus broadly, deeply, arcuately emarginate, median portion depressed, the lobes narrow, obtuse; supraclypeal area very strongly convex; supraclypeal foveae punctiform, not connected with the antennal foveae; median fovea elongate, sharpened below; antennal furrows obsolete; postocellar line one-half as long as the ocellular line; postocellar area sharply defined, slightly longer than its greatest width; postocellar furrow angulate anteriorly; antennae long, slender, the third joint slightly shorter

than the fourth, the flagellum very hairy; scutellum flat; the stigma rounded below, transverse radius leaving it at the apex and joining the third cubital cell at about the apical fifth; the second recurrent vein joining the second cubital cell half the length of the second transverse cubitus from the base; hypopygium narrowly rounded. Black; clypeus, labrum, two apical joints of the antennae, tegulae, four apical joints of the posterior tarsi white; mandibles except apices, first three joints of the antennae beneath, scutellum, anterior legs except the infuscate intermediate tarsi, and the posterior femora and tibiae except apices rufous; the apical margin of the first three tergites narrowly margined with white; wings hyaline, venation dark brown.

Suisharyo, Formosa. Described from two males collected October, 1910, by H. Sauter.

Type. Deutsches Entomologisches Museum.

A. melanocoxa, new species.

This species is related to *gracilis* but it readily differentiated from that species by the black pronotum.

Female. Length 10 mm. Anterior margin of the labrum broadly rounded; clypeus strongly convex basally, broadly, deeply margined apically, the lobes narrowly pointed; supraclypeal area gently convex; supraclypeal foveae elongate; middle fovea deep, transverse; antennal furrows complete; postocellar basin obsolete; postocellar area well defined laterally for the anterior two-thirds; postocellar furrow obsolete; postocellar line but half the length of the ocellular line; antennae stout; third joint one-fifth longer than the fourth; the fourth and fifth subequal; head and thorax shining, practically impunctate; stigma gently rounded below; second recurrent vein received in the third cubital cell one-third the length of the second transverse cubitus from the base; sheath convex dorsally and ventrally the apex obtusely rounded. Black; spot on the labrum, sides of the propodeum, the apical and lateral margins of tergites 3 and 4, spootoon the posterior coxae exteriorly, the anterior tibiae beneath, the posterior tibiae with a basal spot anteriorly, white; wings hyaline, slightly dusky beyond the base of stigma, venation brown.

Male. Length 8 mm. The male differs from the female in having the pale markings of the abdomen obsolete and the black of the posterior tibiae much reduced. Paratotypes indicate that this species usually has the labrum white but occasionally may be piceous; the exact amount of white on the legs varies slightly in extent.

Taihorin, Formosa. Described from 17 females and 29 males, and from 2 females and 4 males from Anping. Material collected by

H. Sauter in the months of March, April, May, July, August and December.

Type. Deutsches Entomologisches Museum.

Paratypes. U. S. National Museum.

A. leucocoxa, new species.

This species differs from *gracilis* in the pale clypeus and wings; from *melanocoxa* it may be readily differentiated by the pale coxae.

Female. Length 8.5 mm. Anterior margin of the labrum obtusely pointed; clypeus strongly convex basally, the apical margin depressed, broadly irregularly emarginate, the lobes triangular and pointed; supraclypeal area rectangular in outline, convex; supraclypeal foveae obsolete because they are connected with the antennal foveae; median fovea represented by a small punctiform depression; antennal furrows subobsolete; postocellar area poorly defined, narrowing anteriorly; postocellar line less than half as long as the ocellular line; antennae robust, the third joint one-fourth longer than the fourth which is distinctly longer than the fifth; head and thorax shining, impunctate; stigma uniformly rounded below; second recurrent received in the third cubital cell the length of the second transverse from the base; sheath parallel-sided; apex subtruncate. Black; labrum, mandibles except apices, top of clypeus, posterior margin of the pronotum narrowed; perapteron, pale spot on mesepisternum, narrow apical margin of the tergites 2 to 4 and the lateral margin of the tergites 5 and 6, white; legs black; anterior coxae, spot on the four posterior coxae, trochanters, basal half of femora, four anterior tibiae beneath and the basal half of the posterior tibiae white; tarsi brownish; wings hyaline, venation dark brown.

Male. Length 7.5 mm. Hypopygium broadly rounded apically. In the male the clypeus is entirely white; all the legs rufous marked with white as in the female; abdominal segments 3 and 4 are entirely reddish yellow.

Suisharyo, Formosa. Described from five females and seven males collected by H. Sauter in October and February, 1911 and from two females from Taihorin collected in April, 1910, and November, 1911.

Type, Allotype and Paratypes in the Deutsches Entomologisches Museum. — Paratypes, in the U. S. National Museum.

Genus *Strongylogastroidea* Ashmead.

Strongylogastroidea formosacula, new species.

Resembles very closely *St. terminalis* Say, but antennae are longer and the scutellum is not white.

Female. Length 11,5 mm. Lobes of the clypeus sharply pointed, the surface with sparse, well defined punctures; supraclypeal area slightly convex basally; middle fovea confluent with depression in front of the anterior ocellus; ocellocular line four times as long as the postocellar line; postocellar furrow obsolete; postocellar area one and one-third times as long as broad; antennae about as long as head and thorax; stigma narrow, gently rounded on the lower margin; transverse radius received by the third cubital cell in the apical fifth; sheath straight above, obtusely rounded apically with subparallel ventral margin. Rufo-ferruginous; antennae with scape, pedicel, basal half of third joint rufous; apex of the third joint, fourth, fifth and sixth joints black; three apical joints white; mandibles, clypeus, labrum, trochanters and bases of femora testaceous; wings hyaline, iridescent; venation black; costa and stigma ferruginous.

Male. Length 8,5 mm. Characters given for the female apply to the male with the following additions: The three basal joints of the antennae are ferruginous, the apical joints ferruginous, otherwise the antennae are black; the mesepisternum has an oblique white spot which is subinterrupted dorsally; the sides of the tergites are slightly dusky; hypopygium evenly rounded apically.

Taihorin, Formosa. Described from one female (type) collected by Sauter, May, 1910, and one male (allotype) collected by Sauter, October 7, 1911.

Type. Deutsches Entomologisches Museum.

Allotype. U. S. National Museum.

Genus *Parasiobia* Ashmead.

Parasiobia formosana, new species.

This species differs from the American species by having the apex of the antennae white and in the consistent lacking of the discal cell of the hind wings of the female.

Female. Length 9 mm. Anterior margin of the labrum subtruncate, the angles rounded; clypeus broadly, deeply, arcuately emarginate, the lobes subtruncate; supraclypeal area flat; supraclypeal foveae deep, connected with antennal foveae; antennal furrows complete; median fovea deeply depressed, triangular in outline; postocellar line one-third shorter than the ocellocular line; postocellar area sharply defined, one and one-fourth times as broad as long; head shining; third and fourth antennal joints subequal; thorax shining; stigma rounded below, the transverse radius leaving it nearly at its apex and joining the third cubital cell at the apical third; second recurrent re-

ceived one-third the length of the second transverse cubitus from the base of the cell; sheath rather broad, straight above, obtusely pointed apically, obliquely rounded below. Black; clypeus, labrum, mandibles except apices, three apical joints of the antennae, posterior coxae, trochanters and base of femora, and posterior tarsi except basal two-thirds of the first joint, white; anterior legs whitish to piceous; posterior femora, tibiae and the base of the ventral segments rufo-piceous; the dorsal basal segments brownish.

Male. Length 7 mm. The male agrees with the female in color.

In the paratypes there some variation in the amount of rufous of the posterior legs, as in some of them the posterior tibiae are mostly black.

