

ON TWO SPECIES OF PSEUDOSCORPION FROM
CHILE WITH A NOTE IN ONE FROM SUMATRA

BY

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Through the kindness of Dr. Carlos E. Porter, of Santiago, I have received a specimen of this interesting group of Arachnids, which is here reported upon. This opportunity is also taken for describing a new species of this group, also from Chile, which I received from Dr. C. R. Crosby of Cornell University. There is also given some notes upon the comparative value of characters of systematic importance in the genus *Chelanops*, and some notes concerning the taxonomy of the genus *Chthonius*.

CITHONIIDAE

The following key to the South American species of *Chthonius* will prove helpful in determining species from this continent. All species so far described from South America are included.

- 1.—Teeth of fingers of claw close-set, contiguous, giving the finger a serrate or crenulate appearance..... 2
Teeth of fingers of claw distinctly separated from each other, not contiguous..... 5
- 2.—Fingers of claw twice or very nearly twice as long as hand..... 3
Fingers of claw 1.5 times as long as hand.....
parvidentatus Balz (Venezuela)
- 3.—With one pair of eyes *naranjitis* ELLINGSEN (Ecuador).
With two pairs of eyes..... 4
- 4.—Movable finger of chelicera with a row of 9-10

subequal teeth; femur of palpus 3.6 times as long as broad
... *chilensis* sp. nov. (Chile).

Movable finger of chelicera with 2 subapical teeth;
femur of palpus 4 times as long as broad..... *buchwaldi*
Tullgren (Ecuador)

5.—Fingers of claw with teeth alternately large and
small..... 6

Fingers of claw with teeth of more or less uni-
form size; not with large and small teeth alternating with
each other..... 7

6.—With two eyes (one pair); sides of carapace al-
most parallel..... *simoni* Balzan (Venezuela).

Without eyes; carapace distinctly narrowed be-
hind..... *pulchellus* Ellingsen (Ecuador).

7.—Teeth on fixed finger of claw about their own
basal width apart; movable finger without teeth.....
..... *curvidigitatus* Balzan (Río Apa).

Teeth on fixed finger separated by spaces distinc-
tly greater than their own basal widths; movable finger
distinctly toothed..... 8

8.—Fingers of claw 1.5 times as long as hand; teeth
broad-separated by no more than twice their basal width
..... *hirsutus* Balzan (Brasil).

Fingers of claw 2 times as long as hand; teeth
slender-separated by interstices several times as broad as
their own basal widths..... *silvestrii* Ellingsen (Chile).

* Tullgren's statement that *buchwaldi* possesses the
same type of dentition on the fingers of the claw as does
narajitensis, i. e. teeth cross-set and contiguous, although
nowhere does he specifically state that that such is the
case.

In this connection it may be well to correct an error
in the literature that has come to my attention. It was first
noted by With in 1906, who however failed to correct
the mistake.

Chthonius sumatraensis, sp. nov.

1899—*Chthonius curvidigitatus* Simon, Ann. Soc. Ent.
Belg. xliii: 122.

1906—*Chthonius curvidigitatus* Simon, With Kgl. Dansk. Vid. Selsk. Skrifter 7. Raekke III: 74.

1911.—*Chthonius curvidigitatus* Simon, Ellingsen, Ann. Mus. Civ. Stor. nat. Genova 45: 36.

Remarks.—As noted by both With and Ellingsen this species had to receive a new name since *curvidigitatus* had already been used by Balzan for a South American species as early as 1890; some nine years earlier than Simon described this species from Sumatra under the same name.

As With states, this species is remarkable in a number of respects and will possibly have to be referred to another genus. This can be done safely, however only upon a critical study of actual material of the species.

***Chthonius chilensis*, sp. nov.** (Fig. 20, A-J).

Material examined.—A single adult female from Butalcura (Ciloe Island), Chile. Collected by the Cornell University Expedition to Chile, April 4 or 5, 1920. Habitat not designated. The Holotype is in the collection of Cornell University.

