

ZOOLOGISCHE MEDEDEELINGEN

UITGEGEVEN VANWEGE

's RIJKS MUSEUM VAN NATUURLIJKE HISTORIE

Deel I.	te LEIDEN	Aflevering 2.
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VII. — SOME JAVANESE HEMIPTERA COLLECTED BY E. JACOBSON AND TH. H. MAC GILLAVRY.

BY E. BERGROTH.

Mr. E. Jacobson has submitted to my examination the species of the families Aradidae, Henicocephalidae, Hydrometridae, Gerridae, and the subfamily Ploeariinae of the Reduviidae, collected in Java partly by himself, partly by Mr. Th. H. Mac Gillavry. A list of them is given below, with descriptions of a few unknown species. The name of the collector is indicated after the localities.

Fam. ARADIDAE.

1. *Artabanus bilobiceps* Leth.
Banjoewangi (Mc G.).
Not previously recorded from Java.
2. *Mezira membranacea* Fabr.
Banjoewangi and Tjinjiroean (Mc G.).
3. *Neuroctenus serrulatus* Stål.
Banjoewangi (Mc G.).
4. *Neuroctenus medius* Bergr.
Banjoewangi (Mc G.).

Fam. REDUVIIDAE.

Subfam. PLOEARIINAE.

1. *Luteva culicina* n. sp.
Fusco-testacea, lobo postico capitis et pronoto vitta angusta media albo-

testacea notatis, antennis fuscis, femoribus anticis apice magis infuscatis, annulo apicali angusto femorum mediorum et latiusculo posticorum atque annulo angusto subbasali tiliarum mediarum et latiusculo basali posticarum albis. Caput prothoraci subaeque longum, parte postoculari quam anteoculari paullo brevior, oculis in utroque sexu per altitudinem totam capitis extensis, articulo antennarum primo et dimidio basali secundi in mare erecte pilosis, in femina glabris, primo corpori subaeque longo, secundo primo nonnihil brevior, rostro gracili, articulo secundo primo parum longiore, marginem posticum oculorum haud attingente, tertio duobus primis conjunctis paullo brevior. Pronotum mesonoto paullo brevius. Hemelytra apicem abdominis sat longe superantia, leviter cinereo-umbrata, membrana nebulis et fasciis fusco-cinereis variegata, cellula ejus aequae longa ac vena ab ea ad apicem emissa, hac vena cum margine costali vena transversa nulla conjuncta. Abdomen in utroque sexu lineare. Pedum anticorum coxae capiti et pronoto unitis subaeque longae; trochanteres spinis duabus gracilibus setiformibus juxtapositis armati; femora coxis circiter tertia parte longiora, spinulis minutis in dimidio basali spinis paucis gracilibus multo longioribus intermixtis; tibiae cum tarsis quam femora parum breviores. Femora postica corpore longiora, apicem abdominis longissime superantia. Long. (cum hemelytris) 6—6.5 mm.

Samarang (J.).

This species differs from the allied *L. malayana* Dist. as represented by the Malayan type specimen, by shorter second antennal joint, longer hemelytra and hind femora, the lack of the cross-vein between the apical vein of the membrane and the costal margin, differently coloured legs, and quite differently spotted membrane. Distant has published two figures of *L. malayana*, both drawn by Mr. H. Knight. In the first figure (of the type) the vein running from the cell of the membrane to its apex is united with the costal margin by a conspicuous cross-vein, in the other figure (of a Ceylonese specimen) this cross-vein is wanting, quite as in *L. culicina*. His later description is only a copy of the original one. If the figure of the Ceylonese specimen is correct, there can be little doubt that it does not belong to *L. malayana*, not is it likely that the species recorded by Distant from the Seychelles Islands as *malayana* is correctly named.

One specimen of each sex of *L. culicina* was taken together with several larvae and a nymph. The apex of the male abdomen being mutilated, I can say nothing about the genital segment. In the larvae and nymphs the eyes are smaller than in the imagines, and the transverse impression between the eyes is moved more forward, lying between the

anterior angles of the eyes and curving a little backward. The larvæ of *Luteva* are very similar to the imagines of *Ploearia* and might easily be confounded with them. They are, however, distinguished — apart from the two-jointed middle and hind tarsi — by the structure of the anterior trochanters. These are in *Luteva* (both larvae and imagines) either unarmed or armed with two very slender bristle-like spines, whereas they in *Ploearia* always are produced downward into one stout triangular tooth with broad base. From Distant's figure of his *Ploearia Greeni* there can in my opinion be no doubt that this insect is not a *Ploearia* at all, but the larva of a *Luteva*, very probably that of the species recorded by Distant as *L. malayana*, which was found at the same locality, Peradeniya in Ceylon.