Formosa. Described from six females (one, type) and two males (one, allotype) from Taihorin, and from one male from Anping, collected May, 1910.

Type. Deutsches Entomologisches Museum.

Genus *Emphytina* Rohwer.

Emphytina formosana, new species.

This species is related to *pallipes* Spinola and *carpini* Hartig but may be readily differentiated from both of these by the darker wings.

Female. Length 5,5 mm. Clypeus convex in the basal middle, sloping anteriorly and laterally, the anterior margin with a broad U-shaped emargination with lobes narrowly rounded; supraclypeal foveae large, triangular, connected with the antennal foveae; median fovea well defined, elongate; antennal furrows complete; ocellar basin poorly defined; postocellar area well defined laterally, but not defined anteriorly; postocellar line a little less than half as long as the ocellular line; head shining, impunctate; third antennal joint distinctly longer than the fourth; thorax shining, impunctate; stigma rounded; transverse radius joining the radius slightly beyond the middle; second recurrent joining the second cubital cell the length of the second transverse cubitus from the base; sheath narrower, parallel-sided, apex broadly rounded. Black; palpi piceous; legs yellowish-white; the four anterior tibiae and tarsi and the posterior tibiae and their tarsi infuscate to brownish black; wings dusky hyaline, venation black to pale brown.

Male. Length 4,75 mm. Agrees very well with the female except all the tibiae and tarsi are brownish black and the femora in a brownish

line above which is incomplete basally on the four posterior femora; hypopygidium broadly rounded.

Taihorin, Formosa. Described from eight females and twenty-two males; Taihoku, Formosa, two females and one male; Anping, Formosa, one female. Material collected by H. Sauter in 1910 and 1911; specimens collected throughout the year.

Type, Allotype and Paratypes in the Deutsches Entomologisches Museum.

Paratypes in the U. S. National Museum.

E. sauteri, new species.

This species may be readily separated from *formosana* by the pale venter, the white clypeus and the pale spot on the mesepisternum.

Female. Length 6 mm. Clypeus convex, apical margin broadly depressed, the apex with a broad arcuate emargination, the lobes broad and obtusely rounded; supraclypeal area gently convex; supraclypeal foveae elongate, deep, not connected with the antennal foveae; middle fovea shallow, broad, poorly defined; antennal furrows obsolete medianly; ocellar basin obsolete; postocellar area not defined anteriorly, slightly widening posteriorly, the anterier with one and one-fourth times as great as the median length; ocellocular line one and one-third times as long as the postocellar line; antennae slender, tapering apically; head shining, front with closed setigerous punctures; thorax shining; stigma rounded beneath, gradually tapering to the apex; sheath broad, the apex obtusely rounded, convex below. Black; clypeus, palpi, labrum, spot on the mandibles, posterior angles of the pronotum, tegulae, spot on the posterior portion of the mesepisternum, white; venter testaceous; legs luteo-testaceous; the apices of the anterior tibiae and all of the tarsi brownish; the brownish color of the four posterior tarsi is more intensified than it is on the anterior tarsi; wings hyaline, iridescent; costa and stigma dark brown; rest of the venation pale brown.

Male. Length 5 mm. The male differs from the female in having most of the tibiae and an obscure spot on the apices of the femora above brownish.

Taihorin, Formosa. Described from one female and two males and from one male paratype from Hoozan, Formosa and one female paratype from Anping, Formosa, all collected by H. Sauter.

Type, Allotype and Paratypes in the Deutsches Entomologisches Museum.

Paratypes in the U. S. National Museum.

Subfamily *Dolerinae*.Genus *Loderus* Konow.*Loderus formosanus*, new species.

In Enslin's synopsis of the species of *Loderus* this runs to *genus* *cinctus* Zaddach but it may be readily separated from that species by a number of characters as the following description will show.

Female. Length 9 mm. Anterior margins of the clypeus, deeply emarginate in the middle, the lobes broad and obtuse; surface of the clypeus coarsely punctato-reticulate; supraclypeal area flat; head closely, finely punctured in the area around the antennae; in the middle of the facial quadrangle and in the area around the ocelli it is confluently punctured; middle fovea practically obsolete; antennal furrows obsolete below the lateral ocelli; head above the supraorbital line and the posterior orbits shining, with scattered well defined punctures; postocellar furrows obsolete; postocellar area well defined laterally, medianly finely punctured; postocellar line one-third shorter than the ocellocular line; third antennal joint distinctly longer than the fourth; pronotum closely but not confluently punctured; mesoscutum and prescutum shining, well defined, separate punctures in the middle but laterally the punctures become confluent so as to form faint striae; prescutum angulate posteriorly; scutellum rather more densely punctured than the scutum; scutellar lobe opaque, practically impunctate, but when magnified 35 diameters seen to be finely granular; mesepisternum coarsely reticulate; mesosternum shining, with separate small punctures, no punctures arranged in rows laterally; sheath straight above, tapering from an obtuse apex to the ventral base; stigma angulate at the base tapering to an acute apex. Black; apices of the femora, the basal three-fourths of the tibiae white; spot on the basal angles of the pronotum and the tegulae yellowish white; first three abdominal segments banded with ferruginous; insect clothed with short gray hair; wings dusky hyaline; venation black.

Male. Length 7 mm. The above description of the female will answer for the male. Hypopygium broadly truncate apically.

Taihorin, Formosa. Described from two females (one type) and three males collected November 7, and December 7, 1911, by H. Sauter.

Type. In the Deutsches Entomologisches Museum.

Paratype. (Male and Female) Cat. No. 15393 U. S. Nat.-Mus.

Subfamily *Tenthredininae*.Genus *Macrophya* Dahlbom.*Macrophya formosana*, new species.

Differs from the Japanese *M. igniva* Smith in the color of the legs.

Female. Length 10,5 mm.; length of the antennae 4 mm. Labrum with sides oblique, apex truncate; clypeus deeply, arcuately emarginate, the lobes triangular; supraclypeal foveae oblique, deep; supraclypeal area uniformly convex; median fovea wanting, shallow, joining the depression around the anterior ocellus; antennal furrows poorly defined; postocellar area sharply defined laterally, poorly defined anteriorly, the lateral bounding furrows slightly curved, the area about onesixth wider than the cephalo-caudad length; ocelli in a little less than an equilateral triangle; head coarsely punctured below the level to the supraorbital line, behind that and on the posterior orbitis the punctures are sparser; antennae short, stout, fifth, sixth and seventh joints more robust than the preceding or following; the third joint subequal in length with the fourth and fifth; sheath narrower, straight above, apex broadly rounded, lower margin straight. Black; clypeus, labrum, mandibles except apices, narrow posterior margin of the pronotum, small spot on the tegulae, indistinct spots on the scutum, two spots on the scutellum, circular spot on the anterior margin of the mesepisternum and a small spot on the posterior margin of the mesepisternum, yellow; legs black; the apices of the coxae, trochanters, bases of the femora, the four anterior tibiae except the base and the apex, a line on the anterior ones above, the posterior tibiae in the middle (more broadly posteriorly) yellow; wings yellowish hyaline; venation black.

Male. Length 8 mm.; length of the antennae 4 mm. The third antennal joint hardly as long as the fourth and fifth; otherwise the sculpture and structure of this agree well with the above description of the female. It differs in color in lacking the small spots on the mesoscutum and the spots on the scutellum are reduced or wanting and the posterior tibiae are only black exteriorly; hypopygium truncate apically.

Taihorin, Formosa. Described from two females (one, type) and thirteen males (one, type) collected in April and May, 1910, by H. Sauter.

Type and Allotype. Deutsches Entomologisches Museum.

Paratype (Male and female). Cat. No. 18535, U. S. Nat.-Mus.

Genus *Pachyprotasis* Hartig.

