

scheinlich die Bedeutung eines Schlüssels zugesprochen werden kann.

Tierische oder pilzliche Parasiten der Rübenwanze oder ihrer Entwicklungsstadien wurden auch vom Verfasser nicht gefunden, dagegen konnten Spinnen als räuberische Feinde der Larven und Volltiere nachgewiesen werden.

Piesma quadrata lebt und brütet auch in ihrem Massenverbreitungs- und Schadgebiet an wildwachsenden *Chenopodiaceen*, besonders an *Chenopodium glaucum* und *Chenopodium album*. Es wurden im geschlossenen Bestande von *Chenopodium glaucum* auf nur 1 qdem bis 98 Rübenwanzen gezählt und mehr als 1500 Eier, Larven und Wanzen zusammen.

Versuche ergaben, daß sich unter den an Melden brütenden Altwanzen Virusträger befinden. Das Virus scheint aber in diesen Pflanzen zugrunde zu gehen, denn sie zeigten keine typischen Krankheitsmerkmale. Auch mit dem Preßsaft dieser Pflanzen gelang keine Infektion. Desgleichen konnte die Krankheit durch an *Chenopodium glaucum* herangewachsene Jungwanzen nicht an Rübe hervorgerufen werden.

Die an Rübe und an *Chenopodium glaucum* herangewachsenen Wanzen zeigen geringe Unterschiede in der Größe. Es liegt aber nach den bisherigen Befunden keine Veranlassung vor, eine Trennung nach Rassen vorzunehmen.

Observations and Comments on the *Trypetidae* (Dipt.) of Formosa.

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(With 1 Text-Figure.)

(Finis.)

Pseudosphenicus alboscuteclatus v. d. Wulp. [171].

A ♂ from Toa Tsui Kutsu, V. 1914, agrees with Shiraki's notes and with the figure given by Bezzi (1913, Pl. X, Fig. 49).

Phagocarpus Rond. and *Neanomoea* Hend.

Hendel, 1914, p. 84, and 1915, p. 454; Shiraki, pp. 177 and 182.

An examination of available data on *Neanomoea* and its genotype *N. approximata* Hend. makes it somewhat difficult to understand what are the differences between *Neanomoea* and *Phagocarpus*. Points of difference used are as follows:

Phagocarpus

Neanomoea

The upper edge of discal cell not longer than the second basal.	Upper edge of discal cell longer than second basal.
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The lower cross-vein very oblique, Lower cross-vein not markedly oblique.
forming an angle of about 45° with the fifth vein.

The end of the sub-costa (1st vein) makes a wide curve and ends in the costa at almost a right angle. (The outer end of the stigma is thus broadly rounded.)

The end of the sub-costa straight and forming an acute angle with the costa. (The end of the stigma is thus pointed.)

Hendel refers to the comparative lengths of the upper edge of the discal cell in his tables of the genera of the *Trypetidae* (1914, p. 84), but a comparison of this length with the total length of the second basal cell in the figure of *P. permundus* Harr.¹⁾ given by Hendel (1927, Taf. V, F. 4) and by Bezzi of *P. inmsi* (1913, Pl. X, Fig. 72) shows that the upper edge of the discal cell is about one-fifth the longer.

The lower angle of the discal cell in the species placed in *Phagocarpus* varies from about 45° to 60° , and in *Neanomoea approximata* it is also about 60° . In *N. farinosa* Hend. and in *N. rufescens* Hend., however, it is nearer a right angle.

The last character, namely the manner in which the first vein meets the costa is one that may be of some importance. It is used by Shiraki in his tables, the stigma in *Phagocarpus* being bluntly rounded at the end, in *Neanomoea* acute. It is to be regretted that the details in the figure of the wing of *Neanomoea approximata* given by Hendel (1915, Tab. VIII, F. 9) are not at all clear. However, it seems to me that the best that can be made out is that the end of the first vein curves broadly round to meet the costa at a right angle. If this is the case, then there seems to be no reason for not placing *approximata* in *Phagocarpus*, *Neanomoea* thus becoming a synonym. A new genus could perhaps be erected for *farinosa* and *rufescens*, and it would be characterised as in Shiraki's diagnosis of *Neanomoea*, the chief characteristics being the acute stigma and the lower angle of the discal cell almost a right angle. At the same time it does not seem advisable to do so yet, especially in view of the following new species in which the outer end of the stigma is rounded as in *Phagocarpus* and the lower angle of the discal cell a right angle.