2. *Gardena Semperi* Dohrn.

Banjoewangi (Mc G.).

3. *Gardena brevicollis* Stål.

Samarang (J.); Banjoewangi (Mc G.).

This species was previously known only from Philippine Islands.

N. B. — That the recently described *G. seychellensis* Dist. is founded on a larva is clear from the figure.

4. *Gomesius insaturabilis* n. sp.

Caput totum fuscum vel superne ochraceum, fusco-variegatum, oculis majusculis, fortiter prominulis et granulatis, oculo in mare spatio interoculari superiore plus quam dimidio angustiore ses spatio interoculari inferiore dimidio latiore, parte anteoculari quam postoculari longiore, ab oculis ad antennas levissime angustata, ante antennas antrorsum et paullo deorsum conico-producta, impressione transversa interoculari curvata, parte postoculari e supero visa basin versus leviter angustata, medio constricta, ad ipsam basin fortius coarctata, articulis duobus primis antennarum maris erecte pilosis, primo apicem scutelli sat longe superante et quam secundo duobus trientibus longiore, ochraceo, annulis numerosis fuscis ornato, secundo albido, apice nigro (art. duo ultimi desunt), rostro pallide ochraceo, articulis duobus primis saepe fuscis, primo medium partis anteocularis paullum superante, secundo primo subaeque longo, tertio duobus primis unitis parum brevior. Pronotum capite minus quam duplo longius, ochraceum, parce minute fusco-irroratum; mesonotum pronoto fere quarta parte brevius, obscure ochraceum, marginibus lateralibus et lineis quattuor percurrentibus albidis, his lineis utrinque fusco-limbatis. Scutellum fusco-ochraceum, longitudinaliter bicarinatum. Pectus fuscum vel fusco-ochraceum, acetabulis anticis in spinam antrorsum productis, meso-

et metasterno cum pleuris lineariter albido-sericeis, illo medio in longitudinem nonnihil elevato, hoc medio carinato. Hemelytra basin segmenti ultimi dorsalis attingentia, albo-cinerascentia, opaca, vix pellucida, margine costali et venis ochraceis, clavo et mesocorio biseriatim fusco-maculatis, membrana dilute longitudinaliter fuscocinereo-irrorata et nebulosa, mox intra partem linearem productam corii membranam extus terminantem et paullo intra marginem interiorem membranae serie macularum fuscicarum atque intra venam cellulam membranae extus terminantem venamque a cellula ad apicem currentem vitta fusca notata. Abdomen fuscum, ochraceo-irroratum vel sublineatum, spiraculis pallidis a basi et apice segmentorum subaeque longe vel ab apice paullo longius remotis, in segmento primo basi multo propinquioribus, segmento ultimo dorsali maris a basi ad apicem nonnihil subsinuato-angustato, margine apicali medio leviter rotundato, segmentum genitale secundum fere totum liberum relinquente, segmento genituali ventrali primo maris brevi, spiraculifero, secundo primo permulto longiore, apicem versus in processum aequaliter triangularem apice brevissime bicuspidatum ascendente, stylis genitalibus breviusculis, fortiter curvatis. Pedes ochracei, fusco-variegati vel subannulati, trochanteribus et femoribus anticis subtus apiceque tibiaram posteriorum cum tarsis fuscis; anticorum coxae prothorace paullo longiores, femora coxis fere quarta parte longiora, subtus spina longa ab apice femoris quam ab apice trochanteris duplo et dimidio longius distante et prope hanc spina exteriore nonnihil minore armata, inter spinam longam et apicem serie tuberculorum minorum apice setam gerentium instructa, tibiae perbreves, subtus inermes, apicem versus nonnihil dilatatae, tarsi tibiis dimidio longiores, spinam longam femorum haud vel vix attingentes; femora postica apicem abdominis sat longe superantia. Long. ♂ 22.5—23.5 mm.

Samarang (J.); Ins. Philippinae (Los Baños in Luzon, C. F. Baker).