Pachyprotasis formosana, new species.

The pale apex of the antennae and red posterior femora should make this species easily recognized.

Female. Length 7 mm.; length of the antennae 7,5 mm. Labrum subtruncate, the anterior margin very gently incurved, the surface finely granular; clypeus deeply subsquarely emarginate, the lobes

obtuse, gently convex, shining with a few widely separated punctures; supraclypeal foveae deep, punctiform; supraclypeal area slightly convex dorsally; median fovea shallow, small, circular in outline, joining with a shallower and elongate depression; antennal furrows poorly defined, no depression in front of the anterior ocellus; postocellar area sharply defined laterally, but indistinctly defined anteriorly, slightly narrower anteriorly, about one and one-third times as broad posteriorly as its cephalo-caudad length; ocelli in nearly an equilateral triangle; intraocellar area distinctly parted by a longitudinal sulcus; antennae slender, scarcely tapering, the third joint distinctly longer than the fourth; the fourth slightly longer than the fifth; head shining, the median area with distinct irregular punctures; thorax subopaque with distinct well separated punctures; scutellum slightly convex; transverse radius oblique, joining the third cubital cell slightly before the middle; second recurrent joining the cubitus slightly more than the length of the second transverse cubitus beyond the base of the third cubital cell; third cubital cell subequal in length with the second, twice as wide apically as posteriorly, angulate where the transverse radius and second recurrent join it; longer spur of the posterior tibiae half as long as the posterior basitarsus; abdomen shining; sheath straight above, the apical margin broadly rounded. Black, marked with stramineous; clypeus except narrow apical margin, labrum, mandibles except apices, the head below the antennae, two dots above the antennae, posterior orbits to near the top of the eye, inner orbits to the top of the eye and connecting with an oblique spot which extends from the lateral margin of the postocellar area to the eye, apex of the sixth and the following joints of the antennae, lateral margin of the prescutum, lateral margin of the pronotum, tegulae, scutellum, spot on the scutellar appendage, metanotum, longitudinal band on the mesepisternum, upper basal angle of the mesepimeron, spot on the metepisternum, most of the mesepimeron, sides of the propodeum, spots on the basal lateral angles of all the tergites, a triangular spot in the apical middle of the second and following tergites and apical margins of the sternites, stramineous or whitish; legs rufous; the apices of the posterior femora above, the apices of the posterior tibiae, the base of the posterior basitarsus black; posterior tarsi beyond the middle of the first joint white; wings hyaline with a faint yellowish tinge, iridescent; venation dark brown.

Taihorin, Formosa. Described from one female collected in April by H. Sauter.

Type. Deutsches Entomologisches Museum.

Genus *Tenthredella* Rohwer.***Tenthredella poeciloptera* Enslin.**

The male here recorded is not quite typical as the apical abdominal segments cannot be called black, in the females however this character is well illustrated in some specimens while in others the basal tergites also become suffused with black. In the females there is a rather well marked angulation on the lower part of the mesepisternum which is obsolete in the male.

One female from Hoozan, Formosa collected May, 1910. Five females and two males from Kosempo, Formosa collected May and June, 1909, 1912.

***T. margarettella*, new species.**

Female. Length 15 mm; length of the antennae 10 mm. Labrum, broadly rounded apically; clypeus deeply emarginate anteriorly, the lobes broad, sharply angulate laterally but medianly with the angle rounded; supraclypeal suture well defined; supraclypeal fovea punctiform; supraclypeal area flat; head between the antennae depressed; antennal furrows complete; frontal depression poorly defined; postocellar area sharply defined laterally but not defined anteriorly, nearly quadrate; ocelli in an equilateral triangle; the intraocellar area parted by a longitudinal sulcus; head shining, impunctate; third and fourth antennal joints subequal; thorax shining with a few sparse poorly defined punctures; scutellum subpyramidal; sides of mesepisternum straight; longer spur on the posterior tibiae two-thirds the length of the posterior basitarsus; transverse radius strongly curved, received by the third cubital cell in its middle; the third cubital cell slightly longer than the second and twice as long as its own apical width; sheath narrow, upper margin slightly concave, the lower margin straight beyond the obtusely pointed apex. Black; antennae black with the fifth and sixth joints pale; clypeus, labrum, mandibles except apices, palpi, posterior orbits to near the top of eyes, head below the antennae, two spots above the antennae, the inner orbits extending to the occiput where the line is dilated into a transverse spot, a narrow dot in the posterior middle of the postocellar area, posterior third of the prescutum, posterior angles of the pronotum, tegulae, lateral ventral anterior angles of the pronotum, spot on the mesepisternum which is larger anteriorly, a line on the upper margin of the mesepimeron, metepisternum, scutellum, scutellar appendage, metapostnotum and most of the propodeum, stramineous; abdomen black; venter rufo-piceous; legs black; the four anterior femora, tibiae and tarsi beneath, the posterior trochanters,

the posterior tibiae except the apices and the posterior tarsi, yellowish; the four anterior femora are piceous above; wings yellowish hyaline, dusky beyond the stigma; venation black.

Kosempo, Formosa. Described from one female collected May 7, 1909, by H. Sauter.

Type. Deutsches Entomologisches Museum.

T. sauteri, new species.

Readily separated from the above species, *margretella*, by the black antennae, small size, color of legs and other characters.

Female. Length 10.5 mm.; length of the antennae 7 mm. Labrum broadly rounded, shining; clypeus subsquarely emarginate, the lateral angles of the lobes sharp, the anterior margin of them truncate with the inner angle rounded; supraclypeal area flat with a poorly defined median carina; head subdepressed in front; antennal furrows complete; median depression deep, represented by elongate fovea from the anterior ocellus to between the bases of the antennae; postocellar area well defined laterally, poorly defined anteriorly, quadrate in outline; ocelli in an equilateral triangle; intraocellar area parted by a median furrow; head shining, impunctate; third antennal joint slightly shorter than the fourth; thorax shining, almost impunctate except the lower part of the mesepisternum which is finely punctured; scutellum subconvex; scutellar appendage flat without a carina; transverse radius gently curved, joining the radius near the apical third of the third cubital cell; second recurrent joining the cubitus the length of the second transverse cubitus from the base of the third cubital cell; third cubital cell longer than the first two on the radius and twice as long as its apical width; longer spur of the posterior tibiae half the length of the posterior basitarsus; sheath narrow, straight above, upper angle sharp, gradually rounded to near base when it becomes straight. Black; clypeus, labrum, mandibles except apices, palpi, posterior orbits broadly beneath with a narrow line connecting them with a larger spot on the occiput, face below the antennae, the margins of the antennal furrows, inner orbits to the top of the eyes, dorsal and posterior lateral margins of the pronotum, posterior third the prescutum, anterior half of the scutellum, scutellar appendage, spot on the metapostnotum, transverse band on the mesepisternum and a spot on its upper angle, upper margin of the mesepimeron, spot on the metepisternum and the upper margin of the metepimeron, stramineous; abdomen black with the narrow basal margins of the third, fourth, fifth and sixth tergites, the lateral margins of the first two tergites and most of the sternites stramineous;

legs rufo-stramineous; the four anterior tibiae and their tarsi with a piceous line above; posterior tibiae and their tarsi black, wings uniformly hyaline with a faint yellowish tinge; venation black; costa and stigma brown.

Male. Length 10 mm. Differs from the above description of the female in having the mesosternum stramineous and the black line on all the femora above; hypopygium truncate apically with oblique anterior sides.

Formosa: Taihorin; Anping. Described from seven females and four males collected in 1910 and 1911 by H. Sauter. Only one male is represented from Anping and no females.

Type and Allotype. Deutsches Entomologisches Museum.

Paratypes. (Male and Female.) Cat. No. 18534, U. S. Nat.-Mus.

