STUDIES IN NEOTROPICAL MALLOPHAGA. XII
Part 2. Lice of the Tinamous

M. A. Carriker, Jr.
Popayán, Colombia

(With 32 text-figures)

This is the second paper of my third report on the lice of the Tinamous, and consists of a complete review of the genus Strongylocotes Taschenberg. The first paper of this series, treating the genera Menacanthus, Pseudolipeurus and Pseudophilopterus appeared in a recent number of this publication (vol. 13, no. 3, pp. 205-224).

Family HEPTAPSOGASTRIDAE Carriker
Subfamily STRONGYLOCOTINAE Carriker
Genus Strongylocotes Taschenberg

This genus has now been recorded from all of the species of the genus Tinamus excepting guttatus, from all species of Nothocercus and from most of the species and many subspecies of the genus Crypturellus, all of which are inhabitants of the dense tropical jungles, ranging from sea-level almost up to timber-line.

The only species of the savanna inhabiting forms on which it has been recorded are Rhynchotus fuscatsus (S. lipogonus) and Nothura borahora (S. tinami (Rud.)). Excepting S. lipogonus all of the known species of the genus form a very homogeneous group. As for S. tinami (Rud.), (= S. anatrus Rud.), I am fair from being convinced that its true host is Nothura, or if it really is Nothura then S. tinami is not a Strongylocotes.

All of the evidence at present seems to prove that this genus is not present on either Nothura, Nothoprotea, Tinamota or Eudroma. Rudow may have had some form resembling Tinamotaecola (from Tinamota), which has a circumfascate head and a superficial resemblance to Nirmus, as it was then understood,

* Received for publication July 10, 1953
and which has not since been taken. Such a type of loose may be rarely present
on Notkea.

Since publishing my second report on the lice of the Tinamous (1944) I
have been able to collect much material of this genus, some already known,
others undescribed, and with this additional material for study I would make
some changes in the nomenclatural status of a number of forms, raising at
least one (S. complanatus interruptus) to specific rank and reducing others to
subspecies. A complete list of the species and subspecies of the genus, as now
known, appears at the end of this review.

Strongylocotes setosus (Piaget)

Goniodes setosus Piaget, Les Pedicul., 1880, p. 265, pl. XXI, fig. 9 (Host:
Crypturellus (Tinamous variegatus).

Piaget described and figured this species from a single female which Miss
Clay has designated as the lectotype of the species. In 1942 Hopkins renamed
it Strongylocotes setifer (nom. nov. for Goniodes setosus Piaget, 1880, p. 265,
ne c 257) and states that it probably equals S. complanatus variegatus Carriker,
1941, from C. variegatus salomi.

I have now secured 5 § 2 8 and 3 § 9 of a Strongylocotes from C. v. variegatus,
collected at Pto. Verenca, Int. Cuqueta, Colombia. These specimens are
not only entirely different from S. complanatus variegatus Carriker, but have
nothing in common with either the description or figure of Goniodes setosus
Piaget (S. setifer Hopkins).

In my first report on the lice of the Tinamous (1938, p. 90) I listed this
species of Piaget as Strongylocotes lipogonus setosus, considering it to be very
closely related to S. lipogonus (Nitz.), and gave my reasons for so doing. I still
maintain that I was more or less correct in my first diagnosis. I have now
carefully compared immature specimens of S. lipogonus with Piaget’s description
and figure of setosus, and I have one specimen which is almost an exact
duplicate of Piaget’s figure of setosus, and I now contend that Goniodes setosus
Piaget, 1880, p. 265, is nothing more than a nymph of Strongylocotes lipogonus
(Nitz). How the error for the host came to pass it is impossible to say, but we do
know that many such errors have taken place.

Absence of the median band projecting backwards from the front in Piaget’s
figure cannot be considered as proof that it is lipogonus, as I have previously
stated, since all immature specimens of the species possessing this band are
without it. However, the wide front, shape of segment I of the abdomen and
the incision between segments I and II are characteristic of lipogonus and
abent in specimens from C. v. variegatus. Lastly, the shape of the apical
abdominal segment and the sternal plate under VI are exactly as in lipogonus
and very different from the species found on Crypturellus.

