

Hemipterological Notes and Descriptions III

By

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19. Wasps preying on Cicadas.

In the preface to his „Monograph of Oriental Cicadidæ“ Mr. W. L. Distant states that the „singing“ Cicadas, the *Cicadidæ*, are the victims of most predacious creatures, and that they probably largely fall a prey to birds. Apart from spiders they are also attacked by various insects, for an instance *Mantidæ*, dragon-flies, larvæ of an *Ichneumon*, hornets (*Vespa*). It seems as if Mr. Distant was not acquainted with the well known fact that the large North American Bembecid or Stizid wasp, the *Sphecius speciosus* Drury is preying on Cicadas, and, therefore often has been called „the Cicada-killer“. Ashmead and others have recorded that this wasp is provisioning its nest with *Cicada dorsata*, *C. tibicen* and *C. marginata*.

It happened to me to be able to state that the South American *Sphecius spectabilis* Tasch., which is very abundant in the Province of Mendoza, at least in the Andine districts, is also a strong Cicada-killer. As I one day — Jan. 12th 1907 — was trotting around in the lower precordilleras west of Chacras de Coria, I met with a colony of the said *Sphecius*; a considerable quantity of the wasps were coming home to their nests (in the bare soil on a sunexposed slope), and by help of the net I secured some specimens; I was then greatly surprised by

finding that each wasp brought home a paralysed specimen of *Tettigades chilensis* Am. & Serv. In that way I came in the possession of a fair lot of the *Tettigades*. Three days later I again saw the locality and then likewise secured a number of specimens, while not a single *Sphecius*, nor a *Tettigades*, was seen on a third visit to the spot on February 17th.

I feel convinced that this one colony has brought extinction to thousands of the Cicadas.

Commentary note: The song of the Cicadas is most often, and surely more correctly, characterized as „noise“, but in some instances the sound may rightly be compared with the chirping of birds. Such is the case with *Chonosia crassipennis* Walk., which occurs in the same districts as the *Tettigades* above treated of. Its song very much reminds of the chirping of the Corn Bunting (*Emberiza miliaria* L.), though it is remarkably softer.

20. A case of untimely maturity?

A not uncommon feature in exotic Hemiptera is the (mostly bilateral) dilatation of the penultimate joint of antennæ, as is the case in certain *Asopina* of the family *Pentatomidæ*, and again in some divisions of the *Coreidæ*. Perhaps this dilatation of certain joints of the antennæ is still more common in the earlier stages than in individuals that have arrived at sexual maturity. Under all circumstances I have here to relate about a case, in which I have found the dilatation strongly expressed in the larval and nymphal stages, whilst, on the contrary, the dilatation was lost in most — but not in all — of the fully developed individuals. It seems to me to be of interest that in the said case there were several exceptions from the rule, that means to say that a lot of specimens of the adults still presented distinctly or even remarkably dilated joints of the antennæ, much differing from their normal structure.

By examining a long series of *Dalcera (Dersagrena) lacerdæ* Sign. from the precordilleras of the Province of Mendoza, I was struck by the great variation not only as to colour and size, which of course does not matter much, but also as to the difference in development and thickness of the hind femur of the male, a peculiarity, which this species has in common with so many other insects; these facts, consequently, did not make me much trouble; much more irritating was that the variation of the length of the antennæ nearly surpassed all limits; large, brightly coloured specimens had slender, very prolonged antennæ, while these were robust and strongly shortened in small and dark specimens. Though the specimens were taken on the same plants (*Cassia aphylla*, Cactus etc.) and practically in the same district, I at first thought to have at least two species before me, but the proportions in the length of the joints were all over quite the same, and, moreover, I at last found all transitional forms of antennæ, from the most robust to the most prolonged, so that it became evident that only a single species was included in the confusion.

But the close examination of the antennæ revealed a not expected variability, namely regarding the structure of the penultimate joint; while this joint in specimens with prolonged antennæ was quite cylindrical, it proved to be distinctly bilaterally carinate, or even rather strongly flattened by a bilateral, sharply edged dilatation in the smaller, more obscurely coloured individuals with shortened antennæ. This antennal variation was found in both sexes; the mere carination of the joint was not rarely found, whereas a stronger dilatation only was seen in very few cases, but all transitions were met with. In no instance the strength of dilatation came nearly up to that seen in the nymphs.