Genus *Tenthredina* Rohwer.

Tenthredina formosana (Enslin).

Tenthredo formosana Enslin, Soc. Ent. vol. 25, 1911, p. 104. Two males from Hoozan, Formosa, collected May, 1910.

Subfamily *Messinae*.

Genus *Heptamelus* Haliday.

This genus belongs to the tribe Phyllotimini.

Heptamelus javanus Enslin.

Two males Suisharyo, October, 1911; two males Taihorin, May 1910; two males Anping, May 1910.

The specimens collected in May have the mesoscutum piceous to rufous, the abdomen paler and the nervellus more nearly interstitial. The specimens collected in October agree very well with Enslin's original description of the species. In some specimens the second anal vein of the fore wing is almost completely obliterated beyond the cross-vein giving the appearance of a petiolate lanceolate cell. The obliteration is an individual wing variation as it may be well defined in one wing of an individual and obliterated in the other.

Subfamily *Athaliinae*.

Genus *Athalia* Leach.

Athalia japonica Klug.

One female from Shisa 5-6, Formosa, collected May or June, 1912. Two females and two males from Taihorin, Formosa, collected July 7, August 7, and September 7, 1911. One female from Suisharyo, Formosa, collected February 7, 1911. Nine females and five males

from Taihoku, Formosa, collected April, 1912. One female and one male from Hokuto, Formosa, collected March, 1912.

Subfamily *Empriinae*.

Tribe Blennocampini.

Genus *Senoclidea* Rohwer.

Senoclidea decorus (Konow).

One hundred and eighty-seven specimens, of which one hundred and forty-four were males, from the following localities: Taihorin, Pilam, Kankau (Koshun), Sokutsu, Kosempo and Banshoryo district.

There is some little variation in the amount of infuscation of the wings, especially in the male, and also slight variation in the amount of yellow on the hind tibiae.

Genus *Nesotomostethus* Rohwer.

Nesotomostethus secundus, new species.

* Related to *N. religiosa* Marlatt, but may be readily separated from that species by the black mesepisternum.

Female. Length 10 mm. Anterior margin of the clypeus slightly tridentate, the inner lobe broad and very short, the lateral lobes rounded; supraclypeal foveae confluent with the antennal foveae; supraclypeal area triangular in outline, subconvex; middle fovea deep, irregularly quadrate in outline; antennal furrows complete above the crest, much broader below the supraorbital line where they are angulate to meet the postocellar line; ocellar basin well defined, rounded below, and sharply angulate above the anterior ocellus where it meets the postocellar furrow; postocellar area sharply defined; head along the orbits with large, well defined punctures; antennae very slightly tapering towards the apex, the third joint slightly longer than the fourth; mesoscutum and prescutum shining; scutellum shining, with a few large, well defined punctures laterally; mesepisternum shining, but also with a few large, scattered punctures; legs and venation normal; transverse radius received slightly beyond the middle of the third cubital cell; second recurrent vein received in the basal third of the third cubital cell; sheath rather long, straight above, broadly and obtusely rounded below; Rich reddish yellow; intraocellar area, meso- and metathorax above and the mesepisternum and sternum black; apices of the tarsi piceous; antennae beyond the second joint piceous, paler below; wings dark bluish, beyond the apex of the stigma dusky hyaline; venation the color of the wings.

Formosa. Described from two females; one, type, collected at Kosempo, May 7, 1909, by H. Sauter; the other collected at Shisa 5-6, May or June 1912, by H. Sauter.

Type. Deutsches Entomologisches Museum.

Paratype. Cat. No. 15392, U. S. Nat.-Mus.

Subfamily *Selandriinae*.

The genera of this subfamily are arranged in accordance with classification purposed in a paper entitled „Studies in the Sawfly Subfamily *Selandriinae*“ which has been prepared, and submitted for publication, by the writer. In the above mentioned paper tables to the species at hand are given, and workers should consult these tables for determination of their species.

Genus *Nesotaxonus* Rohwer.

Nesotaxonus flavescens (Marlatt).

Six specimens from Kankau (Koshun) Formosa, collected June and July, 1912.

Genus *Beleses* Cameron.

Beleses formosana (Enslin).

One female from Taihorin collected June 7, 1911. One female from Hoozan collected November 1, 1911. One female and two males from Kankau (Koshun) collected June and July, 1912.

Belesidea, new genus.

This genus is closely allied to *Nesotaxonus* Rohwer but may be differentiated from that species in the slender antennae which have the third and fourth joints subequal. According to the classification proposed by the writer in 1911 this falls in the tribe Empriini because the prepectus is wanting, but it is not closely allied to any of the genera of this tribe, while it is closely allied to *Nesotaxonus* which belongs to the subfamily *Selandrinae*.

Clypeus truncate; malar space obsolete; eyes slightly converging to the clypeus; posterior orbits very narrow, not marginated; antennae slender, the third and fourth joints subequal and as long as the following joints combined; pedicellum cylindrical, much longer than its apical width and little shorter than the scape; venation as in *Nesotaxonus*, claws with an inner tooth; the hind basitarsus cylindrical, equal in length with the following joints.

Type. The following new species.

B. multipicta, new species.

Female. Length 9 mm. Labrum narrowly rounded; supraclypeal foveae deep, punctiform, obscurely connected with the antennal foveae; supraclypeal area narrow, triangular; median fovea poorly defined, nearly circular in outline; frontal foveae poorly defined, oval in outline; ocellar basin obsolete; postocellar line slightly shorter than the ocellular line; postocellar area sharply defined laterally, not defined anteriorly, slightly wider than long; head shining, a few poorly defined punctures around the anterior ocellus; thorax shining, practically impunctate; sheath narrow, the upper margin slightly concave, the apex obtusely rounded, gradually tapering to the base; stigma slightly broader basally, slightly tapering basally; second cubital cell shorter on the radius and cubitus than the third; transverse radius received at the apical fourth; second recurrent a little less than half the length of the second transverse cubitus beyond it; anal cell in the hind wings sessile. Black with many white markings; head black; mandibles except apices, palpi, labrum, clypeus, face, inner orbits to the top of the eye then curving inwardly to the ocellar area, antennae beyond the basal third of the fifth joint, white thorax black; posterior margin of the pronotum, perapteron, the caudal third, the prescutum, the scutellum, large spot on the posterior part of the mesepisternum, posterior portion of the mesepimeron, metapostnotum, white; abdomen yellowish with the basal portion of all the tergites and the sheath brownish to brownish black; the four anterior legs yellowish white (paler basally); posterior legs rufo-testaceous with coxae, apices, the tibiae, the basal two-thirds of the basitarsus brownish; the apical third of the basitarsus and the following joints white; wings hyaline, venation dark brown; stigma and costa brownish.

Taihorin, Formosa. Described from two females collected by H. Sauter, the type collected January, 1910, the paratype, April, 1910.

Type. Deutsches Entomologisches Museum.

Paratype. U. S. National Museum.

Genus Abeleses Enslin.

This genus will fall, in the classification proposed by the writer in 1911 (Proc. Ent. Soc. Wash., vol. XIII, p. 220), into the tribe Empriini. It is however, very closely allied to *Nesotaxonus*, *Sunoxa* and *Beleses* which belong in the Selandriini because of the prepectus. This indicates that the prepectus is not of the value considered in my previous classification.

Abeleses formosanus Enslin.

Two females and one male from Kankau (Koshun), Formosa, collected June and July, 1912.

In the male the antennae are black and the scutellum has only a piceous spot.

A. formosanus var. *notatus*, new variety.

This variety differs from the typical form in having the pronotum entirely black. The antigeny is the same as in the species.

Described from two females and one male collected at Taihorin in May, 1910, and from one male collected at Anping, August, 1909.