STUDIES IN NEOTROPICAL MALLOPHAGA. XII. PART 2

The specimens recently taken on C. v. variegatus, supposedly the host of
setosus (Piaget) are of the type of interruptus Carriker, having in the males
the abruptly narrowing abdomen at segment V, and in this respect differ
radically from S. complanatus variegatus Carriker, in which there is no such
abrupt narrowing of the male abdomen.

This type of Strongylocotes with the abrupt narrowing of the abdomen in
the male sex was originally described as a subspecies of S. complanatus. This,
I now believe to have been an error. It should have full specific rank, since
there are a number of closely related forms possessing this character which
are parasitic on the medium-sized species of Crypturellus only, such as gorlephi
affinis, undulatus, v. variegatus, idoneus, bouvardi, colombianus and cinnamo-
meus. The following forms should, therefore be considered conspecific with
S. interruptus Carriker, and classified as subspecies of it: S. complanatus inter-
medius Carriker, S. c. variegatus (Carri.), S. c. bouardi Carri., S. c. jimbriatus
Clay, S. c. notiognathi Clay, and S. timai Guimarães. I have examined a series
of specimens from the type host of S. timai Guimarães, which was placed under
the synonymy of S. interruptus Carriker by Hopkins and Clay, and find them
to be subspecifically distinct, and the race worthy of recognition.

In this group I find that much care must be taken in using actual
measurements for subspecific differentiation, since there is sometimes a very
great individual variation, especially in specimens from different individuals
of the same host species. Characters which are constant and which may be
used for separation seem to be the shape of the head, amount of sexual
dimorphism in head and shape of the mesothorax and shape and chaetotaxy
of the apical abdominal segments. The two following forms are described
as new.

Strongylocotes interruptus caeptaee n. sp.

(Figs. 1 to 5)

Types, male and female adults, from Crypturellus v. variegatus (Gmelin),
collected by the author at Pto. Verenca, Int. Cuquet, Colombia, June 2, 1952
(In U. S. Nat. Mus.).

Diagnosis — This is one of the smaller races, with the abrupt narrowing
of abdomen in the male very marked, as in the nominate form; with the
mesothorax much wider than segment I of abdomen; the marginal abdominal
band narrow and submarginal band wide, sharply marked and much widened
at the sutures from I to IV; pleuritic V only, with slight "folded" appearance.
The head is strongly dimorphic in the sexes, that of the female longer and
narrower both at temples and from, more rounded at from and more flattened
at temples. Segment VIII in male with tip transverse, bearing a fringe of
slender setae; parames are bent inward apically; chaetotaxy of segment VII
in female distinct. The head in the male, especially, is unusually short and
wide at temples. Measurements follow next species. Described from 2 holotype,
9 allotype, 2♂♂ and 1♀ paratypes and 2♂♂, 1♀ from another individual of same host.

Strongylocetes interruptus columbianus n. sp.

(Figs. 6 to 10)

Described from 2 holotype, 8 allotype and an additional 2 adult from another individual of the type host, also present 3 nymphs of different instars.

### MEASUREMENTS OF TYPES

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Studied in Neotropical Mallophaga. XII. Part 2

race, but the head in the male is much longer, with narrower pre-antennary region and more convex temples; in the female the frons is more flattened, sides of pre-antennary area concave and temples more convex and head wider at both temples and clypeus. Segment VIII in male is larger than in equilater, ending in two rounded lobes, each bearing 6-7 long, rather coarse hairs; the parameters are uniformly rounded apically (not bent inward), and chaetotaxy of segment VIII in female also differs (see fig.)

Types, male and female adults, from Crypturellus columbianus (Salvador), collected by the author at Socarré, Rio Sinú, Colombia, April 13, 1949 (In U. S. Nat. Mus.).

Diagnosis — This race is larger than equilater, but smaller than idoneus. It is very close to equilater n. sp. in most of the characters listed under that

Strongylocetes interruptus idoneus n. sp.