Measurements.—The following measurements taken as described by With and Chamberlin*. All measurements in millimeters.

Length exclusive of the chelicerae about 1.35 mm, *Carapace*, (0.41—0.484). *Chelicerae*, length (from tip of fixed finger to base of hand 0.352; width of hand 0.224; length of movable finger 0.22. *Palpus* (0.21—0.13), (0.45—0.113), (outside length 0.226—inside length 0.98—0.131), (length of claw 0.71—length of fingers 0.466—hand, 0.24—0.165). *Leg I*, (0.122—0.1), (0.261—0.0735), (0.138—0.069), (0.142—0.06), (0.301—0.037). *Leg IV*, (0.1555—0.135), (0.425—0.18), (0.302—0.09), B (0.138—0.064), D (0.286—0.041).

Morphology—*Carapace* smooth, distinctly broader anteriorly than long; chaetotaxy distinctive, in addition to the typical macrochetæ there are numerous areoles for smaller setæ (Fig. 20); anterior margin medially produced into a deeply serrate projection (Fig. 20 B); with four distinct eyes (Fig. 20, A). *Chelicerae* typical in size and shape;

* 1923.—Chamberlin, Ent. News. 162: V.

arrangement of setae characteristic (Fig. 20. D); serrula exterior apparently with eighteen teeth, *serrula interior apparently* untoothed (this could not be definitely made out); movable finger with about twelve equally distant