Type and Allotype in the Deutsches Entomologisches Museum.

Paratypes in the U. S. National Museum.

A. coeruleus, new species.

This species differs from *formosanus* in color, in the less defined frontal fovea, the more decidedly cylindrical antennae, pilose hind basitarsus and other characters.

Female. Length 9 mm. Supraclypeal foveae deep, punctiform, narrowly separated from the antennal foveae; median fovea elongate depression; frontal fovea elongate, punctiform, deep, well defined; ocellar basin obsolete; postocellar area one and one-third times as wide as long; clypeus, face and front to the level of the lateral ocelli with irregular large, sometimes confluent punctures; head behind the ocelli and the posterior orbits shining, with sparse, irregular punctures; third antennal joint distinctly longer than the fourth; thorax shining with sparse, well defined punctures; sheath straight above, gradually broadening from a narrowly rounded point; nervulus slightly based of the middle; lanceolate cell in the hind wings sessile; stigma gradually tapering from the base. Head and thorax blue black; abdomen black with a faint bluish reflection; apices of the mandibles and palpi piceous; labrum and posterior trochanters white; anterior tibiae and tarsi faintly brownish beneath; head, thorax and legs densely clothed with white pile; wings hyaline, the apices slightly dusky, venation dark brown except the apices where it is pale brown.

Taihorin, Formosa. Described from two females, the type collected September 7, 1911, the paratype in January, 1910.

Type. Deutsches Entomologisches Museum.

Paratype. U. S. National Museum.

Genus *Thrinax* Konow.***Thrinax formosana*, new species.**

This species is closely related to the European *macula* but differs from it in the more shining head.

Female. Length 7 mm.; length of the antennae 4.5 mm. Middle fovea nearly quadrate in outline; frontal foveae pentagonal in outline with the dorsal margin but little above the dorsal margin of the middle fovea; pentagonal area triangular in outline, meeting above the antennae; postocellar area defined laterally by punctiform foveae; behind the anterior ocellus on the postocellar furrow is a deep, punctiform fovea; postocellar line slightly shorter than the ocellocular line; head above the antennae shining, below the antennae and posterior orbits finely reticulate; thorax shining; sheath straight above, acuminate at apex, oblique below. Black; clypeus, labrum, posterior margin of the pronotum, tegulae, legs below the coxae except the apical four joints of the four posterior tarsi white or with a faint yellowish tinge; apical margin of tergites, except the apical three, yellowish white; wings hyaline, strongly iridescent; venation black; head and thorax almost without pubescence.

Taihorin, Formosa. Described from one female collected in April.

Type. Deutsches Entomologisches Museum.

Genus *Anapeptamena* Konow.***Anapeptamena formosana*, new species.**

This species is closely allied to *A. viridipes* Cameron but may be separated from that species by having the middle fovea but little wider than its dorsad-ventrad length (in *viridipes* Cameron the middle fovea is two times as wide as its dorsad-ventrad length).

Female. Length 5 mm. The anterior margin of the labrum broadly rounded, the anterior margin of the clypeus shallowly arcuately margined; supraclypeal area rectangular in outline and uniformly convex; supraclypeal area confluent with the antennal foveae which are broad and extend to the crest; middle fovea trapezoidal in outline; dorsad-ventrad length but little less than the latrad length; pentagonal area well defined, extending posteriorly to between the lateral ocelli; postocellar line not half as long as the ocellocular line; postocellar area sharply defined laterally, narrowing anteriorly so its margins are parallel with the line drawn tangent to the outer margin of a lateral ocellus; antennae slender; head and thorax shining; stigma angulate basally gradually tapering to a truncate apex; third cubital cell slightly

longer than the second, receiving the transverse radius at its apical third; sheath straight above, rounded apically, oblique below. Black; clypeus, labrum, mandibles, palpi, scape, angles of the pronotum, tegulae, first perapteron, spot on the posterior margin mesepisternum and legs, except fuscous posterior tarsi, whitish; the venter fulvous; wings hyaline; venation dark brown; body almost entirely without pubescence.

Male. Length 4 mm. Differs, besides the usual sexual characters, from the above description of the female only in having the venter black.

Suisharyo, Formosa. Described from two females (one type) and one male collected October, 1911.

Type and Allotype in Deutsches Entomologisches Museum.

Paratype. U. S. Nat. Museum.

Genus *Busarbidea* Rohwer.

Busarbidea formosana, new species.

This species is separated from *himalaiensis* by the pale venter and by not having the apical margin with the clypeus depressed.

Female. Length 6 mm. Apical margin of the labrum narrowly arcuately emarginate; clypeus uniformly convex, the anterior margin broadly arcuately emarginate; supraclypeal area carinate, rectangular in outline; supraclypeal foveae deep, punctiform; middle fovea trapezoidal in outline; pentagonal area with the ventral margin subequal in length with the median dorsad-ventrad length and with sparse radiating striae from the anterior ocellus, posteriorly with a well defined carina which extends one-third the length of the postocellar area; postocellar area sharply defined laterally its dorsal width subequal with the median cepha-caudad length; postocellar line one-sixth shorter than ocellocular line; antennae scarcely tapering apically, the fourth joint longer than the fifth, the third joint longer than the fourth; stigma broader basally, tapering to a narrow apex; second cubital cell subequal in length on both radius and cubitus with the third; transverse radius strongly curved, joining the radius at the apical third; sheath straight above, pointed apically, oblique below. Black; clypeus, labrum, spot on mandibles, palpi, scape, pronotum broadly, tegulae, perapteron and legs (except the infuscate posterior tarsi) yellowish white; the venter fulvous; head and thorax with short gray hair; wings hyaline; venation dark brown.

Suisharyo, Formosa. Described from one female collected October, 1911 by Sauter.

Type. In Deutsches Entomologisches Museum.

Genus *Nesoselandria* Rohwer.*Nesoselandria leucopoda*, new species.

This species is readily differentiated from the other species by the black abdomen and pale legs.

Female. Length 4 mm. Labrum narrowly rounded apically; clypeus very gently emarginate medianly, flat; supraclypeal area gently convex, nearly rectangular in outline; supraclypeal foveae deep, punctiform, connected with the antennal foveae; median fovea shallow, trapezoidal in outline; frontal fovea a punctiform, their lower margins tangent to a line bisecting the median fovea; ocellar basin indicated dorsally, sharply defined below by a sloping U-shaped wall; postocellar line very little shorter than the ocellocular line; postocellar area defined laterally by short foveae; antennae tapering apically, strongly hairy; stigma broad, slightly angulate posteriorly, rounded below; transverse radius joining the third cubital cell at the apical fifth; second recurrent joining the third cubital cell one and one-fourth times the length of the third transverse cubitus from the base of the cell; sheath narrow, straight above, narrowly rounded apically, strongly oblique below. Black; legs except the infuscate tarsi yellowish white; wings dusky hyaline.

Male. Length 3,5 mm. Hypopygium broadly rounded apically. Agrees with the above description of the female except the scape has a pale spot beneath.

Taihorin (type locality) and Shisa, 5—6, Formosa. Described from seven females (one, type) and sixteen males, all of the males, except one, are from Taihorin.

Type, Allotype and Paratypes. Deutsches Entomologisches Museum.

Paratypes. U. S. National Museum.

N. formosana, new species.

This species is closely allied to *imitatrix* (Ashmead) but is readily separated from that species by the head above the antennae having a transverse fold or carina and by the frontal and median foveae being more or less confluent.