Differs from *G. praedatorius* Dist. by the absence of the two erect tubercles on the pronotum, quite differently coloured rostrum and legs, and much larger size; from *G. Hesione* Kirk. it is distinguished by much shorter pronotum, longer second antennal joint, and shorter unarmed basal part of the anterior femora. Distant says in his generic description that the second rostral joint is "about twice as long as first", but according to the figure, which is probably correct, they are of equal length. In his description of *G. Hesione* Kirkaldy says: "♂ 7th abdominal segment above apically truncate and much widened", but this character clearly refers to a ♀.

As the genus has been insufficiently described, some generic characters

have been included in the above description. Distant founded the genus on a specimen with incompletely developed hemelytra (possibly a nymph) and was thus unable to represent the venation in his figure, and Kirkaldy says nothing about it although he had a macropterous specimen before him. The cell of the membrane is very elongate and curved toward the base, and the basal margin of the cell is parallel to the costal margin, separated from it only by a very narrow elongate cell lying in the longitudinal axis of the hemelytron.

N. B. — Under the name *Ghilianella congoënsis* Schouteden has described an African species which he later placed in *Ischnonyctes*, but as it is stated to have the fore tarsi one-half longer than the tibiae, it is certainly not a species of that genus. It has fully developed hemelytra and probably belongs to *Gomesius* or some allied undescribed genus.

5. *Ischnonyctes pennatus* n. sp.

Caput cum rostro albo-ochraceum, latitudine sua cum oculis vix triplo longius et quam pronotum dimidio brevius, vittis duabus superioribus dilute fuscis, vitta laterali percurrente fusco-nigra, oculis ab apice et basi aequae longe remotis, impressione interoculari recurva, haud profunda, fronte inter antennis spina destituta, spinula apicali valde deflexa, ad clypeum appressa, parte postoculari retrorsum levissime angustate, medio levissime constricta, antennis corpori subaeque longis, glabris (♀), fusco-ochraceis, apicem versus nigricantibus, annulo subapicali articuli primi nigro, summo apice primi et secundi albo, articulo primo capiti et pectori unitis aequae longo, secundo primo nonnihil brevius, tertio brevissimo, latitudini anteoculari subaeque longo, quarto secundo nonnihil brevius, articulo primo rostri medium partis anteocularis paullum superante, secundo primo paullulo brevius, marginem posticum oculorum subattinente. Prothorax mesothorace quarta parte longior, ochraceus, supra linea percurrente media sanguinea, subtus vitta media fusca ornatus, lateribus fuscus, minute ochreo-guttulatus; mesonotum dilute fuscum, margine laterali et lineis quattuor percurrentibus albidis, duabus mediis retrorsum convergentibus et ad basin conjunctis, atque intra margines laterales linea percurrente fusco-nigra notatum; meso- et metapleurae fuscae, lineis duabus percurrentibus albo-ochraceis signatae; meso- et metasternum albo-ochracea, vitta lata media percurrente fusca notata, hoc illo distincte brevius. Hemelytra medium abdominis attingentia, prope ad apicem segmenti tertii extensa, ochracea, membrana maculis parvis fusco-nigris parce conspersa, cellula ejus perlonga, longe post medium ab exteriori fortiter obliquato-angustata, deinde aliquantum ulterius producta et ab apice venam brevem ad apicem membranae emittente. Abdomen supra ochraceum, lineis

tribus sanguineis (media saepe fusca) percursum, subtus fuscum, carina media, linea sublaterali maculisque numerosis minutis in longitudinem seriatis hic et illic subconfluentibus albo-ochraceis praeditum, suturis intersegmentalibus antrorsum angulato-productis, spiraculis fusco-nigris, longe ante medium segmentorum positis, segmento ultimo dorsali feminae apice utrinque in processum angustum apice obtusum paullo ultra segmentum genitale secundum retrorsum producto. Pedes albo-ochracei, coxis et femoribus anticis utrinque fusco-lineatis, annulo latiusculo anteaicali femorum mediorum et postbasali tibiaram mediarum atque apice tibiaram anticarum et dimidio apicali tarsorum anticorum fuscis, apice tibiaram posteriorum cum tarsis totis fusco-nigro; pedum anticorum coxae capite et pronoto conjunctis paullo breviores, femora coxis vix dimidi longiora, spina prima longa fere in medio posita, tibiae subtus brevissime nigro-spinulosae, tarsi spinam primam longam femorum haud vel vix attingentes; femora postica apicem abdominis paullum superantia. Long. ♀ 18—19 mm.