(Fig. 11)

Types, male and female adults, from Crypturellus idoneus (Todd), collected by the author at El Conejo, Dept. Magdalena, Colombia, March 22, 1945. (In U. S. Nat. Mus.)
Diagnosis. This is one of the largest species of *interruptus* (see tables of measurements). In some characters it resembles *caquetae*, in others *columbianus*, while in others it differs from both. The shape of the head in both sexes is nearest to that of *caquetae*; abdominal segments VIII in male is close to *columbianus* both in shape and chaetotaxy; the chaetotaxy of segment VI in the female is very close to that of *caquetae*, while in VII it is like *columbianus*. The inner margin of the cephalic bands is strongly corrugated, differing thus from both of the above races.

The male genitalia differs strongly from that of *caquetae* in shape of paramers and basal portion of basoal plate, being similar to *columbianus* in this respect, but the endomera differs from both (see figs.), not only in shape but in the presence of three small setae on each side of the rounded apical portion.

The type series consists of the ♂ holotype, ♂ allotype, 5 ♂♂ and 9 ♀ ♀ paratypes, as well as several nymphs. In addition a large series was taken from several individuals of the type host, collected in different localities in the Dept. of Magdalena.

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A key to the subspecies of "Strongilocotes interruptus"

1. Mesothorax scarcely wider than segment 1 of abdomen, with sides straight and but slightly divergent; the four long hairs at posterior-lateral angles set in a deep concavity; front in male truncate, in female convex and narrower, with head longer ............... *interruptus* C.A.

2. Mesothorax considerably wider than abdominal segment 1, with sides convex and divergent

u. The abrupt narrowing of abdomen at segment V in male less noticeable, the difference in width between IV and V being not more than 18, while the lateral margin of segments IV to VII form almost a straight line; marginal band on I to VI narrow, submarginal band on I to V broad in males, marginal band obsolete in females; front, sides of post-abdominal area and posterior-lateral margins of temples all slightly convex in both sexes

c. Head longer in female than male, but general shape similar (male head 70 × 90; female head 80 × 75); front in male 26; in female 28; slightly more rounded at sides in female; 14 long hairs, not very thick, on each side of VII in female, with slender, intermingled setae abundant and rather long. .................. *serratus* (Carr.)

c. Head practically the same size and shape in the two sexes; sides of front in the female scarcely more rounded than in male (head, male 78 × 49; female 78 × 47; front male, 20; female, 20); a cluster of 4 to 5 slender setae on each side of posterior margin of segment VIII in male; 10 to 11 strong hairs on each side of VII in female, thickened basally and of medium length, the intermingled slender setae sparse and short. (This race is close to *serratus*) .......................... *intermedius* Carr.

x. The abrupt narrowing of abdomen at segment V in male strongly marked, the difference in width between IV and V being from 26 to 37 mm.

c. Male with marginal band on abdomen very wide, submarginal band narrow; anterior portion of pleurites V and VI having appearance of being folded inward; difference between width of segments IV and V is 37 mm. .................. *interruptus* Carr.
M. A. CARRIKER, JR.

**Strongylocotes subconiceps Carriker**


This species seems to be confined to the various subspecies of Crypturellus soui, with the exception of a single male recorded by me from *G. obsoletus punensis*, which record I now accept with reservations, believing that there may have been an accidental mixing of specimens in the laboratory.

The species is readily recognized by the shape of the apical segments of the abdomen in both sexes, and by the shape of the head and thorax, the head being somewhat conical with rounded front. There is a varying amount of sexual dimorphism in the shape of the head, that of the female being narrower and usually with flattened posterior margins of the temples, while in the males this latter margin is convex.

This flattening of the temples in the female is most noticeable in the nominate race and in *fusca* n. sp., while in *albigularis* the temples are strongly convex posteriorly as in the males of the other races (male of *albigularis* unknown).

In the nominate race of *subconiceps* and in *perisse* the mesothorax is narrower, with sides scarcely diverging, almost straight and lateral angles but little wider than the first abdominal segment. In *caecurn* n. sp., the sides are much more divergent, but straight, and with angles more protruding; in *fusca* n. sp., the sides of the mesothorax are slightly convex, with the anterior portion of the segment wider, so that the whole mesothorax extends outward considerably beyond a line drawn from prothorax to side of abdomen. In *albigularis* (♀) the mesothorax is most strongly divergent, with sides slightly concave and angles protruding very slightly beyond the abdomen.