Female. Length 3,5 mm. Labrum narrowly rounded; clypeus broadly, gently, arcuately emarginate; supraclypeal area gently convex, triangular in outline; supraclypeal foveae small, punctiform, connected with the antennal foveae; median and frontal foveae more or less confluent; head above the antennae with irregular transverse carinae; ocellar basin slightly indicated; postocellar line slightly shorter than the ocellocular line; ocellooccipital line distinctly longer than the intra-

ocellar line; postocellar area rather narrow, defined laterally by elongate foveae; antennae strongly hairy, tapering apically, the third joint one-fifth longer than the fourth; the stigma broadest at base, gradually tapering to the apex; transverse radius received in apical third; second recurrent received about twice the length of the second transverse cubitus from the base of the cell; sheath rather broad, straight above, broadly rounded apically. Black; bases of all basitarsi, the intermediate and posterior trochanters whitish; wings dusky hyaline, venation dark brown.

Male. Length 3.5 mm. Hypopygium rather small, subtruncate apically. Agrees with the female. Some of the paratypes have the ocellar basin more strongly defined than in the type and in some of them the bases of the four posterior tibiae are pale piceous.

Kankau (type locality), Anping, Taihorin, Shisa 5—6, Formosa. Described from seven females and nine males.

Type, Allotype, Paratypes. Deutsches Entomologisches Museum.

Paratypes. U. S. National Museum.

Genus *Neostromboceros* Rohwer.

Neostromboceros atrata (Enslin).

Stromboceros atratus Enslin, Deutsch. Ent. Nat. Hist. Bib. vol. 11, 1911, p. 181.

In this series there is very little variation. In the males the amount of black on the hind tibiae varies from the apical to basal third. The strength of the pentagonal area varies somewhat but never enough to obliterate the area.

One hundred and seventy-six specimens from the following localities: Taihorin, 1911; Pilam, June, 1912; Shisa 5—6, May and June, 1912; Koshun District, May, 1912; Taihoku, April, 1912; Sokutsu, Banshoryo District, 1912; Kankau (Koshun), June, July and August, 1912.

N. albofemoratus, new species.

This species is readily differentiated from most of its allies by the pale hind femora.

Female. Length 6 mm. Supraclypeal area flat; median fovea transverse, deep, well defined; frontal foveae deep, punctiform and with a smaller fovea below but nearer the eyes; pentagonal area poorly defined, U-shaped in outline; postocellar area well defined laterally, the bounding furrows curved and slightly converging anteriorly; postocellar line one-half shorter than the ocellular line; head and thorax shining; stigma broader at base, narrowing to acuminate apex; anal cell in the hind wings sessile; sheath straight above, acuminate at

apex, tapering below. Black; labrum, posterior margins of the pronotum broadly, tegulae, perapteron, legs below middle of coxae except at the base of the anterior femora, the four anterior tarsi, the apices of the posterior tibiae and their tarsi, white or with a slightly yellowish tinge; wings slightly dusky hyaline; venation dark brown.

Formosa. Described from three females (one, type) from the following localities: Taihorin (type locality) and Suisharyo.

Type and paratype. Deutsches Entomologisches Museum.

Paratype. Cat. No. 18904, U. S. National Museum.

N. leucopoda, new species.

Readily separated from *atratus* Enslin, which it resembles, in having the clypeus pale and by the pale legs.

Female. Length 6 mm. Middle fovea transverse, well defined; frontal foveae large, punctiform, without a small fovea below them; pentagonal area obsolete, or if faintly indicated it is U-shaped; postocellar area well defined laterally, furrows parallel; postocellar line one-third shorter than the ocellocular line; head and thorax shining; stigma broadest near middle; sheath truncate apically, straight above, oblique below. Black; clypeus, labrum, posterior margins of the pronotum broadly, tegulae, perapteron and legs except apices of coxae, white or with a faint yellowish tinge; wings dusky hyaline; venation dark brown; head and thorax covered with short gray hair.

Male. Length 5 mm. Agrees well with the female.

Formosa. Described from fourteen females (one, type) and fifteen males (one, allotype) all collected at Taihorin.

Type, allotype and paratypes. Deutsches Entomologisches Museum.

Paratypes. Cat. No. 18905, U. S. National Museum.

Genus *Neothrinax* Enslin.

Neothrinax formosana, new species.

This species may be readily separated by the pale hind femora and by having the sides of the prescutum and most the scutellum white.

Female. Length 9 mm. Labrum broadly rounded; anterior margin of the clypeus with a narrow, arcuate emargination which in outline approximates the outline of the lobes; supraclypeal area flat; supraclypeal foveae deep, punctiform; middle fovea trapezoidal in outline, its latrad width two and a half times as great as the dorsad-ventrad length; frontal foveae punctiform, their lower margin tangent to a line drawn through the middle of the median fovea; the pentagonal area indicated by a U-shaped elevation; postocellar area poorly defined

laterally but well defined anteriorly; postocellar line one-fourth shorter than the ocellocular line; antennae filiform; head and thorax shining, impunctate; stigma broader at base, gradually tapering to an oblique apex; transverse radius joining the radius but little beyond the middle; nervulus its length from the end of the cell; sheath rather robust; the apex broadly rounded. Black; clypeus, labrum, spot on the base of the labrum, palpi, scape, flagellum beyond the middle of the third joint, most of the pronotum, tegulae, entire margin of the prescutum, perapteron, the upper part of the mesepisternum, spot on the scutellum and the scutellar appendage, legs (except a spot on the dorsal bases of the four anterior tibiae, the posterior tibiae and their tarsi, which are black or infuscate) white; abdomen, except the basal plates and a small median spot on each tergite (these spots become broader posteriorly), and sheath which are black, fulvous; wings hyaline, venation black; body without pubescence.

Tainan, Formosa. Described from one female collected April 7, 1911.

Type. In Deutsches Entomologisches Museum.

N. sauteri, new species.

This species is apparently allied to *javana* Enslin from which it is readily differentiated by the black mesepisternum.

Female. Length 8 mm. Anterior margin of the labrum broadly rounded; anterior margin of the clypeus gently arcuately emarginate; apical margin depressed but the basal portion strongly convex; supraclypeal area flat, triangular in outline; supraclypeal foveae deep, punctiform, obscurely connected with the antennal foveae; median fovea transverse and extending more narrowly from the base of the antennae; ocellar basin represented by a shallow depression which takes the form of narrow sutures behind the anterior ocellus; postocellar line one-third shorter than the ocellocular line; postocellar area sharply defined laterally but not defined anteriorly, the lateral bounding furrows are strongly curved so it is much wider posteriorly; antennae rather long; head and thorax with rather long gray pile; stigma slightly angulate basally, gradually tapering to the apex; first transverse cubitus obsolete; transverse radius received at the middle of the cell; second recurrent joining the third cubital cell the length of the second transverse cubitus from the base; sheath straight above, rounded apically, strongly oblique below. Black; clypeus, labrum, spot on the scape beneath, pronotum narrowly, tegulae, the anterior legs, the coxae, trochanters and base of the femora of the intermediate legs, most of the coxae, trochanters and base of the femora of the posterior legs

and the base of the venter, white; abdomen beyond the fifth segment ferruginous; the posterior tibiae are piceous basally, the wings hyaline, slightly dusky, strongly iridescent, venation dark brown.

Suisharyo, Formosa. Described from a single female collected October, 1912, by H. Sauter for whom the species is named.

Type. Deutsches Entomologisches Museum.

Genus *Strombocerus* Konow.

Stromboceros sauteri, new species.

From *St. congener* to which the species is closely allied it may be separated by having the head and thorax black instead of bluish.