The carination or dilatation, as it occurs in the adults of the species here treated of, may thus be looked upon

as a rudimentary formation transmitted from the nymphal stages with strongly flattened penultimate joint of antennæ, and seems to indicate that the last metamorphosis, on beforehand rather incomplete in the Hemiptera, is here liable to turn over in a prematurity that befalls the smaller obscurely coloured individuals, which therefore undergo but a most incomplete transformation, and consequently are to be regarded as individuals that have arrived at a partial maturity, before their bodily development was fully completed, perhaps on account of scarce and poor food or other miserable circumstances during the growth.

21. **The Argentinian Species of *Harmostes* Burm.**

By trying to determine my species of *Harmostes*, collected in the Argentinian Republic, by aid of the original descriptions, I at first did not come to any satisfactory result, because these descriptions mainly are based on colour differences, which are strongly unreliable, as the colour in most species vary in a very bewildering manner, though the colouring and colour pattern are in no way conspicuous or contrasting. The only modern, original description is Berg's of his *Harmostes procerus* (Hem. Arg. 1879). By help of this description the *H. procerus* was readily separated from the other species, and the accurate diagnosis led me into a thorough study of the structural and sculptural characters found in the other species; by means of my working in that way I soon found it easy to separate the species, notwithstanding the fact that specimens of different species are often coloured quite similarly, as the colour pattern and the colours themselves are not rarely liable to parallel variation within this genus. The structure of the genital segments seems to be rather uniform.

By my going through my material it also soon became evident that I had a characteristic species not described

the two preceding segments together. Fig. 10 a represents the anogenital segments of ♂.

The colour, especially of veins of hemelytra, often turns into reddish; veins and costal border of hemelytra not rarely spotted with fine, brownish dots. Membrane not always provided with distinct, darker dots.

Widely spread, but at least in the Andine Districts not very common.

The new species may be described as follows:

H. corizoides n. sp. ♀: A rather isolated species of a robust and shortened structure. Opaque, pale greenish-yellowish (dried specimens), with the veins of hemelytra dotted with widely separated, very small black points. Membrane hyaline. Pronotum, scutellum, clavus and exocorium densely punctate.

Head short. Antennæ only reaching just behind humeral angles of pronotum; 1st joint short and thick, 4th joint shortened, fusiform, infuscated, 3rd joint slightly longer than 2nd.

Pronotum very short, scarcely half as long as wide between the well rounded humeral angles, strongly declivous and narrowed in front; side margins somewhat sinuous forwardly, subcrenulate near frontal edges; median keel only perceptible near frontal margin.

Scutellum short, but slightly longer than wide across base, sides distinctly incurved before apex, disk pretty well convex, apex depressed.

Hind femora stout and much thickened, pale; larger spines with the extreme tips just perceptibly blackened.

Last ventral segment of ♀ (fig. 10 g) scarcely as long as the two preceding joints united, very wide, with hind margin almost parallel to hind margin of the foregoing segment, and with strongly oblique and diverging lateral margins, strikingly flat compared with the last ventral segment in other Argentinian species, in which this seg-

ment is more or less strongly or steeply tectiform backwardly.

Length of body (including membrane) 6—7 mm.

2 ♀♀ from Misiones.

Compared with *H. prolixus* or *procerus* this new species is strikingly short and broad; in the shape of the body it comes nearest to *H. apicatus*, but in that respect it may be still better compared with certain species of the genus *Corizus*.

H. procerus Berg. As a rule a little smaller than *H. prolixus*. Apart from the different punctuation of the hemelytra it differs from *prolixus* in the following respects: 3rd joint of antennæ not distinctly longer than the 2nd, most often exactly of same length; scutellum more elongate, much longer than wide at base.

The last ventral segment of ♀ (fig. 10 d) longer (along the median line) than the two preceding segments together. Anogenital segments of ♂ are drawn in fig. 10 c.

