A REVISION OF THE NEARCTIC SPECIES OF TELEAS LATREILLE (HYMENOPTERA, PROCTOTRUPOIDEA, SCELIONIDAE)

by

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Master of Science

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Cover Plate

Lateral view of Teleas lineaticeps Ashmead ♀

ABSTRACT

M.Sc. Michael Joseph Sharkey Entomology

A REVISION OF THE NEARCTIC SPECIES OF TELEAS LATREILLE (HYMENOPTERA, PROCTOTRUPOIDEA, SCELIONIDAE)

The Nearctic members of the genus Teleas (subfam. Teleasinae) are revised. Eight species are recognized of which six are new to science: T. crassifemur ♂, T. neptuni ♀♂, T. niger ♂, T. punctifrons ♀♂, T. terricola ♀, and T. villus ♂. The two previously described Nearctic species which are retained in the genus Teleas, viz. T. lineaticeps Ashmead and T. pallidipes Ashmead, are redescribed, and females for these species are described for the first time. All other Nearctic species listed by Muesebeck (1979) under Teleas are presently transferred to the genus Trimorus Foerster (subfam. Teleasinae) (all new combinations): Trimorus americanus (Ashmead), T. coxalis (Ashmead), T. harringtoni nom. nov. (= Teleas canadensis Harrington nec Acolus canadensis Ashmead), and T. mandibularis (Ashmead).

A key to the females and males of Nearctic Teleas and a key to Nearctic genera of Teleasinae are presented. The biology, distribution and relationships of species of Teleas are discussed.

Résumé

M.Sc. Michael Joseph Sharkey Entomologie

Une révision des espèces nearctiques du genre Teleas Latreille (Hymenoptera, Proctotrupoidea, Scelionidae)

Une révision des espèces néarctiques du genre Teleas (sous-fam. Teleasinae) a été entreprise. Huit espèces sont étudiées, dont six sont décrites pour la première fois: Teleas crassifemur ♂, T. neptuni ♀♂, T. niger ♂, T. punctifrons ♀♂, T. terricola ♀, et T. villus ♂. Les deux espèces néarctiques déjà décrites et retenues comme étant du genre Teleas sont redécrites (T. lineaticeps Ashmead et T. pallidipes Ashmead), et les femelles des ces espèces sont décrites pour la première fois. Toutes autres espèces cataloguées par Muesebeck (1979) comme appartenant au genre Teleas, sont ici transférées sous le genre Trimorus Foerster (sous-fam. Teleasinae) (toutes sont de nouvelles combinaisons): Trimorus americanus (Ashmead), T. coxalis (Ashmead), T. harringtoni nom. nov. (= Teleas canadensis Harrington nec Acolus canadensis Ashmead), et T. mandibularis (Ashmead).

Une cléf d'identification pour les mâles et les femelles du genre Teleas néarctique ainsi qu'une cléf des genres nearctiques de Teleasinae sont inclues. Une discussion de la biologie, de la distribution, et du rapport entre les espèces du genre Teleas est présentée.

ACKNOWLEDGEMENTS

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Financial assistance was provided by the National Research Council Canada (later National Sciences and Engineering Research Council Canada), grant no. A1462 to Dr. V.R. Vickery.

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INTRODUCTION

The genus Teleas was erected by Latreille in 1809. The type species of the genus is Scelio clavicornus Latreille 1805.

There are several recent works on Palearctic Teleas, (Fabritius, 1964; Koslov, 1965; Szabo, 1956,1960,1966a,1973), and one mention of a species of Teleas from South America (Szabo, 1966b). The North American Teleas, however, have been neglected since Ashmead's time. Ashmead (1893) recognized four Nearctic species, although he described others earlier (Ashmead, 1887). Two of Ashmead's species, T. lineaticeps Ashm. 1893 and T. pallidipes Ashm. 1893, are retained in the genus Teleas. All other Nearctic species listed by Muesebeck (1979) are presently transferred to the genus Trimorus Foerster (subfam. Teleasinae) (all new combinations): T. americanus (Ashmead), T. coxalis (Ashmead), T. harringtoni nom. nov. (= Teleas canadensis Harrington nec Acolus canadensis Ashmead), and T. mandibularis (Ashmead). Of these, only T. coxalis and T. mandibularis closely resemble Teleas, having spines on the fore and middle tibiae, strong mandibles and other characters typical of Teleas. T. coxalis lacks both swollen hind femora and areolate-rugose sculpturing on the dorsum of the mesosoma. Also the scutellum does not slope towards the metanotum at a

sharp angle. These characters are possessed by all true Teleas. Trimorus mandibularis differs from all Teleas in the following ways; the lack of areolate-rugose sculpturing on the dorsum of the mesosoma, the vertex drops off immediately behind the eyes, the antennal scape is very short not nearly approaching the vertex, and the scutellum lacks a sharply sloping section posteriorly.