Female. Length 8.5 mm. Anterior margin of the clypeus truncate; supraclypeal area very gently convex; middle fovea transverse, deep; frontal foveae deep, punctiform, and below them but little nearer the eye is another deep, punctiform fovea; antennal furrows obsolete; pentagonal area slightly raised otherwise obsolete; postocellar area not defined; postocellar line one-sixth shorter than the ocellocular line; posterior orbits without a carina; antennae strongly tapering apically; pedicellum longer than wide; third joint one-fourth longer than the fourth; thorax shining; stigma rounded below, narrowly truncate apically; transverse radius joining the third cubital cell at the apical third; nervulus its length from the end of the cell; anal cell in the hind wings sessile; hind basitarsus slightly longer than the following joints; sheath narrow, nearly parallel-sided, apex broadly rounded. Black; labrum, narrow posterior margins of pronotum, perapteron, apices of coxae, trochanters, anterior tibiae and tarsi except the apex of the tibiae and the tarsi above, the intermediate tibiae beneath, posterior tibiae beneath and the entire basal two-thirds, white; wings dusky hyaline; venation dark brown; head and thorax covered with short gray hair.

Male. Length 7 mm. Hypopygium narrowly subtruncate apically. Agrees with the female except that the color of the legs is a little more pronounced.

Formosa. Described from twenty-four females (one, type) and eight males (one, allotype) from the following localities: Kosempo (type locality), Taihorin, Kankau, Kanshirei, Suisharyo, Sokutsu and Koshun District.

Type, allotype, and paratypes in the Deutsches Entomologisches Museum.

Paratype. Cat. No. 18903, U. S. National Museum.

Subfamily *Phymatocerinae*.

This subfamily is composed of that group of genera which has been considered to be allied to *Blennocampa*, etc., but differing from these in having the prepectus well defined.

Recently Enslin has divided *Tomostethus* into three subgenera. In the following synopsis these are considered as genera but as far as relationships and taxonomic value of characters are concerned it is probable that this subfamily is composed of the following four genera: *Neotomostethus* Mac Gillivray, *Phymatoceridea* Rohwer, *Phymatocera* Dahlbom (subgenera *Phymatocera* subsp. and *Phymatoceropsis*), and *Tomostethus* Konow (with the subgenera *Tomostethus* subsp., *Eutomostethus* Enslin and *Atomostethus* Enslin).

Table to the Genera.

Malar space distinct (third antennal joint longer than the fourth; claws with a tooth near base)

Neotomostethus Mac Gillivray.

Malar space greatly reduced, practically wanting 1

1. Antennae long, slender the third and fourth joints subequal . 2

Antennae short stout the third joint distinctly longer than the fourth 4

2. Pedicellum cylindrical, much longer than wide; pentagonal area obsolete; basal vein and first recurrent subequal in length and nearly parallel; third abscissa of the cubitus much shorter than first and second combined; claws cleft; clypeus deeply emarginate *Phymatoceridea* Rohwer.

Pedicellum wider than long; pentagonal area present; first recurrent shorter than basal vein, the two veins being subparallel; third abscissa of the cubitus longer than first and second combined 3

3. Hind wings with a discal cell; claws cleft; clypeus truncate

Phymatocera Dahlbom.

Hind wings without a discal cell; claws with an inner tooth; clypeus slightly emarginate . . . *Phymatoceropsis* Rohwer.

4. Hind wings without a discal cell (basal and first recurrent veins subequal in length and parallel); claws simple or with a median tooth; pentagonal area variable

Atomostethus Enslin.

Hind wings with a large discal cell 5

5. Basal vein longer than first recurrent vein and subparallel with it *Tomostethus* Konow.

Basal vein and first recurrent vein subequal in length and parallel
Eutomostethus Enslin.

Phymatoceridea, new genus.

This genus may be readily separated from the other genera in this subfamily by the foregoing table.

Inner margin of the eyes slightly converging below; posterior orbits very narrow, without a carina; posterior basitarsus but little shorter than the following joints; face at the antennae not as broad as the dorsad-ventrad diameter of the eye.

Type. *Ph. formosana* new species.

Ph. formosana, new species.

Female. Length 4.5 mm. Clypeus strongly convex; supraclypeal foveae deep, punctiform; supraclypeal area rectangular in outline, strongly convex; median fovea represented by two small punctiform depressions above which is a slightly larger elongate depression which is parallel to the deep punctiform antennal foveae; frons punctured and convex; anterior ocellus in a depression; vertex and posterior orbits shining, impunctate; postocellar line distinctly longer than the ocellocular line; postocellar area defined laterally, strongly convex; antennae filiform, the third and fourth joints subequal, the fifth slightly shorter; thorax shining, impunctate; sheath straight above, truncate apically, oblique below; stigma robust, rounded below; transverse radius strongly curved and joining the radius slightly beyond the middle of the third cubital cell. Black; scape, pedicellum, palpi, pectus, and legs except the apices of the posterior tibiae, yellowish white; head and thorax with short gray hair; wings dusky hyaline, venation dark brown; lower half of the stigma pale brown.

Male. Length 3 mm. Hypopygium narrowly rounded. Agrees with the female in structure and color.

Kankau, Formosa. Described from six females (one, type), and three males (one, allotype) and from four female paratypes and three male paratypes from Suisharyo, Formosa. Specimens collected in February, May, July and August.

Type, allotype and paratypes in the Deutsches Entomologisches Museum.

Paratypes in the U. S. National Museum.

Phymatoceropsis, new genus.

This genus is closely allied to *Phymatocera* Dahlbom, but may be distinguished from that genus by the characters given in the above table.

Inner margins of the eyes nearly parallel; face at the antennae almost twice as broad as the dorsad-ventrad diameter of the eye; posterior orbits broad, with a short carina below.

Type. *Ph. fulvocincta* new species.

Ph. fulvocincta, new species.

Female. Length 8 mm.; length of the antennae 4,5 mm. Anterior margin of the labrum broadly rounded; clypeus flat, the extreme apical margin slightly depressed, the surface shining with a few poorly defined punctures; supraclypeal area triangular in outline, flat above and below, convex medially; supraclypeal foveae large, deep, connected with the antennal foveae; median fovea deep, triangular in outline; antennal foveae above elongate, well defined; postocellar area convex, completely defined; postocellar line half as long as the ocellular line; entire head shining, practically impunctate; thorax shining, impunctate, stigma broad, angulate near base, gradually tapering to the apex; transverse radius straight, joining the radius well beyond the middle; tarsal claws with an inner tooth; sheath straight above, rounded apically, straight below. Black; clypeus, labrum, mandibles except apices, supraclypeal area below, palpi, posterior margin of the pronotum, tegulae, the second to fourth segments of abdomen and the ventral and apical sternites, fulvo-ferruginous; legs fulvo-ferruginous; posterior tibiae except base and the entire tarsi brownish; head and thorax with short white hair; wings hyaline, iridescent, venation black.

Male. Length 7,5 mm.; length of the antennae 4 mm. Hypopygium obtusely pointed; differs from the above description of the female in having the abdominal segments 2—5 rufo-ferruginous and in having the apical sternites black.

Taihorin, Formosa. Described from six females (one, type) and seven males (one, allotype) collected in April, May, November and December by H. Sauter.

Type, Allotype, and Paratypes in the Deutsches Entomologisches Museum.

Paratypes in the U. S. National Museum.

Genus *Atomostethus* Enslin.

Atomostethus insularis, new species.

This species would fall, in Enslin's table, in with *laticarinatus* but may be readily separated from that species by the obsolete pentagonal area and by having the antennae clothed with white hair.