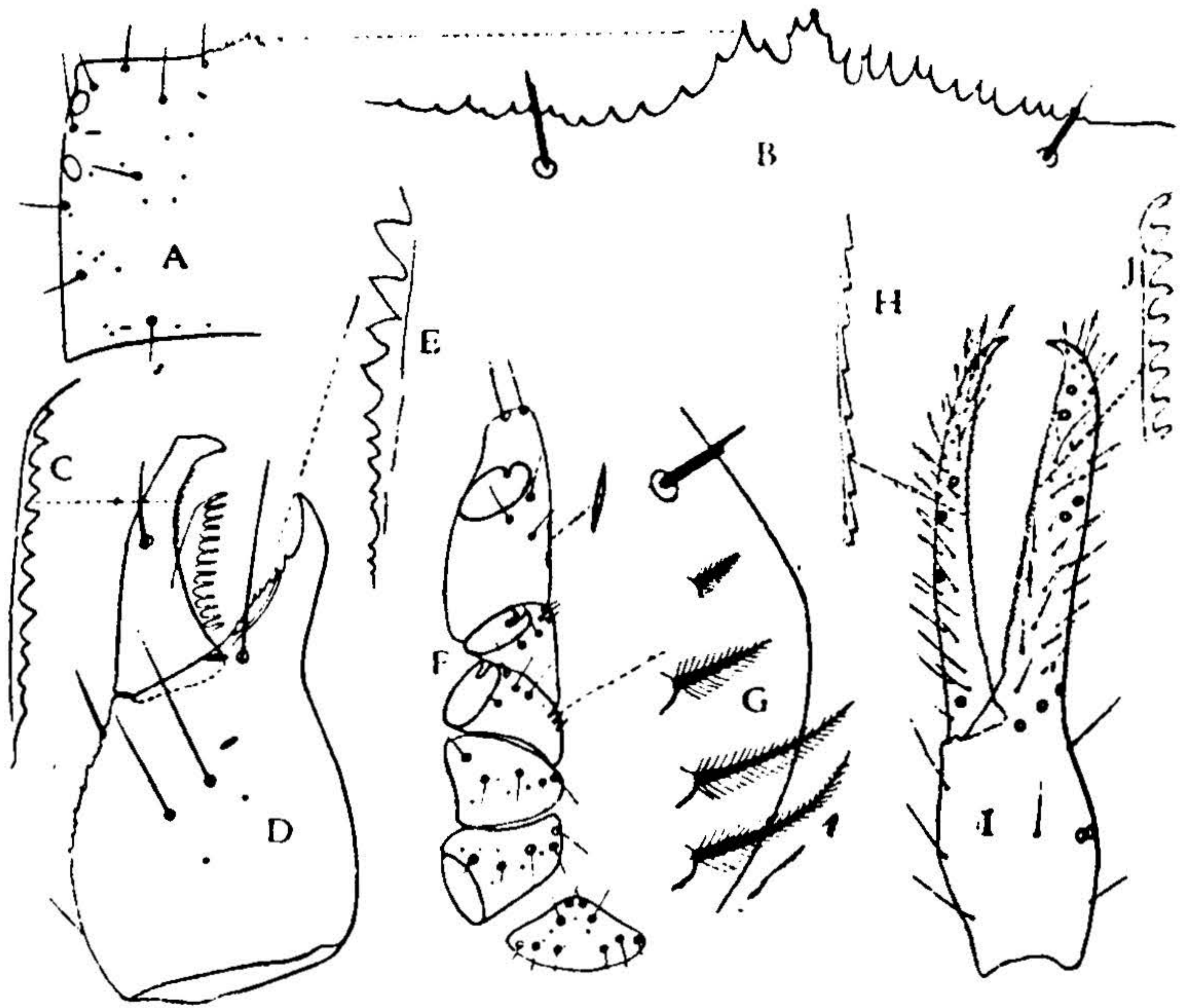


Fig. 20.—*Chthonius chilensis*, sp. nov. (♀)

- A.—Chaetotaxy of carapace.
 B.—Anterior median margin of carapace.
 C.—Dentition of movable finger of chelicera.
 D.—Chelicera.
 E.—Dentition of fixed finger of palpus.
 F.—Chaetotaxy of coxae of legs, maxillae and genital operculum.
 G.—Plumose coxal spines of second legs.
 H.—Details of dentition of movable finger of claw.
 I.—Claw of palpus, showing dentition and distribution of the tactile setae (areoles only, shown).
 J.—Details of dentition of fixed finger of claw.

subequal teeth (Fig. 20, C); fixed finger with about eleven teeth which are large anteriorly and become successively smaller posteriorly (Fig. 20, E); flagellum of eight or ten distinctly plumose setae. *Dorsal chaetotaxy* expressible in

the following for mula: (4-18) 4, 4, 4, 6, 6, 6, 6, 6, 6. *Palpi* of the usual shape; tactile setae of hand and fingers generically typical (Fig. 20, I); fixed finger with teeth distinct, close-set and sharp (Fig. 20, J); movable finger with teeth smaller and less tooth-like, but still close-set and contiguous (Fig. 20, H). Legs generically typical; chaetotaxy apparently showing nothing distinctive. *Coxae* as shown in Fig. 1. F.; intercoxal tubercle absent; maxillae with median lyriform fissure straight and rather obscure in the present specimen (this is a family character); coxal spines found on coxae of second pair of legs only and consisting of four (possibly five) plumose spines (Fig. 20, F. & G.) Ventral chaetotaxy expressible by the following formula: (2-5), (3-5); (4-IV), (4), (5) (Op.-4-6, 10), 8, 8, 6, 6, 6, 6, 6, 6.

Remarks and explanations.—It is not possible in our present state of knowledge to discuss the true affinities of this species. It may be easily distinguished from all other South American species by means of the above key.