***Neanomoea nummi* n. sp.**

There seems as much reason for placing this species in *Neanomoea* as in *Phagocarpus*. It is a small species and agrees closely with Shiraki's diagnosis of *Neanomoea*, the chief difference being the rounded end of

¹⁾ Writers in England have lately been using the name *Anomoea antica* Wied. for this species.

the stigma. It seems nearest to *N. farinosa* Hend. from which it differs, in addition to the smaller size, in the somewhat different appearance of the base of the wing-pattern and the extra, oblique, disconnected streak across the outer end of the first posterior cell.

Type, ♂, Toa Tsui Kutsu, V. 1914.

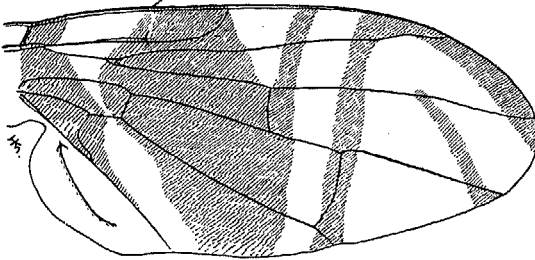


Fig. 1. *Neanomoea nummi* n. sp. Wing.

Length 2.5 mm, of wing 2.6 mm. Frons reddish, two superior and two inferior orbital bristles, the head otherwise brownish, the antennae and palpi paler. Thorax blackish, black pubescence and slight dust on dorsum, stripes being barely perceptible; the humeri are paler, but not the pleura, which, also, have no stripe; bristles normal; scutellum rather paler than mesonotum, the basal bristles are nearly three times as long as the rather short, decussate apicals. Halteres black. Legs: femora rather lighter than thorax, tibiae and tarsi yellowish, but proximal ends of tibiae brownish. Wing (fig. 1): third vein sparsely bristly to upper cross-vein. Abdomen shining black, with black pubescence. Venter and genitalia black.

Machaomyia Hend. [192].

This genus seems very closely allied to both *Myiobia* and *Vidalia*. The genotype, *M. caudata* Hend. agrees closely with Hendel's diagnosis of *Myiobia*; it may however be distinguished by two characters of some possible value, the short ocellar bristles and the end of the fourth vein strongly curved upward. The propleural bristles are not any less nor more developed than in species of *Myiobia*, the overlooking of which fact rather obscures their relationship in Shiraki's tables. The lower cross-vein is barely S-shaped, being rather outwardly curved, the lower end straightening out to meet the fifth vein so that the lower angle of the discal cell is rather more than a right angle. Shiraki refers to a „vein“ down the middle of the third posterior cell; this is merely a strong fold in the membrane, without any signs of thickening, but which usually, in a dorsal view, appears as a „vein“ ending just before the third basal (anal) cell — not the second basal.

Machaomyia caudata Hend. [193].

There is a large series of 57 ♂♂ labelled „Formosa, H. Sauter“ ex coll. Oldenberg.

With this large series it is possible to make some notes on the variation in the wing-pattern. The costal indentations both usually reach the third vein; the outer tends to be shorter, and in one specimen only reaches the second vein. The spot in the middle of the first posterior cell, just beyond the lower cross-vein, is small or just visible in 14 specimens, and in two there is a spot before the lower cross-vein. The lower spot at the outer end of the discal cell is usually broadly joined to that at the outer end of the third posterior cell; it tends to become isolated, and in one specimen is quite so, when, too, that in the third posterior cell is absent.

It is interesting to note that all the specimens are males; very probably the female does not possess the curious point on the hind margin of the wing, and it may be suggested that it has been described already as a species of *Acidiella*.

Prospilocosmia octavia n. sp.

Type, a ♂, Taihoku, 7. X. 12.

Very like *Prospilocosmia punctata* Shir. [214] of which it may perhaps be better regarded as a variety. It agrees closely with the description of *punctata*. The following points may be noted: The head is like that of *punctata*, but the third antennal joint is rather longer and on its outer third distinctly narrowed, and barely reaches the epistome; the ocellar bristles are rather smaller than the upper superior orbital, and there is a single, normal genal; the face is weakly shining, the genae more strongly so. The pubescence on the dorsum of the thorax is black (its colour not being stated for *punctata*); there are only eight black spots, the pair on the scapular bristles being absent. There is only a trace of a lateral streak on the edges of the abdominal tergites, and none on the sternites; there is a moderately large, round, black spot on each hind corner of the fifth tergite. The wing-pattern is similar, the two middle brown bands rather wider and the apical narrower and entire (apparently more as it is in the variety *kotoshoensis* Shir.). There is a moderate and a small costal bristle. The legs are apparently alike. The bristles of the thorax are normal: two mesopleurals, the dorso-centrals slightly behind the line of the anterior supra-alars, the propleurals very weak if they can be considered bristles at all, also, there is a sternopleural which is not mentioned for *punctata*.

