THE MENOPONIDAE OF THE CRACIDAE AND
THE GENUS ODONTOPHORUS

(Neotropical Mallophaga Miscellany № 8)

by

M. A. CARRIKER, Jr.

In 1950 I published a monograph of the New World species of the genus Amyrsidea¹ Ewing, including in it all of the Amblycera parasitic on the avian family Cracidae and the genus Odontophorus (Phasianidae), excepting those of the genus Menacanthus, which had been reviewed in 1946.²

Before the publication of this paper I had consulted with Dr. Hopkins regarding the generic position of these parasites, and he informed me that it had been decided to place all of the known Menoponidae of the Galliformes (excepting Menacanthus) in the genus Amyrsidea Ewing, the host of which is the Argus pheasant (Argusianus argus Linné).

At that time I had not seen specimens of Menopon ventralis Nitzsch (the genotype of Amyrsidea), but after a careful study of Ewing’s description I was not at all certain that my numerous species of this group were congeneric with Amyrsidea ventralis (Nitt), and so stated in the introduction to my review of the group.

Footnote 2. — ” ” ” ” vii, Nos. 25-26, Dec. 1946, p. 115.
I have, since that time, been able to secure a pair of Amyrsidea ventralis (Nit.), and after a very exhaustive study of them, in connection with the material on which my review was based (and additional new material), I have arrived at the conclusion that it is quite impossible to leave the many species of Menoponidae, parasitic on the Cracidae, in the genus Amyrsidea, and that a new genus must be erected for their reception.

The species of Mallophaga found on the genus Odontophorus (Amyrsidea praegraeculis), included in my review with those from the Cracidae, certainly is not congeneric with the many species found on the Cracidae, nor is it an Amyrsidea, and it will be discussed later.

**Genus Amyrsidea Ewing**

Plate I, figs. 1, 2, 3, and 4; Plate II, fig. 1.

The genus may be characterized as follows. — Small Menoponidae with slender bodies, relatively small, narrow head, strongly developed prothorax and long abdomen of nine segments, almost parallel-sided.

Chaetotaxy of the body abundant and coarse, but comparatively short. There is no pre-ocular slit, merely an overlapping of the dorsal integument of the head, with a very slight notch, and with the dorsal integument extending unbroken to the temples, completely covering the antennary fossae, the latter entirely open on the ventral side, the antennae being somewhat protected by the fringe of setae set along the inner edge of the fossae (see fig.). The antennae are of the usual Menoponidae type. There is no gular plate, but a large clear area in the dorsal integument covering this area, and with the usual four strong setae on each side of the gular region.

The prothorax is short and wide, almost as wide as the head in the male (slightly narrower in female), with nearly straight sides and convex posterior margin. Pterothorax also short and wide, with convex divergent sides and transverse posterior margin, and with no trace of meso-metathoracic suture.

Abdominal segments of uniform width in both sexes, only the 9th, being slightly longer. Tergites and sternites apparently entire (not clearly visible in my specimens). Pleurites very narrow dorsally but much wider ventrally, decreasing in width from III backward to VIII, but not deeply colored. There is no trace of the prominent spinous projections at the inner, posterior corner of the pleurites, on ventral side of abdomen, which are present in all species found on the Cracidae. Tergites with a closely set row of coarse setae along posterior margin, and a second row, less closely set, across the middle; sternites with a shorter row (six only) of finer, shorter setae across posterior margin (inside of margin), and another row, also of six, across median portion of segment.

The patch of setae on 3rd. femora consists of short, coarse setae along posterior side of patch, with a double row of shorter, finer setae above, set at an angle to the posterior row. The same type of brush is present on sternites III and IV, with a trace on V. In the female there are four thick, spine-like setae on each side of posterior margin of apexial, abdominal segment, with two long hairs slightly in front of them.
There is a slight sexual dimorphism in the shape of the head, that of the male being narrower at the temples, but no other differences other than size, between the sexes.

The male genitalia is typical of many of the Menoponidae in the pattern of the paramers and the endomeral sac and plates, but the structure which is extruded during copulation, is of a very peculiar and unique type (see fig).