The colour of this species, especially regarding the veins of hemelytra, is often reddish; very rarely faint traces of darker dots are perceptible along the costal border. Membrane with an indistinct, longitudinal fuscous streak in the middle. A peculiar character, which this species has in common with *H. marmoratus*, is that the larger spines on hind femora have their utmost tip contrastly blackened.

Very common all over in Argentina.

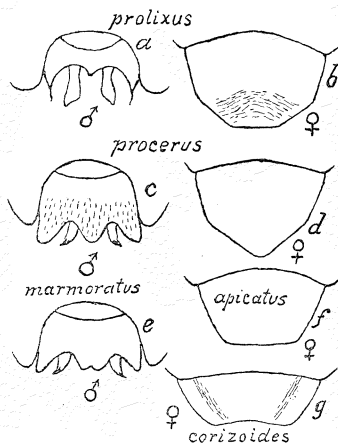


Fig. 10. Last ventral, and anogenital, segments of some *Harmostes* species. Greatly enlarged, nearly to same scale.

H. marmoratus Blanch. Closely allied to the preceding and perhaps not distinct; it is very differently coloured, but I have failed to find surely distinct structural or sculptural characters, excepting that the pronotum is more prolonged, and the apex of scutellum is acutely lanceolate with almost straight sides; also the pronotum is tricarinate, though the side keels are not very distinct.

The anogenital segments of ♂ (fig. 10 e) differ but slightly from those of *H. procerus*.

Not before recorded from Argentina. I possess one male specimen from the Province of Cordoba.

H. apicatus Stål. Rather compact in structure, not closely allied to any of the preceding species and easily separated by the characters given in the table of species. Disk of scutellum somewhat convex. In one of the specimens examined the membrane is rather distinctly infuscated, especially along the veins.

♀ (Fig. 10 f). Last ventral segment more or less as in *H. prolixus*, but hind margin much broader truncate.

Widely spread, but not numerous.

22. The earlier stages of the *Typhlocybinae*.

I have previously (*vide* Ent. Medd. 1922 p. 4 (sep. p. 20) supposed it a general feature within the subfamily *Typhlocybinae* that the larvæ and nymphs are provided with a system of tactile bristles, or „erect capitate hairs“, as termed by Kirkaldy, more especially on head, notum and dorsum of venter. A continuation of observations on the earlier stages of the *Typhlocybinae* has corroborated my supposition and made me rather sure that the aforesaid peculiarity ought to form part of the diagnosis of the subfamily, which perhaps even, on account of the peculiar character, may be raised to family rank.

Apart from the species mentioned in the fragmentary notes below, I have been able to state that the nymphs of *Empoasca* (*Kybos*) *smaragdula* Fall. and *E. Butleri* Edw.

(for the first time found in Denmark on *Salix repens* near the North Sea coast in the year 1922) are provided with tactile bristles.

Typhlocyba ulmi L. Spring was very late in the year 1922. It was not till 21st of May that the leaves of the elm trees in my garden were more or less expanded, but many newly hatched larvæ were already to be seen on the under side of the leaves. In the *1st stage* the larvæ measured 0,75 mm and were pale lemon-yellow coloured, but the eyes were reddish; legs and antennæ hyaline, stout. No trace of wing-pads could be seen.

The antennal seta, apart from the basal proper joints, was divided in many short and well separated joints, but the apical ones were prolonged, the last one terminating in a distinct bulb (the penultimate joint the longest).

Head rather projecting, strongly rounded in front, but indistinctly angulate between frontal and lateral outlines, with 4 strong, tactile bristles; frons with some few smaller, paired bristles.

Lateral margins of pro-, meso- and metanotum flattened, sharply laminate; pro-, meso- and metanotum each with a pair of tactile bristles, the pair on the former being almost rudimentary.

Tactile bristles on dorsum of abdomen backwardly curved; the two dorsal rows (6 pairs, one pair on each segment) of bristles widely separated, placed almost sublaterally; the 4 last abdominal segments (not anogenital segment) each with a pair of lateral tactile bristles. The protuberances, bearing the bristles, very prominent. No hairs visible on any part of the body.