Banjoewangi (Mc G.).

By the well developed though abbreviated hemelytra this species is allied to *I. alatus* Dist. from which it differs in having the spinous part of the fore femora less extended toward the base, in the longer hind femora, and the different coloration of the body and legs. It is possible that both these species are sometimes apterous, and that some of the other species occasionally are winged. The venation, above described, is similar to that of the winged forms of the division Emesaria.

N. B. — The recently described genus *Roslania* Dist. is founded on the larva of an *Ischnonyctes*. The statement in the description "intermediate and posterior tarsi two-jointed" and certain other characters leave no room for doubt as to this.

Fam. HENICOCEPHALIDAE.

1. *Henicocephalus basalis* Westw.

Banjoewangi (Mc G.).

New for Java and not before found east of Burma. Three of the specimens belong to the brachypterous form in which the hemelytra are only about as long as the median and basal pronotal lobes together, reaching the middle of the second abdominal segment. In consequence of the less developed hemelytra the basal lobe of the pronotum is in both sexes of this form not at all broader or even a trifle narrower than the median lobe.

2. *Henicocephalus Jacobsoni* n. sp.

Obscure ferrugineus, dense et sat longe ochreo-pilosus, hemelytris et abdomine (limbo laterali hujus excepto) fuscis, articulo ultimo antennarum apicem versus, geniculis posterioribus anguste tarsisque posterioribus pallide flavo-testaceis. Caput pronoto medio paullulo longius, lobo postico lateribus ante quam post medium fortius rotundato, latitudine lobi maxima ante medium sita, subtus prope basin gibbo et ibidem quam cetero capite longius et densius villosus, spatio interoculari feminae oculo plus quam triplo latiore, antennis et rostro pilosis, articulo primo illarum apicem capitis distincte superante, secundo parti anteoculari (♀) capitis subaeque longo, tertio quam secundo paullo brevior et quam quarto paullo longiore. Pronotum aequae latum ac longum, basi ante scutellum late leviter arcuato-sinuatum, lobo antico capite cum oculis (♀) paullo latiore, medio transversim foveolato, lobo medio a lobis apicali et basali strictura profunda acuta discreto, quam lobo apicali duplo longiore et (♀) quam lobo basali nonnihil angustiore, impressione medio \perp -formi et utrinque impressione trivialis instructo, lobo postico medio subtiliter carinato. Scutellum lateribus leviter sinuatum, apice obtusum. Hemelytra apicem abdominis haud attingentia, venis subglabris, cellula discoidali clausa. Pedes pilosi, femoribus anticis modice incrassatis, latitudine sua plus quam triplo longioribus, tibiis anticis apicem versus sensim fortiter dilatatis, minis haud attingentia, venis subglabris, cellula discoidali clausa. Pedes apice medio femorum subaeque latis, femoribus posticis quam anticis minus incrassatis, margine superiore levissime arcuato, medio recto, unguiculo exteriori tarsorum anticorum medium interioris nonnihil superante. Long. ♀ 8.5 mm.

Nongkodjadjar (J.).

A large and robust species, not nearly allied to any described form.

3. *Henicocephalus maeandriger* Bredd.

Banjoewangi (Mc G.).

This species — if I have interpreted it correctly — is somewhat variable in the thickness of the fore femora and the length of the hemelytra. The length is given by Breddin as 6—7 mm. Most of the specimens before me are but 5 mm. long, only one reaching 6 mm. The hemelytra usually only reach or slightly pass the abdominal apex, but sometimes they are longer. The colour is usually more uniform than Breddin indicates. In the female the space between the eyes is both above and beneath three times broader than an eye; in the male this space is two times broader than an eye above, only as broad as an eye beneath. In the

male the median pronotal lobe is much narrower than in the female, and the abdominal lateral margins are fringed with much longer hairs than in the other sex. I have seen six females, but only one male.

4. *Henicocephalus Macgillavryi* n. sp.