Ewing mentions the presence of three heavy spines at distal end of 3rd. tibiae as being of generic significance. This is doubtful, as shown by the accompanying figures of the posterior half of the 3rd. tibiae of A. ventralis (Nit.) A. praegracilis Carriker, and of Cracimenopon mituensis (new genus and species described, below). It will be seen that all three possess a series of spines on the tibiae, but all are different, although those of praegracilis (from Odontophorus) are much nearer to Cracimenopon than to Amyrsidea ventralis. The above description is, in reality, a diagnosis of Amyrsidea ventralis (Nit) and not strictly a generic characterization, since undoubtedly characters are mentioned which are specific, rather than generic.

The species parasitic on the Cracidae, previously described under Amyrsidea, are very different from the above diagnosis of that genus, and a new genus is here proposed for their reception.

**genus Cracimenopon new genus.**

Genotype. — Cracimenopon mituensis new species, from Mitu mitu (Linné).

**Diagnosis.** — Menoponidae from medium to fairly large size, with large head, roughly the shape of an equilateral triangle, with front broadly rounded, temples rounded and expanded laterally and occipital margin deeply concave. The structure of the head is entirely different from that of Amyrsidea Ewing. (as a glance at the accompanying figures will show).

There is a deep, preocular slit and a pronounced ocular emargination, with the ventral integument of the sides of the temples extending far beyond the dorsal, posterior to the pre-ocular slit, and with the dorsal integument apparently fused with the ventral back of the ocular slit (see figure of C. mituensis).

There is also a peculiar quadrangular plate lying over the mandibles and anterior portion of the pharyngeal sclerite (absent in Amyrsidea), which has three fair-sized setae along each side, one over mandibles and two in posterior corner. Apparently the pharyngeal glands, which lie in front of the sclerite, and over the mandibles, are attached to this plate (see figure 5a., p. 464, Report of 1950).

The prothorax is short, the width more than twice the length, with the whole margin, posterior to the lateral angles, uniformly circular (see fig.). Pterothorax longer and wider than prothorax, with straight divergent sides and posterior margin ranging from transverse to strongly convex. Abdomen comparatively short, somewhat oval in shape (especially in the male), but sometimes with nearly straight, parallel sides from segment I to VII female.

There is a strong sexual dimorphism in some species of the genus, just as in Myrsidea, where the females have the metathorax strongly produced backward,
and the first three or four abdominal tergites arched backward, and sometimes fused into a single plate, almost devoid of setae, except at the sides, where the inter-segmentary sutures are visible.

This character is present to a varying degree in the species from the avian genera Crax, Mitu and Pauxi. (see Stud. in Neot. Mall. (X), part. 2, p. 494). The species found on Penelope, Chamaepetes and Ortalis are not thus sexually dimorphic.

The tergites and sternites are entire (unless deformed as described above); the pleurites are very narrow dorsally, but wider ventrally and of varying width, but in all species, especially in females, the inner, posterior corner of pleurites I to V is produced into a strong, usually curving, spinous process. This process is always more strongly developed on pleurite I of the female, and in some species it is very rugose and almost straight (see fig. of mituensis). They diminish in size posteriorly, and in some species are quite small, and almost obsolete in the males.

Incrassations may or may not be present on the pleurites, and in some species they are present in the male and absent in the female. The chaetotaxy is abundant, the setae being mostly longer and of finer texture than in Amyrsidea. There is a closely-set row of long setae across the posterior margin of the tergites (except as noted above), but none across the median portion of these sclerites, as in Amyrsidea. There is a submarginal row of shorter setae along posterior margin of the sternites, and a sparse scattering of short setae over their surface. The patches of setae on 3rd. femora and sternites are of finer texture than in Amyrsidea, and of uniform length and thickness. These patches are well developed on sternites III to VI (inclusive), with sometimes an obsolete patch on II and VII, while in Amyrsidea they are well developed only on III and IV, with 5 or 6 scattered setae on V.

_Cracimenopon mituensis_ new species.