During the last part of 1st stage the lemon-yellow, though partly hyaline, wing-pads were gradually developing.

On July 4th the *2nd (nymphal) stage* occurred freely together with 1st stage. The nymphs were now about 2 mm long. Pro-, meso- and metanotum together with

surface of abdomen were distinctly punctate; all parts of the notum proved to be very uneven; lateral margins of pronotum straight, flattened. Wing-pads well developed, ending subacutely, and both pair of wings distinct, fore wings with 2 sublateral tactile bristles.

The transition from vertex to frons with 6 tactile bristles, viz., 2 closely together in the middle, 2 between frontal and lateral margins of head, and 2 lateral. Front of head distinctly ridged or raised marginally.

Pronotum with two sublateral tactile bristles, and with a large and deep, semicircular depression, which is limited in front by a strong ridge.

Tactile bristles on surface of abdomen curved, very stout, the 2 dorsal series widely separated, also the pair on apical segment, whose two bristles are nearly as widely separated as those of the other pairs.

Also tibiae with more or less well developed tactile bristles. The tactile bristles on the anterior part of the body seems to be subject to variation and to being more or less numerous. Abdomen laterally with few hairs that bear some likeness to tactile bristles.

I was not able to observe the species till the 20th of June. That day I found the adults abundant. Only few nymphs of *last stage* were to be found; the protuberances of the tactile bristles were comparatively small. The notum and wing-pads still provided with tactile bristles; the dorsal rows of bristles of abdomen, also backwards, widely separated.

Eupteryx pulchella Fall. Of this species, much allied to *E. Loewi* Then. and *E. concinna* Germ., I collected many nymphs in the last stage together with adults on oak in Tykskov (middle of Jutland) 11th of Aug. 1922. A lot of the nymphs were confined in a glass tube provided with fresh oak leaves; most of them had altered into adults, leaving their nymph skins, the 15th of August.

The nymphs in the cited stage agreed almost perfectly

with those of *Eupt. Loewi*, both as to form and development of the various parts of the body, as well as to the system of tactile bristles, the main differences being the following (compared with fig. 6 d Ent. Medd. 1922 p. 2 (sep. 18) and text on the following page): Body more compact and broadened; upper surface lacking the conspicuous black longitudinal stripes as in *E. Loewi*, though often more or less cloudy or shadowy from brownish, dusty pigment; the splitting line along middle of pro-, meso- and metanotum much raised, especially in the center of each segment; lateral margin of wing-pads provided with many ordinary, rather strong bristles, a character I did not observe in the nymphal stages of *E. Loewi*.

On the 9th of June 1923 I happened to collect some *Eupteryx Wallengreni* Stål, which occurred freely and apparently exclusively on *Hieracium pilosella* L., some distance south of Silkeborg; together with imagines I took a single nymph of the last stage. When arrived at home I unfortunately found that the nymph was dead and had shrivelled, so that it was not fit for examination, but notwithstanding this fact it could be seen that the rows of bristles on dorsum of abdomen were widely separated and the wing-pads strongly developed with a sharply defined, round, black spot on inner hind edge. But the most extraordinary was, meanwhile, that all the bristles terminated abruptly, as if they had been fractured.

23. A rare Argentinian Hemipteron.

In his „Nova Hemiptera Faunarum Argentinae et Uruguayensis“ (Bonaria 1891—92) C. Berg founded a new Pentatomid genus, *Parentheca*, on two Argentinian species, *subfurcata* and *aeliomorpha*, the former from the province of Cordoba, the latter from Misiones (and also from the Paraguayan Republic). To the diagnosis of the genus the author added the following notes: Ex propinquitate

generum *Oenopiae* et *Melpiae* Stål; forma corporis fere ut in *Coeno* Dall. et *Aelia* F.; hemelytris connexivum haud tegentibus membranaque parva his *Schaefferellae* Spin. valde similibus“.

I possess a single female specimen of the southern species, *P. subfurcata* Berg, from the province of San Luis (Alto Pencoso), of which specimen I here give a figure that may indicate the Aelian appearance of the species. As Mr. M. S. Pennington in his „Lista de los Hemipteros Heteropteros de la Republica Argentina“ (Buenos Aires 1920—21) does not mention new finds of this apparently very rare, or at least local, hemipteron, I suppose that my specimen is the second known at all.