Luride fuscus, antennis, rostro, pedibus ac ventre pallide sordide testaceis, vitta sublaterali ventris in maculas subdissoluta et segmento anali fuscis, pubertate corporis et pedum densa perbrevis erecta, in parte inferiore capitis longiore. Caput pronoto paullo longius, lobo postico globoso, quam antico paullo crassior et quam hoc lobo cum oculis paullo latiore, spatio interoculari in femina oculo triplo latiore, rostro et antennis pilosis, his sublinearibus, modice gracilibus, capiti, pronoto scutelloque conjunctis aequae longis, articulo primo apicem capitis subsuperante, secundo spatio inter ocellos et apicem capitis aequae longo, tertio secundo quarta parte brevior, quarto tertio subaequali vel parum longiore. Pronotum latitudine parum brevius, basi ante scutellum levissime sinuatum, lobo antico capite paullo latiore, lobo medio quam antico vix duplo longiore et in femina quam lobo postico nonnihil angustior, medio impressione **└**-formi et utrinque impressione trivialis instructo, latitudine maxima lobi apud feminam in medio sita. Scutellum lateribus haud sinuatum. Hemelytra apicem abdominis longiuscule superantia, margine costali et venis subglabris, cellula discoidali clausa. Pedes longiusculi, femoribus anticis modice incrassatis, latitudine triplo et dimidio longioribus, tibiis anticis sensim dilatatis, apice medio femorum aequae latis, ungue antico exteriori quam interiori nonnihil brevior, femoribus posticis quam anticis distincte longioribus sed e latere visis vix angustioribus, margine superiore ab apice usque prope ad basin recto. Long. ♀ 5.5, cum hemelytris 6.5 mm.

Banjoewangi (Mc G.).

At once distinguished from *H. maeandriger* Bredd. by the longer head and the much longer and unicolorous antennae.

5. *Henicocephalus soriculus* Bredd.

Batavia (J.).

The specimens agree well with the description, but Breddin has not noted that the lower lateral margins of the pronotal apical lobe are produced in an acute triangular tooth directed downwards and a little outwards. This is a good specific character also met with in some other species. The hind femora are very slightly longer than the anterior ones and somewhat less thickened; seen from the side their upper margin is somewhat convexly rounded throughout its length.

N.B. — The Asiatic medium-sized dingy brownish Henicocephali (several of which are still undescribed) have all a similarly sculptured pronotal median lobe and form a very difficult group requiring great care both in examining and describing. The shape of the hind femora has not hitherto attracted the attention it deserves; it is in fact of importance as a specific character in this as well as in other groups of the genus.

6. *Henicocephalus collaris* Walk.

Tjinjiroean (Mc G.); Goenoeng Gedeh (J.); Tengger Mts. (Fruhstorfer, my coll.).

This very distinctive species has been recorded from northern India and Burma, it was redescribed from Java under the name *H. sanguinipes* Bredd., and I have seen specimens of it from Laoet Island near the S. E. coast of Borneo. Distant's description and figures give a good general idea of the species, but the length of the head is somewhat exaggerated in the figures, and this may be the cause why Breddin failed to recognize it; yet it is curious that he did not even compare his species with *collaris*. Although I have seen many specimens of this species, the male is still unknown to me; but as even in the female the space between the eyes is only twice broader than an eye, and the median pronotal lobe considerably narrower than the hind lobe, we must assume that the usual sexual differences are but little pronounced in this species.

7. *Henicocephalus volatilis* n. sp.

Niger vel fusco-niger, brevissime pubescens, summo apice capitis, articulo ultimo antennarum et basi apiceque rostri pallide flavo-testaceis, parte apicali coxarum, trochanteribus, geniculis, apice tibiarum tarsisque albidis, capite subtus, praesertim in lobo postico, longius piloso. Caput pronoto subaeque longum, lobo postico e supero viso ovali, quam antico cum oculis (♂) paullo angustiore, spatio interoculari maris superne oculo duplo latiore, inferne oculo aequo lato, rostro et antennis pilosis, his capite et lobis duobus anterioribus pronoti conjunctis paullo longioribus, articulo primo apicem capitis superante, secundo lobo antico capitis fere aequo longo, tertio secundo paullo brevior, quarto secundo fere aequo longo vel paullulo brevior. Pronotum fere aequo longum ac latum, basi ante scutellum late levissime sinuatum, lobo antico medio minute et anguste impresso, lateribus extrorsum, et paullo deorsum dentato-producto, lobo medio (♂) postico multo angustiore, impressione longitudinali media lineari postice foveato-dilatata et utrinque impressione trivialis (non semper completa) instructo. Scutellum lateribus leviter sinuatum, apice paullo pro-