Pseudacidia Shir. [218].

It seems rather extraordinary that this group should have been placed

as a subgenus of *Acidia*, particularly in view of the presence of the sternopleural bristle; further, it is very improbable that the species would run to *Acidia* in Shiraki's tables. It would have, been much better perhaps to have placed it under *Myiolia*, distinguished as stated by Shiraki, by the propleural bristles. In any case, the species described by Shiraki under *Pseudacidia* should be compared with known species of *Acidiella*, keeping in mind the somewhat unknown quantity, the propleural bristles. From Shiraki's figures, the position of the dorso-central bristles seems variable.

Pseudacidia hemileoides n. sp.

At first sight this species looks much like a *Hemilea*, as it has a similar, dimidiate wing-pattern, in which it differs from other species of *Pseudacidia* and *Myiolia*. The dorso-central bristles are behind the line of the anterior supra-alar, not before as in *Hemilea*.

The species runs readily to *Myiolia* in both Hendel's and Shiraki's tables; on the whole I would prefer to place it in *Acidiella*, but as the propleural bristles seem rather more strongly developed than in species of *Acidiella* known to me, it may be placed in *Pseudacidia*.

Type ♂, and 12 ♂ paratypes, Formosa, H. Sauter, ex coll. Oldenberg.

Length 3.2 mm, of wing 4.5 mm, head yellow, length seven-tenths height, width nearly one-fifth greater than height; occiput flat above, not very prominent below, bristles fine; frons: width about two-thirds length, slightly narrowed anteriorly, flat, yellow, with slight dark pubescence, ocellar dot black, two superior, three inferior orbitals, ocellars moderate; lunule small, whitish; antennae about three-fourths length of face, first joint with outer row of rather long bristle-hairs, second with black setulae, third darker yellow, about three times as long as wide, rather narrowed to broadly rounded apex; face flat with well-defined grooves, epistome not prominent; cheeks narrow, genae about one and a half times width of third antennal joint; proboscis short and broad; palpi moderately broadened on outer half, with some strong bristle-hairs. Thorax light yellowish brown, paler anteriorly and humeri whitish; very slight dust and black pubescence, except on disc of scutellum the latter flat and rather triangular; bristles normal, two mesopleurals, dorso-centrals half way between line of anterior supra-alars and scutellum; on the propleura are four strong bristle-hairs that may be taken as bristles—they are as strong as the scapulars but not much more so than hairs on the lower parts of the mesopleura. Legs as thorax, clothing black, front femora with a row of strong bristles antero-ventrally. Halteres yellow, knob blackish. Wing normal, third vein bristly to upper cross-vein which

is one and two-thirds its length from the lower; wing entirely brown, stigma darker brown, only the alula, axillary cell most of the lower third of the third posterior cell, a pair of moderate spots on margin of lower two-thirds of second posterior cell and one at lower half at end of first posterior cell, hyaline. Abdomen shining black, except yellowish on sides of first and second segments; pubescence black. Venter and genitalia yellowish.

Vidalia bidens Hend. [240].

Numerous specimens of both sexes, Formosa, Sauter, ex coll. Oldenberg.

In this species the ocellar bristles seem to be absent in the ♂, minute in the female.

Vidalia bidens Hend. var.

A single small male among the last series of specimens is one that I feel I can only assign to this species as an unnamed variety. It is barely half the normal size, rather paler coloured, but otherwise like normal specimens, except that, being a male, it is abnormal in that the conspicuous keels on the sides of the head are not developed and the bristles are normal. The frons is distinctly hollowed, but barely raised on the sides as flattish, rough-looking ridges. Shiraki states that the keels are „rarely not prominent“, but does not say to what degree.

Myiobia Rond. [247].

It has seemed preferable to retain the name *Myiobia* here, but I do not see that there is any reason for not reverting to the use of the name *Euleia* Walk. as shown by Bates (1934, p. 50).

Myiobia (Acidiella) longipennis Hend. [253].

There are 11 specimens of this species, Formosa, Sauter, ex coll. Oldenberg.

They agree closely with Shiraki's description, but he makes no mention of the curious black integumentary spots in various parts of the body. Also, in the males the fifth segment of the abdomen is usually quite shining black, rarely divided narrowly in the median line, and the fourth segment broadly black on the sides. In the single female, the fourth segment is almost entirely black, only slightly yellowish in the middle, the fifth more broadly yellow in the middle, and the sixth only moderately black on the sides.

Myiobia (Acidiella) rectangularis n. sp.