There is also individual variation in the amount of concavity in the sides of the prothorax, some being almost straight, others strongly concave, but they are noticeably more concave in all specimens of the nominate race and in *perisse*.

Up to the present time the species has been split up into three races, the nominate form from *G. inopsicpalus*, *perisse* from *G. muscelinus*, and *albigularis* from *G. subconiceps*. I have previously recorded the nominate race from five different races of Crypturellus soui, the material from the different hosts showing only differences too small to be recognized in nomenclature.

I have now secured abundant material from three additional subspecies of *G. soui*, viz: *caecurn*, *caeruleus* and *harterti*. The material from *caecurn* and *caeruleus* seems to represent two new subspecies, but that from *harterti* is not separable from the series from *caeruleus*, at least the differences are, in my opinion, too small to be recognized.

In my 1936 report 1 listed three males of this species from *G. soui*, collected in eastern Venezuela, as the nominate race. These specimens were
not in the best condition nor was any attempt made at that time to separate the material from the different hosts into subspecies. I have now been able to examine a series of 2 ♂♂ and 6 ♀♀ of *subincisus* from Cr. s. soni, collected by Dr. Pablo Andrèce at Graz Sabana, Venezuela, and a comparison of this material with that from the other hosts shows that it is inseparable from the series taken on Cr. s. caucar of Colombia. It would naturally be expected that they might be the same as the material from Cr. s. caucar, since the ranges of soni and caucar are supposed to meet somewhere in eastern Colombia, and are separated from the range of caucar by the arid Guajira region and the eastern cordillera of the colombian Andes, the latter region (northern section) being a portion of the range of musculinus, host of S. s. perijae. It is even still more inexplicable that the specimens from Cr. s. harteri, collected near the Panama frontier, should be the same as those from Cr. s. caucar, instead of agreeing with those from Costa Rica.

**Strongylocotes subincisus caucar n. sp.**

(Figs. 12 to 15)

Types, male and female adults, from Crypturella soni caucar (Chapman), collected by the author at Taraza, Dept. Antioquia, Colombia, April 25, 1948 (in U. S. Nat. Mus.).

**Diagnosis** — Nearest to S. s. perijae in the shape of the head but is uniformly larger in both sexes and there is less difference in size between the sexes, some of the measurements being the same in both sexes, others greater in the male and others in the female.

There is an unusual amount of individual variation in size in this group, in fact that is true of almost the entire genus, so that a series of measurements is necessary for establishing the averages. However, the shape and the degree of sexual dimorphism in the head are fairly consistent, also the proportions in the thoracic segments and shape and chaetotaxy of the apical abdominal segments.

In S. s. caucar the head of the male is shorter and narrower at the temples, as well as the coni, than in *subincisus*, but in the females the head is practically the same in all three of these dimensions. The prothorax and mesothorax are much shorter and narrower in the male, while in the female they are of about the same length but much wider than in *subincisus*. Compared with *perijae* we have the head in the male longer and wider, in the female slightly longer and considerably wider; the prothorax is longer and wider in both cases; the mesothorax longer and wider in the male and wider in the female.

The shape of the male head is about equal to that of *perijae*, but the coni are much longer and narrower; in the female the sides of the pre-antennary area are more convex, the sides of the temples less projecting and the postero-lateral margins of the temples less flattened (in *perijae* this margin is slightly concave).

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and wider in both cases; the mesothorax longer and wider in the male and wider in the female.

In caucar the pre-antennary area of the head is narrower apically and more rounded in the female than in the male; the metathoracic apron is longer and much narrower in the female than in the male, but there is very little difference in the width of the mesothorax in the two sexes.