ductum. Hemelytra apicem abdominis nonnihil superantia, margine costali et venis subtiliter et breviter radiato-puberulis, cellula discoidali clausa. Abdomen lateribus fimbriatum. Pedes breviusculi, pilosi, femoribus anticis modice incrassatis, latitudine saltem triplo longioribus, tibiis apice medio femorum paullo angustioribus, femoribus posticis quam anticis paullo angustioribus, margine toto superiore late levissime arcuato. Long. ♂ 5—5.5, cum hemelytris 5.5—6 mm.

Goenoeng Oengaran (J.); Tengger Mts. (Fruhstorfer, my coll.).

Allied to *H. lombocensis* Bredd. (of which I have the type before me), but with laterally toothed anterior pronotal lobe and the legs shorter and quite differently coloured.

At Samarang Mr. Jacobson has found a *Henicocephalus* which is distinct from all the species enumerated above. It is doubtless the still unnamed Javanese species of which Breddin (Mitt. Nat. Mus. Hamburg XXII, p. 144) has described the larva, but the single specimen is so mutilated that the species must remain undescribed until better preserved material is at hand.

I have also seen Javanese specimens of *H. aëronauta* Bergr., originally described from the island of Laoet.

The *Henicocephalidae* seem to be common in the tropics, but it is only during the last twenty years, since the collectors began to devote more attention to the smaller forms, that they have become commoner in our museums. To judge from the experiences of some travelling naturalists these insects are best collected at sunset, when they gather in great swarms, dancing high in the air like gnats, for which they no doubt often have been mistaken. According to Gay they emit a strong odour of musk.

Fam. HYDROMETRIDAE.

1. *Hydrometra lineatus* Eschsch., Entomogr. I, 110 (1822).

Samarang (J.).

There can be no doubt that *H. vittatus* Stål is identical with *lineatus*, a species apparently overlooked by Stål and omitted also in the Catalogue of Lethierry and Severin. Eschscholtz's and Stål's specimens were from the Philippine Islands (Luzon), from where I also have examples and where the species is common. Distant in his Indian Fauna cites the Japanese *H. albolineatus* Scott and the Ceylonese *H. Greeni* Kirk. as synonyms of *vittatus*, recording this species from Ceylon and different localities in India and Burma, but he has probably confounded several

species under this name. The species of this genus are usually extremely similar in colour, but well distinguishable by the sexual characters, to which Distant pays no attention. Of *H. Greeni* I have before me numerous specimens from four different places in Ceylon, including Punduloya (the original locality), and it is quite distinct from *lineatus*. *H. albolineatus* is also likely to prove a distinct species. The differences between *lineatus* and *Greeni* are given below.

H. lineatus Eschsch.

Hemelytra black (rarely dark fuscous), with a pure white vitta which is only twice very narrowly interrupted by the black transverse veinlets behind the middle.

The two last male ventral segments erectly pilose, very conspicuously so when seen from the side; if examined from below and behind, the pilosity is seen not to be evenly distributed over the segments, but arranged in two longitudinal rows, one on each side, the hairs near the apex of the last segment arising from a slightly raised oblong tubercle. Ventral margin of last segment seen in profile straight, only slightly raised near apex on account of the longitudinal tubercle.

First male genital segment with the latero-apical angles pointed, terminating in a small prominence so that the segment, if looked at from above or beneath, appears to be tricuspidate at apex, the lateral cusps being much smaller than the median one.

H. Greeni Kirk.

Hemelytra fuscous (never black), with a dingy whitish vitta which is four (sometimes five or six) times broadly (very seldom narrowly) interrupted.

Penultimate male ventral segment very sparingly and shortly pilose; last male ventral segment near the base on each side with a minute tubercle, and a little before apex with a transverse elevation, the tubercles and particularly the transverse elevation shortly erectly pilose. Ventral margin of last segment seen in profile distinctly sinuate owing to the basal tubercles and the subapical transverse elevation.

First male genital segment with the latero-apical angles obtuse, the segment therefore at the apex only with the usual median spine.