A rather small species that would seem to come close to *kagoshimensis* Miy. in Shiraki's tables on account of the more obtuse lower

outer angle of the discal cell. It is, however, much more like *longipennis* Hend. and agrees almost word for word with the description of this species given by Shiraki. There are the following differences: It is a smaller species, length 4.5 mm, of wing 4.7 mm (in *longipennis* the length is 5.0 mm, of wing 6.0 mm), thus too the wing is relatively shorter. On the wing there is a faint spot in the middle of the outer costal cell on the costa, and a stronger infuscation on the humeral cross-vein. The outer indentation on the costa just reaches the third vein in one specimen, barely in the other two; there is only a rather short hyaline spot at the base of the discal cell and its outer lower angle is about a right angle. The upper cross-vein is nearer the middle of the discal cell (as in *longipennis*). The base of the abdomen is yellowish, the third fourth and fifth tergites shining black.

Type ♂ and two ♂ paratypes, Formosa, Sauter, ex. coll. Oldenberg.

Acanthoneura formosana End. [294].

A ♀ from Toa Tsui Kutsu, v. 1914, belongs to this species and I have two other specimens kindly sent me by Dr. Horn.

There has been some confusion in the identification of this species, particularly with regard to the presence of bristles on the fifth vein. In their earlier tables both Bezzi and Hendel state that it is bristly, but Hendel (1927, p. 57) corrects this. In the present specimens the fifth vein is bare.

Diarrhagma unicolor Shir. [303].

A ♂ and 2 ♀♀ from Toa Tsui Kutsu, v. 1914, agree with Shiraki's description and figures.

Phorelliosoma hexachaeta Hend. [313].

I have seen a ♀ from Hoozan, determined by Hendel. The third vein has a few setulae at the base, and, on one wing, a single setula near the upper cross-vein.

Hexacimia palpata Hend. [319].

A ♂, Formosa, Sauter, ex coll. Oldenberg.

In this specimen the abdomen has a peculiarly mottled yellow and black appearance.

Ptilona nigriventris Bez. [325].

There are several specimens of both sexes from Kanshirei (1908) and from Toa Tsui Kutsu (1914); about half of them show some variation in the wing-pattern. There may be, across the end of the discal cell an elongate hyaline stripe or double spot instead of the small oval spot;

the spot above it in the first posterior cell may also be elongated vertically; a paler spot tends to form at the lower end of the third posterior cell.

Euphranta chrysopila Hend. [334].

I have seen a male from Kosempo determined by Hendel.

Spheniscomyia atilia (Walk.) [354].

Walker, 1849, p. 1021 (*Trypeta*); Hendel, 1931, p. 5 (*Spheniscomyia*).

Syn. *Spheniscomyia sexmaculata* Bezzi (nec Macquart) 1913, p. 148, Pl. X, fig. 53; Shiraki (nec Macquart) 1933, p. 354.

After comparison of this material (Taihoku, Maruyama, Polisha and Tainan) with specimens from Africa, it is certainly apparent that two distinct species can be recognised as shown by Hendel (l. c.). This would apply at any rate as far as the species in Formosa is concerned: it is to be regretted that although Shiraki quotes Hendel's paper noted above, he does not seem to have seen it as he makes no mention in his monograph of the fact that two species may be under consideration. Therefore, unless it should happen that both actually occur in Formosa, I think that Shiraki's *Spheniscomyia sexmaculata* must be *atilia* Walk. As I have not seen specimens from other parts of the Oriental Region, I would not like to make too definite a statement as to which species occurs in India and other areas. The figure of the wing given by Bezzi is more like that of African specimens, but nothing is said about the appearance of the dorsum of the thorax; however, it seems fairly sure, as indicated by Hendel in his list of synonyms, that the oriental species is *atilia*. At the same time it would be very interesting to learn the limits of the two species between the Orient and Africa. One might be inclined to think that the specimens recorded from Southern Arabia are the African species; those I have from Mauritius certainly are.

The difference in the appearance of the dorsum of the thorax is quite striking, and it may be noted that in both species there are a few setulae on the third vein, a few at the base and three or four over the first posterior cell.

Oxyaciura formosae (Hend.) [360].

There is a ♀ from Maruyama, vi. 1914.

This species was placed in *Oxyaciura* by Shiraki and may be left there till a more detailed study of this difficult group of *Trypetidae* can be made. The ocellar bristles seem to be larger than is the case in *tibialis* Rob. Desv.; the head is shorter, the occiput being flatter and the lower swellings much less. The sparse pubescence on the frons is thick, whitish. The stigma seems shorter than in *tibialis*.

Okuniomyia bimaculicosta Shir. [363].

This is certainly an Otitid (Ortalid) as suggested by Shiraki.

Euribia (Asimoneura) shirakii n. sp.