The type series consists of the ♀ holotype, ♂ allotype and the following additional specimens from other individuals of the type host: Simitri, Dept. Bolivar, 5 ♀♂ and 4 ♀♀; Norosi, Dept. Bolivar, 4 ♀♂ and 8 ♀♀. Measurements follow the next subspecies.
Strongylocotes subconicus subgen. feliae n.sp. (Figs. 16 to 20)

Types, male and female adults, from Crypturellus soui caquetae (Chapman), collected by the author at Pro. Venequía, Int. Caquetá, Colombia, June 11, 1957 (In U. S. Nat. Mus.).

Diagnosis — The male sex is considerably larger than the female in all measurements; there is an unusual amount of sexual dimorphism in the shape of the head, that of the female being the same length but much narrower from the occipital margin to the front, with the postero-lateral margins are slightly concave in the female and strongly convex in the male. There are various differences between feliae and caucae in the shape and chaetotaxy of the terminal abdominal segments of both sexes (see figs.). The above characters, combined with the differences in measurements are sufficient to differentiate this race from all of the other known subspecies of subgenus.

Described from the z holotype, φ allotype and 1 z and 2 φ φ paratypes. There is also a series of 4 z φ and 5 φ φ from Crypturellus soui harserti.

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collected by the author at Acandí, Choco, Colombia, which cannot be separated from the specimens described above as S. s. feliae.

MEASUREMENTS OF THE TYPE:

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Strongylocotes subconicus subgen. feliae n.sp. — Figs. 14 and 15: Segments VII and VIII of male, VI and VII of female. Strongylocotes subconicus feliae n.sp. — Figs. 16 and 19: Tip of abdomen, male and female. Fig. 20: male abdomen.

Strongylocotes subconicus albogularis Guimarães, 1957

Revista Museu Paulista, vol. 29, p. 19, figs. 5, 7a (Host: Crypturellus [Timmers] soui albogularis)

This species is very puzzling in several characters. It is unfortunate that the male sex was not secured, since the females of complanatus, subconicus and interpus are sometimes difficult to assign to their proper species. I am strongly inclined to think that it is not a race of subconicus but of complanatus.
since it agrees very closely with the female of the nominate race of that species, both in the shape of the head and prothorax, and in the chetaxy of the apical segments of the abdomen. The mesothorax is almost the same but has the sides straighter than those of complanatus.

If the host given for it is correct it is difficult to reconcile its being a race of complanatus, since for this exception, the only species thus far taken on Crypturellus soui have been subconicus.

To further complicate the matter I have a good series of a Strongylocotes collected at Sta. Teresa, Espirito Santo, Brazil, which is a typical subconicus in every way, and the only form of Crypturellus soui found in that part of Brazil is albigerulus, supposedly the host of S. s. albigerulus Guimarães. These specimens of subconicus from Espirito Santo are are close to the nominate race of that species, collected by me in Bolivia, perhaps not separable from it. The host for S. s. complanatus is Crypturellus a. abscedus, which, I believe, is found in the region from which came the type host of albigerulus, and there is a reasonable possibility that there may have been an error in the identification of the host of albigerulus. However, until further information is available regarding the matter, it seems best to make no change in the status of albigerulus.

Strongylocotes spinosus spinosus (Piaget)
(Figs. 21 to 25)

Crypturellus spinosus Piaget, Les Polychyles 1889, p. 261, pl. 21, fig. 7 (Host Nacochoris [Tinamidae] julius)

This species was described and figured from a single male, but no description or figure of the female has ever been published, in fact I believe that the specimens collected by me in 1946 from the type host are the first taken since the type.

I have the following specimens of this interesting species: 8 ♂ and 2 ♀ on two individuals of the type host collected at Alto del Perro, Santander, October 17, 1946 and 8 ♂ and 9 ♀ on two individuals, collected at Hilda, Las Vegas, above Bacaramanga, Santander, Colombia, August 22 and 31, 1949.

With the exception of the usual differences in size, in the shape of the head and apical segments of the abdomen, the two sexes are very similar in appearance, even to the shape of the abdomen. In the male the head is wider at the temples and at base of coni, and slightly shorter than in the female. Piaget's figure of the male is very good, the only differences between it and my specimens are that in my specimens abdominal segment VIII extends slightly beyond VII and is not the same shape, also the hairs at the

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1 In May 1944 in the Neotrop. Maill. III, p. 312, I stated that Strongylocotes spinosus was described from the female and figured by Piaget and Taschenberg, which was an error. The type was a male and was figured only by Piaget.