Since the chaetotaxal formulas used in the above description are here utilized for the first it is necessary that some explanation be given. The dorsal chaetotaxy is as follows. The figures in the parentheses refer to the carapace and each of the succeeding figures to the tergites taken in order of their relative position to the carapace. The first figure in the carapacial formula refers to the number of setae found along the anterior margin, while the second figure refers to the *total* number of macrochetæ. The tergal numbers simply give the total number of macrochetæ found on each tergite. In this genus these are always very definite and arranged in more or less even longitudinal rows. In the case of the ventral chaetotaxy, the figures in parentheses refer to the setae of the coxae, starting with the coxae of the pedipalps or the *maxillae*. The first figure refers to the most anterior group of setae on the coxae in question while the second figure refers to the total number. The roman numerals always refer to the curious coxal spines which are present in almost all members of this family. In some species they are found on more than one pair of coxae. The numbers for the sternites are interpreted in the same way as for the tergites. In the case of the genital operculum (designated by

parentheses and «Op.») the first figure refers to the anterior group of setae, the second to the posterior group and the third to the total number. In almost all cases setae are arranged in a bilaterally symmetrical manner.

CHELIFERIDAE

Chelanops (Lamprochernes) macrochelatus. (Tomosvary) (Fig. 21 A-G).—*Chelifer macrochelatus*. Tom., 19(17 With, Trans. Zool. Soc. Lond. xviii; 310: figs.

Material examined and determination.—One adult female from Valle Azapa, Tacna, Chile, Collected by Dr. Carlos E. Porter in June 1912. The specimen is deposited in my own personal collection.

The determination is based upon Withs' monograph of 1906 and with the exception of a few minor differences seems to check in every way with his description and figures. The following figures and notes are intended to supplement Withs' description, referred to above. The species is one which is apparently rather widespread in South America.

Remarks and morphological notes.—Although With states in many places in his works, that the genital areas of these animals will probably furnish characters of great systematic importance, he himself never went into this phase of his subject to any extent. My experience has confirmed his observations entirely and these parts should never be neglected in descriptions of these arachnids, particularly in the genus *Chelifer* in its old sense. The dentition of the fingers of the palpi are also of great importance and should always be very thoroly and carefully worked out. Sexual differences must always be allowed for. The figures with their captions are self explanatory and nothing need be said concerning them here. The following chaetotaxal formulas will probably prove