The fuscous breaks in the white hemelytral vitta of *H. Greeni* sometimes occupy more space than the white parts, and in Kirkaldy's type the vitta was probably almost wanting, as he does not mention it in his description.

It must be noted that the pile of the two last male ventral segments easily comes off and is present in its typical form only in well preserved specimens. The female genital segments in *lineatus* and *Greeni* are very much alike, but the differences in the colour-markings of the hemelytra are so constant that also females and carded males in poor condition can be determined without difficulty.

N.B. — Almost all authors have treated the name *Hydrometra* as feminine, but it is masculine, as *Geometra* and all other names ending in *-metra*.

Fam. GERRIDAE.

1. *Gerris fossarum* Fabr.

Banjoewangi (Mc G.).

In the male the venter (except a median vitta, the lateral margins, and the genital segments) is lead-coloured or fuscous, in the female it is coloured as described by Stål and Distant.

Of this species Mr. Jacobson also sent a specimen from Sumatra (Deli, de Bussy).

Stål referred this species to *Limnogonus*, but it certainly belongs to *Gerris* as limited by Mayr.

2. *Gerris Tristan* Kirk.

Samarang (J.).

The Javanese *G. Ysolt* Bredd. is identical with *Tristan*. Breddin supposed they were distinct because Kirkaldy does not mention the sexual colour-differences of the venter although he possessed both sexes, but his description is faulty and incomplete also in other respects. I have before me numerous specimens of both sexes from the original locality, Kandy in Ceylon, and they show no differences from Javanese specimens. It is a very small and very distinct species, impossible to confound with any other described form, and is widely distributed in southern Asia and its islands. Kirkaldy placed it, with a query, in *Limnogonus*, but on account of the short antennæ and short middle and hind femora it seems to be better placed in *Gerris*. However, the apical and lateral margins of the sixth female abdominal segment form a very obtuse angle; in this character it differs from both *Gerris* and *Limnogonus*, and a future monographer of the family will possibly find other characters sufficient to establish a new genus upon. Kirkaldy says in his description that the length of the head is " $\frac{2}{5}$ plus grande que sa largeur", but as a matter of fact the head is distinctly broader than long. He further states that

the sixth female ventral segment is "émarginé de chaque côté du milieu", but this slight emargination is rarely present, the apical margin being usually obliquely straight on each side of the middle. The hemelytra are said to be "lurides", but they are usually much darker. The dorsum of the abdomen is very inconstant in colour, varying from black by all gradations to waxy yellow. Breddin describes the first male genital segment ("8. Abdominalsegment") as "zylindrisch, merklich länger als die beiden vorhergehenden Sternite zusammengenommen", but he had before him a specimen with projecting genital segments. These can be telescopically pushed out and drawn in at will; if they are drawn in, as they normally are, the first genital segment is not longer than the last ventral segment. It is not advisable to state the length of the first male genital segment unless it is in its normal drawn-in position.

3. *Tenagogonus pravipes* n. sp.

Opacus, supra luride ochraceus, subtus pallide testaceus, linea transversa subbasali verticis, vittis duabus e petiolo communi ab illa linea emisso ortis, antrorsum levissime divergentibus, antice conjunctim basin clypei subattingentibus, vitta verticis paullo intra oculos, vitta laterali ab oculo ad basin antennae ducta, vitta curvata sublaterali pronoti antice cum vitta alterius lateris anguste cohaerente, linea media percurrente pronoti et processus ejus, linea angusta sublaterali processus pronoti paullo ante apicem ejus abrupta, vitta laterali propleurae, vitta lata partis dorsalis meso- et metapleurae, vitta laterali postice abbreviata mesopleurae, vittula ante acetabula media, margine apicali superiore horum, vittula acetabulorum posteriorum, vitta sublaterali connexivi et ventris in maculas subdissoluta articuloque ultimo nitido rostri nigris, metanoto, segmentis duobus primis dorsi abdominis suturisque dorsalibus segmentorum ceterorum hujus infuscatis, antennis et pedibus (coxis exceptis) pallide fuscis. Caput latitudine sua paullo longius, supra pilis paucis longis erectis praeditum, fronte sat fortiter declivi, oculis antrorsum levissime convergentibus, antennis corpore longioribus, articulis primo, tertio quartoque subaeque longis, primo basin versus nonnihil curvato, secundo adjacentibus brevioribus, rostro medium mesosterni haud attingente. Metasternum segmentis tribus primis ventris unitis fere aequae longum, orificio prope marginem posticum posito. Abdomen (σ^7) parte sua dimidia dorsali coxas posticas superans, segmento ultimo dorsali duobus praecedentibus unitis parum longiore, apice truncato, segmento ultimo connexivi ultra ultimum dorsale breviter vix acute retrorsum prominulo, ventre quam dimidio mesosterni paullo longiore, parte sua pone segmentum quartum sita coxas posticas superante, segmento sexto medio duobus prae-