This species differs from others described from Formosa in having the wings quite hyaline: it also has a more elongate head and short face. It would seem better placed in the sub-genus *Asimoneura* than in the genus *Myiopites* as the end of the first posterior cell is not narrowed.

Type, a ♀, Anping, X. 1912.

Length 2.9 mm, of wing 2.4 mm. Head yellow, the width is about one-sixth greater than the length, the height at the vertex is equal to the length, but at the face only half the length; occiput flat, blackish, yellow on periphery, bristles small, thin, black; frons, length about one and a half times width at vertex, somewhat narrowed anteriorly, flat (rather hollow in specimen, but this is probably due to shrinkage), bristles black, two moderate inferior orbitals, and a smaller superior, ocellars about as strong as the inferior orbitals, and the post-verticals about one-third this size; lunule moderate; antennae short, three-fourths length of face, third joint rounded-oval, arista brown, bare; face narrow, short, epistome slightly prominent; cheeks wide, one and a half times width of third antennal joint, genae about as wide as this joint; oral opening elongate; eyes almost circular in profile, the hind margin straighter; palpi short, narrow, not quite linear; proboscis elongate, needle-like, the base slightly longer than the lower margin of the head, the labellae a little shorter. Thorax black with thick, dark grey dust and brownish-black pubescence; humeri, propleura, mesopleura and bases of wings yellowish. Scutellum convex above, with more bronzy-brown dust; four bristles of equal length, about half the width of base of scutellum; dorso-central bristles about half way between anterior supra-alars and scutellum, one mesopleural; median plate of post-scutellum rather shining black with greyish dust. Legs and halteres yellow. Wing hyaline, veins yellow; outer edge of anal cell rounded; upper cross-vein at middle of discal cell; outer end of first posterior cell widened somewhat; third vein bare. Abdomen: tergites yellow with sparse black pubescence, each segment two to six with a pair of large, sub-median, reddish-brown spots, less distinct on second, smaller and more on the anterior edge on sixth, which is about one-fifth longer than the fifth; sternites yellow; membranes largely reddish brown to black on top edges; base of ovipositor 0.8 mm, about as long as last four tergites, legging-shaped, apex rather wide, black with black pubescence above and at apex, reddish-brown below.

Tephritinae [374].*Platensina platyptera* Hend. [391].

Three specimens from Toa Tsui Kutsu, v. 1914, and one from Taihoku.

There are a few setulae at the base of the third vein and three or four above the first posterior cell.

Elaphromyia Bigot [393].

The genotype of this genus is the African species *adatha* Walk. of which *ulula* Lw. is a synonym. Six species have been described, two from Africa and four from the oriental region. They all appear to be very like one another, but fall into two groups, those with black and those with yellowish pubescence on the dorsum of the thorax. Those in which it is black are *adatha* Walk. and the two Formosan species described by Shiraki, *multisetosa* and *incompleta*; those with yellow pubescence are *pterocallaeformis* Bez., *siva* Frey, and the African *pallida* Bez. It may be remarked here that while Bezzi (1913, p. 155) states that the pubescence in *pterocallaeformis* is „pale“, Shiraki says it is black. Assuming that Bezzi is correct, then the species recorded by Shiraki as *pterocallaeformis* cannot be this species.

In the absence of a series of specimens, it is almost impossible to decide what are the distinctions of the various „species“. The sub-hyaline, and particularly the more hyaline, spots along the marginal cell seem very variable — they are in *adatha* — and cannot be accepted as of any particular value. There are black spots on the apical abdominal segments of the last-named species. In *pterocallaeformis* Bezzi states there are four, but I have seen specimens in the Indian Museum, recorded as *pterocallaeformis* var., in which there are six, and in a specimen from Formosa before me, there are also six.

Elaphromyia pterocallaeformis Bez. var. indet.

In view of what has been said, it seems advisable not to name a single female from Maruyama, iv. 1914, but to regard it merely as a variety of *pterocallaeformis*. As indicated, it differs from the Formosan species recorded by Shiraki in having the pubescence on the dorsum of the thorax yellowish.

Sphenella indica Schin. [402].

There are eleven specimens that may be regarded as this species from Taihoku, Hokuto and Maruyama, 1912.

It is curious that Schiner's *Sphenella sinensis* has not been again recorded since the original description. The single type of this is a female, and of *indica* a male, and it may perhaps be suggested that they be-

long to the same species. It may be noted, however, that none of the three females I have examined could be considered as being definitely *sinensis*. All the specimens in the series differ from the description of *sinensis* in having the scutellum yellow and a definite spot on the fifth vein at the middle of the discal cell. This spot is variable, however: rarely quite large, at times small. The amount of yellow on the abdomen is also variable; it may be almost absent, except at the tip, or moderately extensive on the hind margins of the segments.