Female. Length 6 mm. Clypeus convex, truncate apically; supraclypeal area flat; supraclypeal foveae deep, obscurely connected with the antennal foveae; antennal foveae deep, well defined above; median fovea elongate deep; antennal furrows interrupted at crest, otherwise deep and well defined; anterior ocellus in a triangularly shaped depression; postocellar area well defined; postocellar line but slightly shorter than the ocellocular line; third antennal joint but little shorter than the third and fourth; head and thorax shining; stigma broad, nearly parallel-sided, the apex broadly truncate; third abscissa of the radius longer than the first and second combined; the third abscissa of the cubitus slightly longer than the first and second combined; the second recurrent received the length of the second transverse cubitus from the base of the cell; claws cleft; sheath broad, obliquely truncate apically, rounded below; head, antennae, thorax and legs densely clothed with long white hair. Black; thorax except the mesepisternum rufous; legs testaceous; a spot on the anterior coxae beneath, the four anterior femora medianly, the tibiae apically and all of the tarsi brownish to brownish black; wings dusky hyaline; venation dark brown.

Taihorin, Formosa. Described from two females, the type collected November 7, 1911 and paratype, May, 1910, by H. Sauter.

Type in the Deutsches Entomologisches Museum.

Paratype in the U. S. National Museum.

Genus *Tomostethus* Konow.

Tomostethus maurus, new species.

This species is very like the European *nigrata* but the antennae are more robust and also slightly longer.

Female. Length 9 mm. Anterior margin of the labrum and pedicel rounded; clypeus convex; supraclypeal foveae narrow, poorly defined; supraclypeal area triangular in outline and much depressed; median fovea deep, walls sloping, transverse; antennal foveae well defined, opposite the median fovea; pentagonal area indicated only above the anterior ocellus; frons with distinct separated punctures; vertex and posterior orbits nearly impunctate; postocellar area sharply defined; postocellar line one-fourth shorter than the ocellocular line; antennae robust, fourth and fifth joints subequal; thorax shining, highly polished; tarsal claws cleft; stigma broad, rounded below, truncate apically; the transverse radius received at the apical fourth of the cubital cells; sheath straight above, rounded apically, oblique below. Black; posterior trochanters white; entire body and legs with rather dense gray hair; wings strongly brownish, venation dark brown to black.

Male. Length 8 mm. Hypopygium broadly rounded. Agrees with the female in all characters except the tarsi are slightly brownish.

Taihorin, Formosa. Described from nine females (one, type) and four males (one, allotype). Paratypes also from Kankau and Koshun District. All specimens collected by H. Sauter.

Type, Allotype and Paratypes in the Deutsches Entomologisches Museum.

Paratypes in the U. S. National Museum.

Genus *Eutomostethus* Enslin.

Eutomostethus formosanus (Enslin).

Male and female from Suisharyo, October, 1911 and one female from Taihoku, April, 1912.

Subfamily *Cladiinae*.

Genus *Cladius* Rossi.

Cladius nigricans Cameron.

One female and three males from Taihorin, Formosa, collected May 10, and September 7, 1911.

Subfamily *Nematinae*.

Moricella, new genus.

This new genus belongs to the tribe Nematini and will fall in Konow's table to the genera (Gen. Ins., fasc. 25, 1905, p. 45) in with *Dineura* from which it may be readily separated by the almost complete absence of the malar space.

Robust, with a habitus similar to the genera common to the *Hemichorini*; malar space line-like; clypeus truncate with a slight median depression; pentagonal area obsolete and very poorly defined; posterior orbits narrow; third antennal joint very slightly longer than the fourth; claws cleft; posterior basitarsus about as long as the two following; venation as in *Dineura*; sheath robust, hardly exserted; prodecentia much reduced.

Type. *Moricella rufonota*, new species.

M. rufonota, new species.

Female. Length 7 mm.; length of the antennae 4,5 mm. Median depression of the clypeus very narrow, U-shaped; supraclypeal area rectangular in outline strongly uniformly convex; supraclypeal foveae deep, punctiform; middle fovea elongate; antennal furrows obsolete; an elongate fovea in front of the anterior ocellus; postocellar area well defined, about three times as wide as the cephalo-caudad length,

slightly wider posteriorly; antennae strongly tapering; stigma angulate at about the middle, sharply oblique beyond transverse radius; second cubital cell about one-third longer than the third on the radius; the second recurrent joining the second cubital about the same distance from the second transverse cubitus as the transverse radius joins the radius beyond the second transverse cubitus; upper discal cell in the hind wings exceeding the lower. Black; pronotum, tegulae, prescutum, scutum, scutellum and the upper part of the mesepisternum rufous; legs black; trochanters, apices of coxae, the four anterior tibiae and tarsi, posterior tibiae except the apices and the base of the posterior basitarsus, white; wings dusky hyaline, iridescent; venation dark brown.

Male. Length 6 mm.; length of the antennae 4.25 mm. Agrees well with the above description of the female except the posterior tibiae are more dusky and the posterior tarsi are entirely black; apical tergite with strong oblique furrows which approximate each other at the base leaving a triangular, carinate area which is tipped by the small produced prodecentia; hypopygium broad, truncate apically and with the apical sides strongly oblique.

Paratype female differs from the type only in having the walls of the pentagonal area faintly indicated.

Formosa: Type female, Kankau, July, 1912; paratype female, Anping, May, 1910; allotype male, Sokutsu and Banshoryo District, July 7, 1912.

Type (Female) and Allotype (Male). Deutsches Entomologisches Museum.

Paratype (Female). Cat. No. 18811, U. S. National Museum.

Genus *Pristiphora* Latreille.

Pristiphora formosana, new species.

Female. Length 5 mm. Clypeus truncate; supraclypeal area flat; supraclypeal foveae deep, punctiform, not connected with the antennal foveae; middle fovea reduced to a small point; pentagonal area entirely obsolete; postocellar area very narrow, not much longer than the width of the lateral ocellus; a faint furrow from the anterior ocellus to the postocellar furrow; postocellar line distinctly longer than the ocellocular line; front shining, with distinct punctures; vertex and posterior orbits impunctate; antennae tapering, the third joint one-fifth longer than the fourth; thorax shining, practically impunctate; stigma gently rounded below, broadest near middle; third cubital cell one-fourth longer than its apical width which is twice as great

as its basal width; upper discal cell on the hind wings much exceeding the lower; sheath straight above, pointed at apex, strongly oblique beneath. Black; mandibles piceous; of abdomen fulvous; legs fulvous except the apices of the intermediate tibiae, the apical joints of the intermediate tarsi, the bases of the hind tibiae and the posterior tarsi which are dusky; wings dusky hyaline; venation brown.

Taihorin, Formosa. Described from one female (type) collected November 7, 1911, and one female (paratype) collected December 7, 1911.

Type. Deutsches Entomologisches Museum.

Paratype. Cat. No. 18812, U. S. National Museum.

P. sauteri, new species.

This species is readily separated from *formosana* by the pale pronotum.

Female. Length 4.5 mm. Clypeus truncate; supraclypeal area with a strong longitudinal carina; supraclypeal foveae deep, elongate, connect with the antennal foveae; middle fovea shallow, oval in outline; pentagonal area completely wanting; anterior ocellus in a faint depression; postocellar area very poorly defined, some what longer than the length of the intraocellar line; behind each lateral ocellus is a transverse deep fovea; postocellar line distinctly longer than the ocellocular line; head shining, almost impunctate; antennae slightly tapering, the third joint slightly longer than the fourth; stigma rounded below, broader near base; third cubital cell one and one-fifth times longer than its apical width which is twice as great as its basal width; sheath straight above, acute at apex, tapering to the broad base. Black; labrum, mandibles except apices, pronotum, tegulae, legs except a small spot, the dorsal apices of the posterior femora, the apices of the posterior tibiae and the posterior tarsi which are black, pallid; antennae pale beneath except for the apical four joints; venter and sides of tergites fulvous; head and thorax densely clothed with short gray hair; wings hyaline, iridescent; venation dark brown.

Suisharyo, Formosa. Described from one female collected October, 1911, by H. Sauter.

Type. Deutsches Entomologisches Museum.