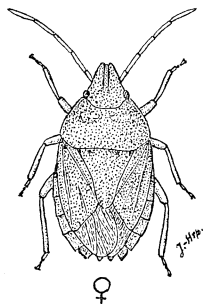


Fig. 11. *Parentheca subfurcata* Berg. Enlarged a little more than $\frac{2}{3}$.

I intend, for the rest -- if I should learn that it would be appreciated by hemipterists -- later on to figure a series of little known species, which have till now not been portrayed in any publication.

24. To the biology of some Heteroptera.

On the 24th of April 1915 (bright sunshine and splendid weather) I found a lot of full grown nymphs of *Harpactor (Rhinocoris) annulatus* L. on the sapmoistened stub of a newly cut large birch (*Betula*) in one of the forests near Silkeborg. It may be noted that the Hemipteron in question is regarded as rare in Denmark, and that it is here almost always found on birch, probably feeding on insects, spiders etc. that are more or less bound to live on this tree. I took one of the nymphs at home and placed it under a roomy bell glass with fresh and young birch leaves to make the apartment more comfortable for the young carnivore. The first meal given it was a dead fly, which was carefully and

quietly examined by the nymph and then sucked out with delight.

As I found that the nymph had a good appetite, I went to the birch-stub the following day to secure the rest of the brood in order to breed the whole lot, but I was much disappointed by learning that not a single nymph was to be found.

On the 26th of April the captured nymph had cast its skin, and in the course of two or three days it presented itself as a fine imago, though a little smaller than is usual for the species.

The fully developed insect proved to be fond of the different animal food, I offered it, such as spiders, isopods (wood-lice), beetles, flies and the like; it was all the same to it, although it seemed to me that it gave preference to spiders, perhaps on account of their soft hind body. Meanwhile, the Hemipteron was not ravenous, and when it had partaken of a good meal, it refused to take any food a couple of days after.

Another observation refers to a nymph of *Rhacognathus punctatus* L. It was in the middle of July that I was „beating“ birch foliage in the mentioned locality and found the nymph in my umbrella. In spite of its coming headlong within my reach, it suddenly rushed at a green larva of a saw-fly near it and bored its beak into the larva; the larva tried to escape, but the rhynchotal rostrum was well fastened, and it was soon overwhelmed and sucked out. The *Rhacognathus*-nymph was afterwards treated at home in a similar way as the *Harpactor*-nymph as stated above; its menu was, however, less varied: larvæ of sawflies and smaller Lepidoptera. As distinct from the *Harpactor*-nymph the *Rhacognathus*-nymph proved to be very ravenous and voracious. It approached its prey very slowly and apparently uninterested in order to, like a cat, when sufficiently near, to dart upon and put it to death.

A third observation also applies to a carnivorous He-

mipteron, namely *Atractotomus mali* Mey., belonging to the *Miridæ* (*Capsidæ*). In the „Bull. Soc. Ent. France“, 1900, A. Giard published a note („Sur un Hémiptère (*Atractotomus mali* Mey.) parasite des chenilles d'*Hyponomeuta malinellus* Zeller et *H. padellus* L.“) stating that this Hemipteron fed on the *Hyponomeuta*-larvæ or at least was a disagreeable parasite in their colonies.

I am in the position of being able to confirm Mr. Giard's statements, though I have not directly observed that the little capsid bug sucks the larvæ, but I have repeatedly noticed that an apple-tree in my garden (Silkeborg) had colonies of an apple-leaf destroying larva, with a crowd of larvæ, nymphs and imagines of the *Atractotomus* inside the web, and, moreover, that the colonies during some time by degrees were depopulated and finally completely extinct, apparently before any of the larvæ were given the chance of passing into the chrysalis stage.

Even if the *Atractotomus mali* occasionally also sucks plant-juice, it must be classed among the beneficial insects.

25. *Corixidæ* and *Corizidæ*.