Paroxyna Hend. [404].

The genus *Paroxyna* Hend. is one that still requires much study, both as regards the species that have been included in it as well as those that should be. The Formosan species that I am able to recognise may be distinguished by the following table:

- | | | |
|---------|--|-------------------------------------|
| 1 (2) | Both superior orbital bristles black. | <i>arisanica</i> Shir. |
| 2 (1) | The upper superior orbital white | |
| 3 (4) | Head elongate; two scutellar bristles. | <i>sororcula</i> (Wd.) |
| 4 (3) | Head of more normal shape; four scutellar bristles even if the apicals are very small | |
| 5 (6) | Eyes relatively small, the cheeks and genae wide, former as wide as third antennal joint; spots below end of second vein separate | <i>loewiana</i> Hend. ¹⁾ |
| 6 (5) | Eyes relatively larger, cheeks and genae narrow | |
| 7 (10) | Wing-pattern with well-defined, rather small, hyaline spots, below the end of the second vein two separate spots, one below the other | |
| 8 (9) | Legs yellow | <i>punctata</i> (Shir.) |
| 9 (8) | Femora black | <i>aeneostriata</i> n. sp. |
| 10 (7) | Wing-pattern rather more diffuse, spots below end of second vein fused, at times forming one, large, rounded spot, rarely separated, and rarely with a slight extra spot at end of sub-marginal cell | |
| 11 (12) | Femora yellow | <i>absinthii</i> (Fabr.) |
| 12 (11) | Femora black or mainly black | |
| 13 (14) | Stigma black | <i>ignobilis</i> (Lw.) |
| 14 (13) | Stigma with a hyaline spot | <i>ignobilis plebeja</i> (Bez.) |

Paroxyna sororcula (Wd.) [462].

There are numerous specimens of both sexes from various localities: Maruyama, Hoozan, Tainan, Pilam, Hokuto, Taihoku, Olaseki and Anping.

¹⁾ Only recorded from „Japan“.

I cannot agree that this is an *Ensina* as stated by Shiraki: it is merely a *Paroxyna* with a long head.

Paroxyna punctata (Shir.) [424 — *Tephritis*].

It is perhaps better to place this species in *Paroxyna* rather than in *Tephritis*. The chief difficulty is the length of the labellae. This is not definitely stated by Shiraki, but it is implied, under the definition of *Tephritis*, that the labellae are short and broad. However, in view of the close similarity between this and the following new species, which may only be a dark form of it, and in which the labellae are nearly as long as the mouth cavity, it may well be assumed that they are of equal length in this case. Shiraki's statement that the „cheeks“ that is, the genae, are one fourth the height of the eye does not seem to agree with the figure of the head given by him.

Paroxyna aeneostriata n. sp.

Much like *P. punctata* but with black femora, the two specimens also resemble the South African *P. ignobilis* (Lw.), but the labellae seem to be shorter, and there are three, small, well-defined, hyaline spots at the outer end of the sub-marginal cell, the two immediately below the tip of the second vein being well separated. The wing-pattern is rather like that of *P. loewiana* Hend. but the hyaline spots are smaller.

Type ♂, and one ♂ paratype, Hokuto, XII. 1912.

Length 3.2 mm, of wing 3.6 mm. Head and appendages normal, yellow, only upper two-thirds of occiput and the ocellar dot black; frons deep yellow with wide, whitish orbits, and a barely, if at all perceptible, median whitish stripe; bristles black, the occipital row and the upper superior orbital, white, two inferior orbitals; lunule moderate; antennae a little shorter than face, third joint rounded-oval; face concave, epistome not very prominent; eyes rather large in profile, so that cheeks almost linear and genae about two-thirds width of third antennal joint (that is, much narrower than in *P. loewiana*); palpi and proboscis normal, labellae shorter than in *P. loewiana*. Thorax black, humeri to wing-base barely brownish, grey dust and white pubescence; on front two-thirds of dorsum a median, dorso-central and lateral bronzy stripes; the appearance of the hind third of the dorsum varies somewhat according to the light, at times it seems to be almost entirely blackish-bronzy due to an apparent union of the anterior bronzy stripes, but actually it appears that the median anterior stripe ends and leaves a grey stripe between the broadened ends of the dorso-central stripes on the hind third of the dorsum; the lateral stripes end about the suture, their hind ends sometimes appearing bifurcate. The stripes are not quite so strongly marked on the paratype. The scutellum is blackish-bronzy, with the apex broadly yellowish, and