cedentibus conjunctis subaeque longo, segmento genitali dorsali secundo maris perbrevis, nigricante, genitali ventrali secundo dorsale superante et quam hoc latiore. Pedum anticorum femora longiuscula, parte plus quam quarta basali nonnihil incrassata, ad apicem partis incrassatae subconstricta et subangulariter fracta, deinde usque ad apicem recta, linearia; tibiae femoribus paullo breviores; articulus secundus tarsorum primo evidenter longior. Coxae mediae marginem posticum metasterni et basin acetabulorum posteriorum attingentes. Femora posteriora corpori subaeque longa. Long. ♀ 6.8 mm.

Forma aptera: Pronotum a processu suo impressione leni transversa separatum, processu metanotum attingente, quam pronoto proprio paullo angustiore, usque ad trientem apicalem subparallelo, deinde apicem late rotundatum versus levissime angustato.

Magelang (J.).

Extremely similar in colour to the quite inadequately described *T. Anadyomene* Kirk., but it is much smaller and a comparison with Ceylonese specimens of that species reveals the following important structural differences: the abdomen in *pravipes* is much shorter and not longitudinally ridged beneath in the middle, the apical angles of its last segment are much less acute, the fore legs and the second male genital segment are quite differently constructed, and the length-relations between the metasternum and the first ventral segments and between the middle coxae and the adjacent parts are different. The macropterous form of *pravipes* is unknown. In *T. Anadyomene*, of which almost only the colour-markings have been described by Kirkaldy and Distant, the venter is as long as the meso- and metasternum together and longitudinally carinated in the middle, the apical angles of its last segment are very acutely produced, the second male dorsal genital segment is produced beyond the corresponding ventral segment, the fore femora are almost straight and not incrassated at the base, the fore tibiae are as long as the femora, the two joints of the fore tarsi are of equal length, the metasternum is as long as the two first ventral segments together, the middle coxae reach the middle of the metasternum but not the base of the hind acetabula, and the hind coxae barely reach the middle of the second ventral segment.

In a paper sent for publication some months ago but not yet printed I have maintained *Limnogonus* Stål as a genus distinct from *Limnometra* Mayr, but after the study of further materials I find that *Limnogonus* cannot be considered even subgenerically distinct, as the transitions in the mutual length of the two joints of the fore tarsi and in the shape of the apical angles of the last abdominal segment are too numerous.

Limnometra is a synonym of *Tenagonus* Stål, the type of which is *T. albovittatus* Stål (1855) from Natal, a species totally forgotten by Stål himself in his later writings and also omitted in the Catalogue of Lethierry and Severin.

N.B. — The segment following immediately after the metanotum has by me previously (*Ent. Monthly Mag.* 1902, p. 259) been called the metaphragma, but I now with Breddin think it more natural to regard it as the first abdominal segment.

4. *Ptilomera Dromas* Bredd.

Wonosobo (J.).

N.B. — In his Indian Fauna Distant has repeated the mistake of the old authors in describing and figuring the male of this genus as the female, and vice versa. — *Rheumatogonus* Kirk., which Kirkaldy treated as a subgenus of *Ptilomera* Am. S., is generically quite distinct from it.

5. *Metrocoris strangulator* Bredd.

Goenoeng Oengaran (J.).

The eyes in the apterous form reach the middle of the pronotal lateral margins. No author has paid any attention to the size of the eyes in the species of this genus, but it is a prime specific character in the apterous form. There is one group of this genus in which the eyes in the apterous form reach the anterior end of the mesothorax, thus entirely enclosing the pronotum from the sides, broadly separating it from the propleuræ.

Breddin knew only the apterous form of *strangulator*; Mr. Jacobson also found the winged form. Both forms are exceedingly similar in colour to *M. nigrofasciatus* Dist., but the male front femora are differently shaped and armed.