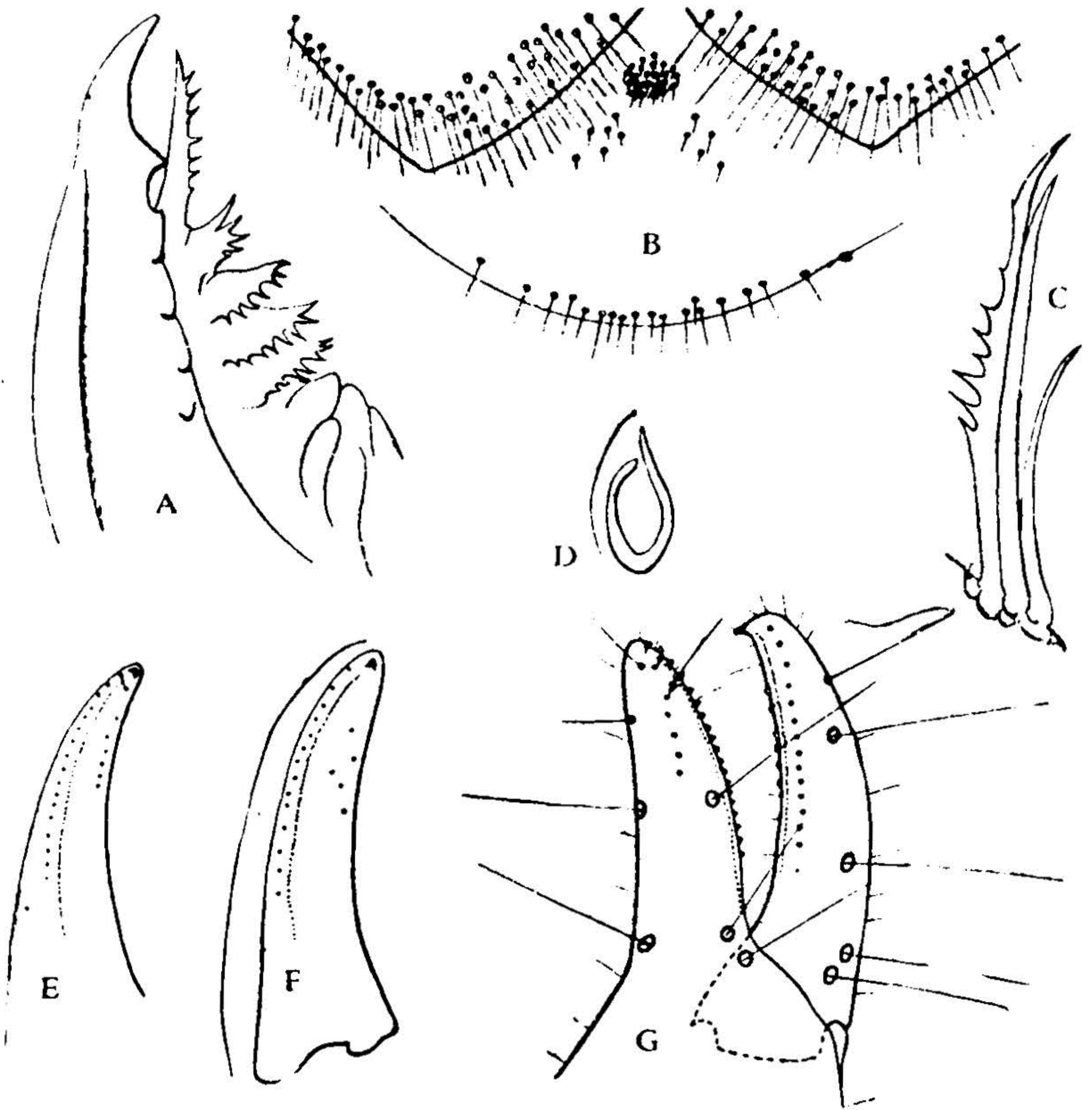


Fig. 21.--*Chelanops (Lamprochernes) macrochelatus* (Tom.) (♀)

- A.--Tip of fixed finger of chelicera, showing tip of serrula interior and lamina exterior.
- B.--Chaetotaxy of vulva.
- C.--Flagellum.
- D.--Median maxillary lyriform fissure.
- E.--Dentition of fixed finger of claw.
- F.--Dentition of movable finger of claw.
- G.--Fingers of claw showing dentition and distribution of the tactile setae.

of value. Dorsal chaetotaxy: (16), $\frac{2-0}{20}$, $\frac{2-0}{16}$, $\frac{2-0}{18}$, $\frac{2-0}{16}$,
 $\frac{4-2}{18}$, $\frac{4-2}{18}$, $\frac{4-2}{18}$, Ventral chaetotaxy: 21, 12, $\frac{4-2}{22}$, $\frac{4-2}{24}$,
 $\frac{4-3}{24}$, $\frac{4-5}{24}$, $\frac{4-2}{22}$, $\frac{4-2}{18}$, $\frac{4-2}{18}$.

The chaetotaxal formulas are essentially as described above for Chthonius, with the following differences. In the dorsal chaetotaxy the first figure (in parenthesis) represents the number of setae on the posterior border of the carapace. The chaetotaxy of the tergites and sternites (except the first sternal segment) are represented fractionally. The numerator refers to all setae except those found along the posterior border, which are represented by the denominator. The first figure in the numerator refers to the setae found at the distal end of the tergite or sternite in question, while the second figure median refers to the number of setae found adjacent to the longitudinal division.

In this group, since all tergites and sternites are divided by this longitudinal suture, all figures must be divided by two to give the chaetotaxy of each tergal or sternal half. The first figure in the ventral formula refers to the number of setae found along the posterior border of the genital operculum.