almost without pubescence. The bristles are normal, black, only the pteropleural white; the dorso-centrals are on the suture; the apical scutellars are a little more than one-third the length of the basals. Halteres yellowish. Legs yellow, femora black except on their distal fifth more or less. The wing-pattern is almost identical with the figure of that of *punctata* given by Shiraki; the main difference is in the discal cell, in which the spots on the basal half are more confluent, and there is a pair of moderate spots in line with the upper cross-vein. In the paratype the spot at the base of the sub-marginal cell before the upper cross-vein is moderate, in the type there is a pair of smaller spots. On the abdomen the usual pairs of spots are large and bronzy, covering the whole length of the segment and extending somewhat laterally on the hind half of the second, third and fourth segments, leaving only a rather narrow, median stripe and the lateral margins grey tomentose; the fifth segment is mainly blackish-bronzy, with only a faint, median, greyish stripe. The pubescence is mostly whitish, there being a little scattered black. Venter and genitalia blackish.

Paroxyna absinthii Fabr.

A few specimens from Hokuto, XII. 1912, Paroe, N. Paiwan district, X. 1912, and Maruyama, XII. 1912, are similar to European specimens with the same tendency to variation in the wing-pattern.

Paroxyna ignobilis (Lw.).

Three males from Hokuto, XII. 1912, do not show any character by which I could consider them distinct from the South African species. There are slight differences in the wing-pattern; there is a more noticeable brown area over the outer end of the sub-marginal and middle of the first posterior cells below the end of the second vein, where in South African specimens it is usually more broken up by small hyaline spots. There is thus a fairly definite, but irregular bar more or less from the end of the second vein to the lower cross-vein. The stigma is quite black as in typical *ignobilis*. The abdomen in each of the specimens appears wider and more rounded, but this is because they have died with the lateral membranes much extended; usually they are retracted and the sides of the tergites rolled under, thus making the abdomen seem more narrow.

As far as palaeartic species are concerned, both these specimens and the two placed under *ignobilis plebeja* would seem to belong to undescribed species.

Paroxyna ignobilis (Lw.) var. *plebeja* (Bez.).

A ♂, Hokuto, XII. 1912 and a ♀ Maruyama, IV. 1914, are similar

to the three placed under *ignobilis* but have a more or less hyaline spot in the stigma as in South African specimens.

Tephritis Latr. [419].

In spite of the fact that if Hendel's tables and diagnoses are followed with care, there need be little difficulty in separating species of *Tephritis* and of *Paroxyna*, confusion does seem to arise. Shiraki places three species in *Tephritis*; of these *punctata* Shir. is better placed in *Paroxyna* for reasons already given. Hendel described his *formosella* as a *Euribia* and I am inclined to think that it should be placed in *Paroxyna* as well. The spots on the abdominal tergites are present, but what may be the crucial point, namely the length of the labellae, is difficult to determine: Hendel says „Rüssel mit kurzen, aber deutlich zurückgeschlagenen Labellen“. I have seen a specimen but unfortunately the head is missing. As far as one can judge, *impunctata* Shir. is a true *Tephritis*.

Spathulina acroleuca Schin. [431].

A few specimens of both sexes, Taihoku, 1912.

The synonymy of this species (*parca* Bez., *parceguttata* Beck., and *acrosticta* Bez.) given by Hendel (1927, p. 116) would seem to be correct. I have also a few specimens from Australia, Egypt and South Africa, but in the absence of good series from each locality one hesitates to make any definite statement as to the variations that occur in the wing-pattern. In the four Australian specimens, the hyaline marks seem to be larger than in any of the others; that at the tip of the wing is particularly so, and the spot at the end of the third vein is practically absent. The last-named spot is strong in all the other specimens (cf. Bezzi, 1928, p. 117) but tends to disappear in those from Formosa. In two Egyptian specimens the hyaline marks leave the impression of being narrower; also, the outer indentation in the second posterior cell crosses the third vein — this is shown in Hendel's figure (1927, Taf. VII, F. 3) but not in that of Efflatoun (1924, Pl. IV, F. 5). The hyaline spot in the lower, outer corner of the discal cell is variable: in the Australian specimens large, usually small and often isolated in the others, absent at times in some from Formosa. Shiraki may not have seen any African material: *acrosticta* is known only on a single female from Durban in the British Museum (Bezzi, 1918, p. 29) and according to Efflatoun (1924, p. 93) as *parceguttata* it does not appear to be common in Egypt. The appearance of the costa at the end of the auxiliary vein is the same in all specimens; it is slightly bent downwards there, but could hardly be called „incised“.

Protephritis sauteri (End.) [441].

I have seen a male from Kankau; it is labelled „*Tephritis sauteri* End., Hendel det.“.

Actinoptera shirakiana n. sp.