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The lateral angles of the abdomen are much shorter and much thicker basally, as well as those of the mesothorax, while the whole abdomen is shorter and wider, segment I having the sides concave and strongly divergent. However, there is no doubt of the correctness of the host given by Piaget for this parasite, viz: Nacochoris julius.

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Field 21 and 22 - Strongylocotes spinosus spinosus (Piaget), head and thorax of male and female.

The differences between the various races of spinosus are small, but apparently consistent and consist of differences in the shape and proportions of the head, thorax and apical abdominal segments, and to some degree in the chaetaxy. In all of the races of spinosus the head of the female is narrower at the temples than in the male, but not at the coni. S. spinosus has the head shaped very similarly to that of angulopeltis, but the two species may be readily separated by the shape of the terminal abdominal segments of the female and the chaetaxy of segments VII and VIII in the male.

Figures are hereewith given of the head and prothorax of both sexes of S. s. spinosus, also the apical abdominal segments of both sexes of spinosus, as well as those of S. spinosus subsinosus (Figs. 27 and 28) and S. s. bonapartei (Fig. 28, g.), together with the male genitalia of spinosus. By a comparison of these figures with those previously published of the other races of spinosus the differences between the races will become apparent, and further description seems unnecessary. Measurements for spinosus follow the next subspecies.
Strongilocotes spinous intermedius n. sp.

(Fig. 20)

Types, male and female adults, from Nothocercus bonaparte intermedius Salvadori, collected by the author above Frontino, Dept. Antioquia, Colombia, May 25, 1950 (In U. S. Nat. Mus.).

Diagnosis — Nearest to S. z. bonaparti, from which it differs as follows.

Almost all of its measurements are less than in bonaparti, but some are greater, giving different proportions to some of the segments. The apical segments of the abdomen in the male are exactly the same as in bonaparti; segment VII in the female is the same as in subspecies, both in shape and chaetotaxy; the male genitalia is the same as in bonaparti. Comparing the measurements with those of bonaparti we have the following: Total length less in both sexes; head of male less in all measurements, of female shorter but wider at temples and corn; male prothorax shorter and narrower, but that of female the same size; mesothorax shorter and narrower in male, shorter and wider in female; metastigmatic spines narrower in male, wider in female;

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</table>

abdomen considerably narrower in both sexes and slightly shorter; basal plate, paramers and endomes shorter, but practically the same width.

In this race there are three small spines on each side of the endomes, just posterior to the widest part, set in slight pits. These spines are also present in bonaparti, but are not shown in the figure published of the genitilia of that species.
Strongylocetes angulocapitis Carriker

Stud. in Neotrop. Moll. 1, 1966, p. 89, pl. 8, Fig. 5 (Host: Timanus j. peruvianus). In my 1944 report on this genus (Proc. U. S. Nat. Mus., Vol. 95, p. 115) I reviewed the history of this species and described three new subspecies of it, taeni, undulatus and ruficeps, and a new species from Timanus major peruvianus, named pelliculifrons.

Changes in the nomenclature of some of the host and errors in identification by myself necessitate the following corrections for the 1944 report: The correct name, now applied for the host of Str. a. angulocapitis is Timanus major peruvianus Bonaparte, instead of T. a. serratus Spix, that race of major being restricted to N. W. Brazil.

The correct name for the host of Str. a. taeni becomes T. a. septentrionalis Brabourn & Chubb, while the host of Str. a. ruficeps should have been T. a. major serratus Osgood & Conover. I have now decided that Str. pelliculifrons Carriker is conspecific with angulocapitis Carriker, and thus becomes a subspecies of it.

No further information concerning the described forms of angulocapitis has been secured but a new race of it from Colombia is described below.

Strongylocetes angulocapitis bolivarense n. sp.

Types, male and female adults, from Timanus major saturatus Griscom, collected by the author at Tarazá, Antioquia, Colombia, April 27, 1948 (in U. S. Nat. Mus.).