Plate I, Fig. 6, Plate III, figs. 1-4.

Types., male and female adults, from Mitu mitu (Linné) collected by the author at Chiñiri, Rio Kaka, Bolivia, August 24, 1934 (in coll. of the author).

**Diagnosis.**—The above characterization of the genus _Cracimenopon_, together with the figures presented, describe this species sufficiently well. It falls into Section I of my 1950 report (p. 494), and is closely related to _C. simplex paucis_ (Carriker) in the structure of the thorax and abdominal tergites, with same type of sexual dimorphism.

The shape of pleurite I and its spine are also similar, as well as the male genitalia. As may be noted from the figures of the male genitalia of _C. simplex paucis_ and _C. mituensis_, they differ considerably in detail, that of _mituensis_ lacking the transverse bar connecting the bases of the paramers, while the internal sclerite differs considerably.

The measurements for the head in both sexes are very close to those of _paucis_, as well as for the thorax, but those for the abdomen differ considerably in both sexes, being longer and narrower in the male and shorter and narrower in the female.
The Menoponidae of the Cracidae

Measurements of the types:

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Amyrsidea praegracilis Carriker versus A. ventralis (Nitzsch)

When A. praegracilis was described attention was called to the outstanding differences between it and all other species of Menoponidae (excluding Menacanthus) found on the Cracidae. I have since secured a large series of praegracilis from Odontophorus hyperythrus and O. guianensis marmoratus which have been used in the present study, together with the old material.

I am now convinced that in Amyrsidea praegracilis we are dealing with a type of Menoponidae confined strictly to the avian genus Odontophorus, and that it has very little in common with the new genus Cracimenopon, being more closely related to Menacanthus. This belief is further strengthened by the character of the other Mallophagan parasites found on this genus of birds, viz. The genus Eiconolipeurus Carriker (relegated to the synonym of Oxylipeurus by Hopkins and Clay) and the two species of Menacanthus common to Odontophorus. The type of the Ischnoceran parasite differs so radically in many ways from the Oxylipeurus group found on the Cracidae, that I believe it should be entitled to at least sugbeneric rank.

Considering the two species of Menacanthus found on Odontophorus we find that they are closely related, possibly being consuecific. With the exception of two characters they resemble so closely Amyrsidea praegracilis that if the head spines were to be removed and the abdomen made more slender, it would be very difficult to separate them from the praegracilis group. They have a similiarly shaped head, the same type of pharyngeal sclerite and the same type of male genitalia (with long basal plate) and the same chaetotaxy of the apical abdominal segment in the female, as well as the shape of the thorax and the body chaetotaxy in general, and especially the heavy spines at the tips of the 2nd. and 3rd. tibiae are exactly as in Amyrsidea praegracilis. The most striking example of this similiarity is with Menacanthus falcatus longispinus Carriker, from Odontophorus capucira (Brazil).

If the genus Menacanthus can be separated from other species of the Menoponidae solely on the presence of a pair of heavy spines on the head, why quibble over the separation of other groups which possess other characters as much, or possibly more distinctive and of more generic significance? I certainly am not in favor of erecting genera for every slightly aberrant species, as has been done
by some workers on Mallophaga, but neither am I in favor of uniting a hetero-
genous lot of species into one huge genus, impossible of being characterized,
when it is possible to separate from this mass groups of clearly homogenous
species, especially when they are parasitic only on one avian family or even ge-
genus.

The contention has been made that by doing this the phylogenetic relations-
ships between the smaller genera are lost, but I disagree with this contention.
By the use of smaller genera when they can be clearly defined, and when they
are confined strictly to one avian family, not only simplifies the work of the
systematist, but, in my opinion, throws more light on the relationship of their
hosts. No ornithologist would hesitate to admit that there is no very close rela-
tionship between the Cracidae and the genus Odontophorus (family Phasian-
dae,) and their Mallophagan parasites confirm this statement, nor are the Old
World Pheasants any more closely related to the New World Cracidae.