This species is closely allied to *Actinoptera discoidea* Fall. but differs in having a more restricted wing-pattern and the distance on the costa between the ends of the first and second veins nearly twice that between the second and third veins; it differs from *meigeni* Hend. and *tartarica* Hend. (Hendel, 1927, p. 162) in having only two inferior orbital bristles, as well as the more restricted wing-pattern. From the other Formosan species, *A. formosana* Shir. [p. 447] it differs in the longer base of the ovipositor and white, not black, pubescence on the dorsum of the thorax, and in the wing-pattern.

The following points may be noted:

The length is 2.4 mm, of the wing 2.7 mm. The third joints of both antennae are broken off. The wing is normal, rather more than the basal half, that is, to a line between the two cross-veins, is hyaline, there being only a faint, irregular, fuscous stripe from the end of the stigma over the upper cross-vein, more faintly over the middle of the discal and third posterior cells to the wing-margin; on the outer half of the wing the pattern is much as in *formosana*, but there is no spot at the end of the marginal cell, nor additional, small, hyaline spots on the apical black area; the spots in the second posterior cell are more or less fused. The legs are yellow, the hind femora brownish above and below. The pubescence on the abdominal tergites is also white; the base of the ovipositor shining black and about as long as the pre-abdomen.

Type, a ♀, Taihoku dist., Maruyama, 500 F. XI. 1912.

Ensina lacteipennis Hend. [465].

Three females and several males from various localities: Maruyama, Taihoku, Hokuto, Tappani and Tainan, 1909 to 1912.

This species may be accepted as an *Ensina* even in the very restricted sense used by Hendel. It seems to show, even more perhaps than *E. sonchi*, a transition towards the Euribiinae (sensu Hendel). It would, however, be excluded from there owing to the length of the sixth segment in the female abdomen, and the point to the anal cell.

The series of specimens examined shows a very reduced wing-pattern. The middle portion of the stigma is brownish, but the three spots along the costa are very pale and sometimes almost imperceptible, but both cross-veins are always darkened. On the second vein there is to be seen in some males a sort of knot at the point where the brown spot in the

middle of the marginal cell is; at this point there is a short peg in four males and in a fifth a partition is formed across the marginal cell, the end of which is thus the same shape, but larger than the stigma.

Rhabdochaeta asteria Hend. [486].

There are seven specimens from Taihoku, 1909 and 1912.

I am not able to understand why Shiraki says that the ♂ has six abdominal segments; as far as I can discover the fifth appears to be normal.

Rhabdochaeta centralis Hend. [489].

A ♂ Taihoku dist., Maruyama, 500 F. XII. 1912.

The fifth segment is shining black as stated by Hendel. Shiraki mentions the supernumerary bristles on the tergites of the abdomen, but not those on the dorsum of the thorax, of which there are a pair on the suture almost on the dorso-central line, a pair on the middle of the mesonotum and one before the scutellum. The apical white scutellars are upright and before the tip of the scutellum. The species is distinguished by the pre-sutural dorso-central bristles. It may be remarked also that both this and the following species, *R. formosana*, are much like the African species of *Rhochmopterum*.

Rhabdochaeta formosana Shir. [491].

A ♂, Maruyama, V. 1914.

The bristles of the scutellum in the specimen are rubbed off, but there seem to be the usual two pairs and two pairs of supernumeraries; the latter on the dorsum of the thorax are irregular in this specimen.

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Neue und weniger bekannte palaearktische Braconiden (Hym.).

Von N. A. Telenga, Leningrad.

Die vorliegende Arbeit ist das Resultat der Bestimmung einer kleinen Kollektion von Schlupfwespen der Familie *Braconidae* (83 Arten) aus dem Deutschen Entomologischen Institut, die mir von Dr. Hans Sachtleben übergeben wurde. Die Kollektion enthielt zwei neue Arten, die im folgenden beschrieben werden, und zwei weniger bekannte Arten, von denen eine ergänzende Beschreibung gegeben wird. Ein Teil der von mir bestimmten Braconiden stammte aus Zuchten. Diese Arten sind am Schluß meiner Arbeit unter Angabe der Wirte und sonstiger bei der Zucht gewonnener Daten aufgeführt.

1. *Macrocentrus gracilipes* sp. nov.

♂. Schwarz; Palpen, Mesonotum, Schildchen, Meso- und Metapleuren und Beine rot; Spitze der Hinterschienen schwarz. Fühler braun. Kopf quer, nach hinten stark verschmälert. Clypeus gewölbt, am Vorderrand abgerundet. Der Abstand zwischen Ocellen und den Netzaugen fast zweimal so lang wie der Durchmesser des Ocellus. Palpen bis zur Hüfte der Mittelbeine reichend. Kopf glatt. Mesonotum und Schildchen sparsam