Diagnosis — Very similar to Str. a. ruficeps from Timanus major saturatus of northeastern Colombia. At first glance there seem to be insufficient differences for the separation of this form from ruficeps, but a comparison of the measurements of the two races of Timanus reveals differences too great to be disregarded.

In most measurements bolivarense is larger, but some are the same and others less. For the males of the two races we have the following: length 3.24 against 3.18; head, 1.06 x .93 (6.1 at conus) against .97 x .96 (.55 at conus); prothorax .41 x .65 against .46 x .63; mesothorax .66 x .1.04 against .67 x .94; metathoracic aporn .46 x .79 against .50 x .78; abdomen 1.67 x 1.17 against 1.66 x 1.11; basal plate .79 x .11 against .87 x .10; parameres .175 x .11 against .195 x .097; endopara .11 x .065 against .097 x .066.

For the females we have: body length 3.59 against 3.36; head 1.02 x .92 (.65 at conus) against .95 x .87 (.56 at conus); prothorax .46 x .67 against .45 x .65; mesothorax .70 x .1.04 against .71 x .91; metathoracic aporn .

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.48 x .80 against .30 x .69 and abdomen 2.01 x 1.54 against 1.54 x 1.50.

Measurements for abdominal segments VII and VIII in male and VII in female are practically the same, as well as the chaetotaxy of these serotypes, although the shape are somewhat coarser in bolivarense. It will be noted that the head in ruficeps is practically an equilateral triangle, while in bolivarense it is considerably longer than wide at temples but the same width at the coni.

There are various other differences, all of which seem to be constant.

As for the male genitalia, the basal plate is considerably shorter and wider in ruficeps, also the paramores, while the endopara is slightly longer but of same width.

A large series of this race was collected on the type host from different localities in the departments of Bolivar, Antioquia and Chocó. The type series consists of 3 holotype, 9 allotype, 1 ♀ and 7 ♀ ♀ ♀ paratypes.

Strongylocetes berlepschi n. sp.

(Figs. 31 and 32)

Type, female adult, from Cyrtocellus cinerex berlepschi (Rothschild), on a museum skin collected in Ecuador (In coll. K. C. Emerson).

Diagnosis — Apparently this species is closely related to S. abdominalis Carriker, from C. e. cinerex, and may possibly be conspecific with it, but without the male sex it is not possible to decide this point, since it is the apical abdominal segmentus in the male which are so characteristic of abdominalis.

S. berlepschi is very much larger than abdominalis in all measurements (see table); the head is of the same size, almost as wide as long, but has the from flattened instead of strongly rounded as in abdominalis, in fact the from in the female of berlepschi is flat as in the male of abdominalis, and the temples are also very flat.

The sides of the prothorax are straight, and the posterior margin convex; the sides of the mesothorax are very slightly convex and more strongly divergent than in abdominalis, extending further beyond abdominal segment I, while the shape of the posterior margin is different, the median conical portion being wider; the metathoracic aporn is shorter and wider.

The shape, structure and markings of the abdomen are very similar to abdominalis, excepting segment VII, which differs in shape and chaetotaxy, the hairs on the margin being longer and more slender, the ventral spine on VI and VII more sparse and slender, and the structure of the median portion of the posterior margin of VII is quite distinct (see figure). The type series consists of 3 ♀ ♀ (one without head) all collected on a museum skin in West Germany in 1952 by L. B. Col. K. C. Emerson.
Measurements of the female of S. abdominalis and the type of S. berlepschi:

<table>
<thead>
<tr>
<th>Measurements (mm)</th>
<th>S. abdominalis</th>
<th>S. berlepschi</th>
<th>S. berlepschi type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>2.50</td>
<td>2.82</td>
<td>0.77</td>
</tr>
<tr>
<td>Head (excluding eyes)</td>
<td>3.43</td>
<td>4.77</td>
<td>0.79</td>
</tr>
<tr>
<td>Proboscis</td>
<td>0.45</td>
<td>0.77</td>
<td>0.01</td>
</tr>
<tr>
<td>Maxillae</td>
<td>0.48</td>
<td>0.54</td>
<td>0.01</td>
</tr>
<tr>
<td>Prementum</td>
<td>0.26</td>
<td>0.27</td>
<td>0.01</td>
</tr>
<tr>
<td>Antennae</td>
<td>0.45</td>
<td>0.45</td>
<td>0.27</td>
</tr>
<tr>
<td>Length</td>
<td>Width</td>
<td>Length</td>
<td>Width</td>
</tr>
</tbody>
</table>