Amyrsidea ventralis (Nit.) is parasitic on the Argus Pheasant, an Asian species,
but up to the present no other species has been taken on any Pheasant which is
actually congeneric with it. It may possibly be, as Col. Emerson tells me, an ab-
normal species, possibly a relict, and it may also be that no other species conge-
neric with it will ever be found. Col. Emerson also tells me that he has other
species of Old World Menoponidae which differ from each other generically
and do not fit into any existing genus.

For the present he has literally "dumped" them into Amyrsidea, which ac-
tually is only a dumping ground as it now stands, awaiting the time when suffi-
cient new material shall be secured for a sensible revision of the group. So, why
should this parasite from an asiatic host, be considered congeneric with one on
Odontophorus, even though the two groups of hosts have now been placed in
the same family (Phasianidae), just because there is a slight superficial resem-
bance between them. Such treatment is neither logical nor scientific. The Am-
blycerca are supposed to be the most primitive of the Mallophaga surviving to-
day, and undoubtedly many descendents of the original type have dissapeared.
There have also undoubtedly been cases of parallel development, thus obscur-
ing true relationships, but in many cases present forms give conclusive proof
of close avian relationships, or lack of such relationships, and which are corro-
borated by the systematics of Ornithology.

It is a well known fact that evolution of the Mallophaga has been very slow
indeed, due to unchanging enviornment and food, so that when we have such
outstanding characters as two totally different types of phyrngeal sclerites, quite
different male genitalia (one with almost no basal plate and the other with
a long slender one), and with a totally different type of chaetotaxy on the apical
abdominal segment in the female, all, in one group of species, it seems to me
that it is not only good, common sense, but good systematics to separate gene-
rically such a group, and this I propose to do in the case of the Amyrsidea prae-
gracilis group, which differs as much, perhaps more, from the genotype of
Amyrsidea as it does from Menacanthus falcatus Carriker, or Cracimenopon
Carriker.
The Menoponidae of the Cracidae

Genus Desumenopon new genus.

Genotype. — Amyrsidia praegracilis Carriker.

Diagnosis. — Medium sized, slender bodied Menoponidae, with abundant and coarse chaetotaxy, including many short spines, and parasitic on the avian genus Odontophorus.

Head small, narrow, front circular; temples small, rounded, and extending but little beyond the sides of the large prothorax. Ocular slit present; antennae large, with three fourths of apical segment extending back of ocular slit. Ventral integument covering the antennary fossae extending laterally to the entrance of the ocular slit; pharyngeal sclerite in the form of an inverted T, as in Menacanthus; gular plate present and extending beyond occipital margin of head.

Prothorax entire; pronotum small, transverse in form and without setae; meso and metanotum well developed and set with numerous strong, long setae (about 12 on mesonotum and 16 on metanotum). Abdomen a slender oval, same shape in both sexes, including apical segment, which is broad and circular on posterior margin. Chaetotaxy of last abdominal segment in female complicated, and very similar to that of Cracimenopon; tergites and sternites entire, uniformly colored; pleurites scarcely visible dorsally, fairly wide ventrally, but poorly chitinized, and with no trace of spines or other development of inner, posterior angle, but bearing numerous short, stiff setae on their faces, as well as longer, coarser hairs along their posterior margin. Legs short and stout, with numerous stiff bristles; five stout spines on apical portion of 2nd. and 3rd. tibiae.

Male genitalia with long, slender basal plate, enlarged distally; parameres slender, with strongly outcurving tips (similar to genitalia of Menacanthus falcatus from same host). Patches of setae on 3rd. femora and abdominal sternites sparse, coarse, and the setae set parallel to each other. The genus will contain, in addition to the genotype, Amyrsidea praegracilis gujanensis Carriker, 1950, A.p.cumbrensis Carriker, 1950 and a new subspecies described below.

Differs from Amyrsidea in type of pharyngeal sclerite; presence of a well-developed gular plate; presence of pre-ocular slit; greater extension laterally of ventral covering to antennary fossae; chaetotaxy of apical abdominal segments in both sexes, and in the male genitalia.

Desumenopon praegracilis hysperythrus new subsp.