O. M. Reuter in his new hemipterological system, and also other hemipterists, make use of the above cited family names for two exceedingly different families. I do not know, how the hemipterological world regards the last mentioned name of the two, but I for my part look on it in a very reluctant manner, because of its great conformity with „*Corixidæ*“; of course „x“ and „z“ are different letters, and when written or printed most people, even outside the entomological circles, can make out the difference. But what about the pronunciation of the two family names? They will practically, in many languages at least, be pronounced in the same way by all, probably in most cases as something like „*Corisidæ*“. That is the reason, why I dislike the use of the family name *Corizidæ*.

Unhappily *Therapha (hyoscyami)* has been sunk as a synonym to *Corizus*; otherwise *Theraphidæ* would have been the proper name to replace *Corizidæ*.

26. A new Argentinian Coreid.

In „Ann. Soc. Ent. Belg. 1912“ Dr. E. Bergroth described as new the *Margus vittidorsis* from Argentina and declared it as „very distinct from all hitherto described species“. A species, which Mr. Bergroth has characterized in such a way, is not likely to be confused with its congeners. Nevertheless Mr. M. S. Pennington in his „Lista Hem. Het. Rep. Argent. 1920—21“ remarks that „Esta especie me parece ser una variedad de la anterior (*M. pallescens* Stål)“. In an appendix to his completed „Lista“ Mr. Pennington returns to the question on account of some correspondence with Dr. Bergroth, who declared that *M. vittidorsis* was quite different from *M. pallescens*. Pennington is still not satisfied, but comes to the logical conclusion that the solution of the question partly depends on, how far Berg in his „Hemiptera Argentina“ has been mistaken in identifying Stål's species, and partly, and finally, on comparing specimens of the supposed „*pallescens*“ with Stål's types.

As I possessed a rather large material of what I, on the authority of Berg's notes in his „Hem. Arg.“, supposed to be *M. pallescens*, I went to a thorough examination of all my specimens. The result was rather surprising: Only one (♀) specimen turned out to be the true *M. pallescens* Stål, while all the many others unveiled themselves as belonging to a hitherto not described species, certainly at first sight bewildering like the right *M. pallescens*, but in reality exceedingly distinct, especially as regards the structure of the antennæ.

Judging from Berg's notes, it is quite evident that he has mixed the two species together, or rather, as Pennington suggests, misinterpreted Stål's species. On the other

hand, it is so to say superfluous to consult Stål's types of *M. pallescens*, as his description in „Hemipt. Fabric.“ exactly and plainly characterizes the species, so that no misidentification ought to take place.

I describe the new species, comparing it with *M. pallescens*, in a tabular form:

- Antennæ more elongate and slender, mostly so 1st and 3rd joints; 3rd joint slightly longer than 2nd; 1st joint not narrowed from middle towards base, but abruptly coarctate just at the very base; 4th joint with the central portion fuscous. Sides of pronotum practically straight. Dorsum of venter (not connexivum) black at base, and laterally with small blackish spots arranged in rows.
..... *M. pallescens* Stål.
- Antennæ shorter and more robust, especially 1st and 3rd joints; 2nd and 3rd joints equal in length; 1st joint gradually narrowed from middle towards base (more or less as in *M. obscurator* F., *M. brevicornis* Bred. etc.); 4th joint uniformly pale. Sides of pronotum slightly sinuate. Dorsum of venter (not connexivum) black at base and sides; the black coloration of wide extension basally but irregularly tapering apically and disappearing before apex of abdomen (on account of a splitting, somewhat wedge-shaped figure of the pale ground-colour, that medianly extends as far as to base of 3rd segment, on which segment the figure is abruptly contracted to form merely a narrow stripe).

M. pallidus n. sp.

In other respects the new species is confusingly like the *M. pallescens*, and it is easily understood that the two species have been mixed together. It seems as if the upper surface is more finely punctured in the new species.

M. pallidus is exceedingly abundant in the Province of Mendoza and is probable widely distributed. As stated above only one specimen of *M. pallescens* turned up in my collections from the same province. Probably the former is a more western species, while the latter mainly abounds in the eastern districts of Argentina.