Note: A series of both sexes of S. abdominalis Carriker was taken on several specimens of Cryptorellus e. cinereus at Pau, Venezuela. In its Malekala, Colomina in June, 1952. Compared with paratypes of abdominalis the only differences shown are slight variations in the measurements, but these differences are not constant.

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Cossonova suggest that Cryptorellus berlepschi may very well prove to be a distinct species, and not a subspecies of cinereus, and gives her reasons for so thinking, while the marked differences between the two forms of Strongylocoetes parasitic on the two birds lend strength to this suggestion.

LIST OF THE SPECIES AND SUBSPECIES OF "STRONGYLOCOTES" WITH THEIR HOSTS

<table>
<thead>
<tr>
<th>Species</th>
<th>Host</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. cinereus]</td>
<td>Homo sapiens</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>B. pavo</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>C. femoralis</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>S. occidentalis</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. albatross</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>L. argentatus</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. petersi</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. triton</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. trossi</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. urialae</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. vermiculus</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. vultur</td>
</tr>
<tr>
<td>N. abdominalis</td>
<td>T. xanthocercus</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>Homo sapiens</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>B. pavo</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>C. femoralis</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>S. occidentalis</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>T. albatross</td>
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<td>N. cinereus]</td>
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</tr>
<tr>
<td>N. cinereus]</td>
<td>T. vultur</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>T. xanthocercus</td>
</tr>
<tr>
<td>N. cinereus]</td>
<td>T. yaxitae</td>
</tr>
</tbody>
</table>

Fig. 30 - Strongylocoetes abdominalis Carriker, abdominalis subsp. VIII al scale. Figs. 31 and 32 - Strongylocoetes abdominalis subsp., head, elytra, first and second segments of female abdomen.
I consider that the following three species are synonyms of Str. l. lipognous (Ntl.): Nirmus craneaneps Rudow, Goniodes sevastus Piaget, and Str. setifer Hopkins.

As doubtfully belonging in this genus are: Nirmus sinami and Nirmus amyotus Rudow, both supposed to be from Notkru brossaguirn, and probably male and female of the same species. I have discussed these two species in the first part of this paper.

NEOTROPICAL MIRIDAE, LXVIII: GENUS "EURYCHILELLA" REUTER WITH DESCRIPTIONS OF FOUR NEW SPECIES (Hemiptera)

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(With 21 text-figures)

The genus Eurychilla Reuter, 1909 (Ann. Nat. Hofmus. Wien, 22 : 159) was established for a single species from Mexico named pallida, which consequently is the haptotype.

While reviewing the Reuter's types in the Museum Zoologicum Universitatis, Helsinki, the author has found that Sixeronus discoidalis Reuter, 1912 (Otv. F. Vet. Soc. Forh., 54 : 45) belongs to the genus and also that Tenotheris namus Carvalho, 1948 (Rev. Ent., 19 (1 & II) : 280) is co-specific with discoidalis Reuter and thus must be in synonymy. Caulotops figuiredoi Carvalho, 1944 (Rev. Brasil Biol., 4 (3) : 245) belongs also to Eurychilla and must be included under this genus.

The genus Eurychilla Reuter is well characterized amongst the other Brycoridae by the anterior portion of pronotum somewhat projecting over the vertex and by the eyes being produced laterally and distinctly curved backwards. A key for the species included in the genus and the new ones described here is given below.

This work was undertaken in the U. S. National Museum and the author wishes to acknowledge laboratory facilities granted through Dr. REECE I. SAILEE.

Eurychilla Reuter, 1909


* Received for publication August 6, 1951.