Plate I, fig. 5; Plate II, figs. 2-6.

Types, male and female adults, from Odontophorus hysperythrus Gould, collected by the author at La Candela, Dept. Huila, Colombia, May 12, 1952 (in U. S. Nat. Mus.).

Diagnosis. — Superficially resembles closely the other three subspecies of praegracilis, this being an exceedingly compact, homogenous group which has remained almost unchanged during the evolution of the numerous species of Odontophorus, their hosts.

In body length the male is close to that of D.p.gujanensis, but the female is larger, larger even than the female of cumbrensis (1.99 against 1.90). The head is much narrower, in both sexes, than any of the known races (male, 37 against
.44, .412 and .415), while it is even narrower (in proportion) at the frons. The head length is slightly less than in praegracilis and gujanensis, and equal to that of cumbrensis; the prothorax is longer but much narrower than in all of the others, and the pterothorax also differs in size and proportions (see table of measurements: Rev. Acad. Colomb. Sci., 1950, p. 510).

The basal plate is the same length as in praegracilis but much shorter than in the other two races, while the endomeral sac is about as in gujanensis. The shape of the basal plate is quite different, narrowing abruptly to the more slender stem, then with sides extending parallel to the circular knob at the distal end. The parameters are less thickened basally; the endomeral rods differ in structure, as well as the internal, movable sclerite. The gular plate of the head is very long, extending considerably beyond the occipital margin and tapers noticeably towards posterior end, not being parallel-sided or wider posteriorly as in the other races.

In addition to the holotype, and allotype there is a large series of paratypes of both sexes.

Measurements of the types:

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DERIPTION OF PLATES

PLATE I

Fig. 1 – Amyrsidea ventralis (Nit), male genitalia.
Fig. 2 – " " " pharyngeal sclerite.
Fig. 3 – " " " head, prothorax and tip of abdomen of male.
Fig. 4 – " " " distal end of 3rd. tibia.
Fig. 5 – " praegracilis Carriker, distal end of 3rd. tibia.
Fig. 6 – Cracimenopon mituensis n.sp., " " " " "

PLATE II

Fig. 1 – Amyrsidea ventralis (Nit.) female.
Fig. 2 – Desumenopon praegracilis hyperythus n.subsp., head and prothorax, (male.
Fig. 3 – " " " tip of male abdomen.
Fig. 4 – " " " " female "
Fig. 5 – " " " pharyngeal sclerite.
Fig. 6 – " " " male genitalia.

PLATE III

Fig. 1 – Cracimenopon mituensis new sp., head, prothorax and tip of abodmen, (male.
Fig. 2 – " " " tip of abdomen of female .
Fig. 3 – " " " pleurite I of female.
Fig. 4 – " " " male genitalia.
The Menoponidae of the Cracidae

PLATE II
The Menoponidae of the Cracidae

New Names for Mallophaga whose specific names are preoccupied


A correction and an apology.

*Strongylocotes tinami* (Rudow), 1870.

*Nirmus tinami* Rudow, Zeitschr. ges. Naturwiss., 35, p. 473 (Host: *Nothura boraquira* (Spix)).

*Nirmus ansatus*, 1. c., p. 474 (Host: same as preceding).

Due to an unfortunate oversight Miss. Clay's paper containing a redescription of this species from material taken on the type host, was not taken into account in my recent review of the genus *Strongylocotes*, for which my apologies are due to Miss. Clay.

I am much pleased that she has finally been able to clear up this vexing problem, and definitely fix the identity of Rudow's species, also that she has vindicated my original opinion regarding it (Carriker, 1936, p. 93). The close resemblance of *S.tinami* to *S.lipogonus* (Nit.) from *Rhynchotus rufescens* is added proof to my contention that the Mallophagan parasites of the genera of Tinamous inhabiting the grasslands and paramos of South America (*Rhynchotus, Notoprocta, Nothura and Tinamotis*) are very different from those on the forest-inhabiting genera. These two species are undoubtedly *Strongylocotes*, but in comparing them with the remaining know species of the genus it must be admitted that they are strongly aberrant.

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