The members of Teleas are closely related to those of Trimorus. One species group of Trimorus, which includes T. mandibularis and T. coxalis, is intermediate between the two genera. I believe this group to be more closely aligned to Trimorus than Teleas. Nearctic Teleas may be separated from all Trimorus and other Nearctic Teleasinae using the following key. (Page 6)

LIST OF ABBREVIATIONS

A1,A2,A3...-antennal segments
A1 - scape
A2 - pedicel
A3 - first flagellomere
ao - anterior ocellus
ap - antennal process
ck - cheek
cl - clypeus
cv - clava
cx1 - fore coxa
cx2 - middle coxa
cx3 - hind coxa
io - inner orbit
is - interocellar space
lf - lateral frons
LOL - lateral ocellar line
md - mandible
me - mesepimeron
mf - medial frons
mn - metanotum
mns - metanotal spine
mp1 - mesopleuron
mp2 - metapleuron
mpd - mesopleural depression
mpp - mesopleural pit
ms - mesoscutum
mv - marginal vein
nt - netrion
OOL - ocular ocellar line
pmv - postmarginal vein
po - posterior ocellus
POL - posterior ocellar line
pn - pronotum
pp - propleuron
pr - propodeum
rd - radicle
sc - scutellum
smv - submarginal vein
sv - stigmal vein
T1,T2,T3...-metasomal terga
te - temple
tg - tegula
tr - torulus
vx - vertex

MATERIAL EXAMINED

The members of Teleas are poorly represented in North American collections. Altogether one hundred and eighty-five specimens were examined including European type specimens from the Hungarian Natural History Museum. I did not have access to all Palearctic types; however, from those types examined and from descriptions of Palearctic species, I conclude that no species of Teleas known to science is Holarctic in distribution.

This study was carried out over a two-year period (1979-1980) at Macdonald College of McGill University.

All measurements in the text are in millimeters.

Abbreviations of collections used in the text

AEI: Townes Collection, American Entomological Institute, Ann Arbor, Michigan.

CNC: Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario.

GUC: Georgia University Collection, Department of Entomology, Athens, Georgia.

INHS: Illinois Natural History Survey Collection, Urbana, Illinois.

MCZ: Museum of Comparative Zoology, Cambridge, Massachusetts.

MSU: Michigan State University Entomology Museum, Department of Entomology, East Lansing, Michigan.

UAC: University of Arkansas Collection, Department of Entomology, Fayetteville, Arkansas.

DAVIS: University of California, Department of Entomology, Davis, California.

UG: University of Guelph Collection, Department of Environmental Biology, Guelph, Ontario.

USNM: United States National Museum, Washington, D.C.

KEY TO NEARCTIC GENERA OF TELEASINAE

1 Middle lobe of mesoscutum and most of scutellum highly lustrous, with a few scattered punctures (Figure 6); metanotum medially with three long spines (Figure 3); mandible with upper and lower teeth almost equal in length (Figure 1).....Trisacantha Ashmead

1' Mesoscutum and scutellum generally coarsely sculptured, with rugosities, areolae or punctures (Figures 39,46); metanotum medially usually with one spine or flat plate (Figure 5), rarely with three small rounded protuberances; mandible variable but often with the lower tooth much longer than upper (Figures 2,4).....2

2 Mesoscutum with areolate-rugose sculpturing (Figure 39); hind femur swollen (Figure 8); middle tibia with strong spines outwardly along its entire length (Figure 7): scutellum on at least two planes, the posterior section sloping sharply towards the metanotum (Figure 5); clypeus always much wider than long (Figure 2).....
.....Teleas Latreille

2' Mesoscutum sculpturing variable, usually punctate or with longitudinal rugosities, never areolate-rugose (as in Figure 39); hind femur rarely swollen; middle tibia

usually lacking spines that run along its entire length; scutellum usually on one plane, sloping gradually towards the metanotum; clypeus usually narrow, usually less than twice as wide as long (Figure 4).....

.....Trimorus Foerster

Figure 1. *Trisacantha americana* Ashmead, head.

Figure 2. *Teleas lineaticeps* Ashmead, head.

Figure 3. *Trisacantha americana*, scutellum and metanotum.

Figure 4. *Trimorus* sp., head.

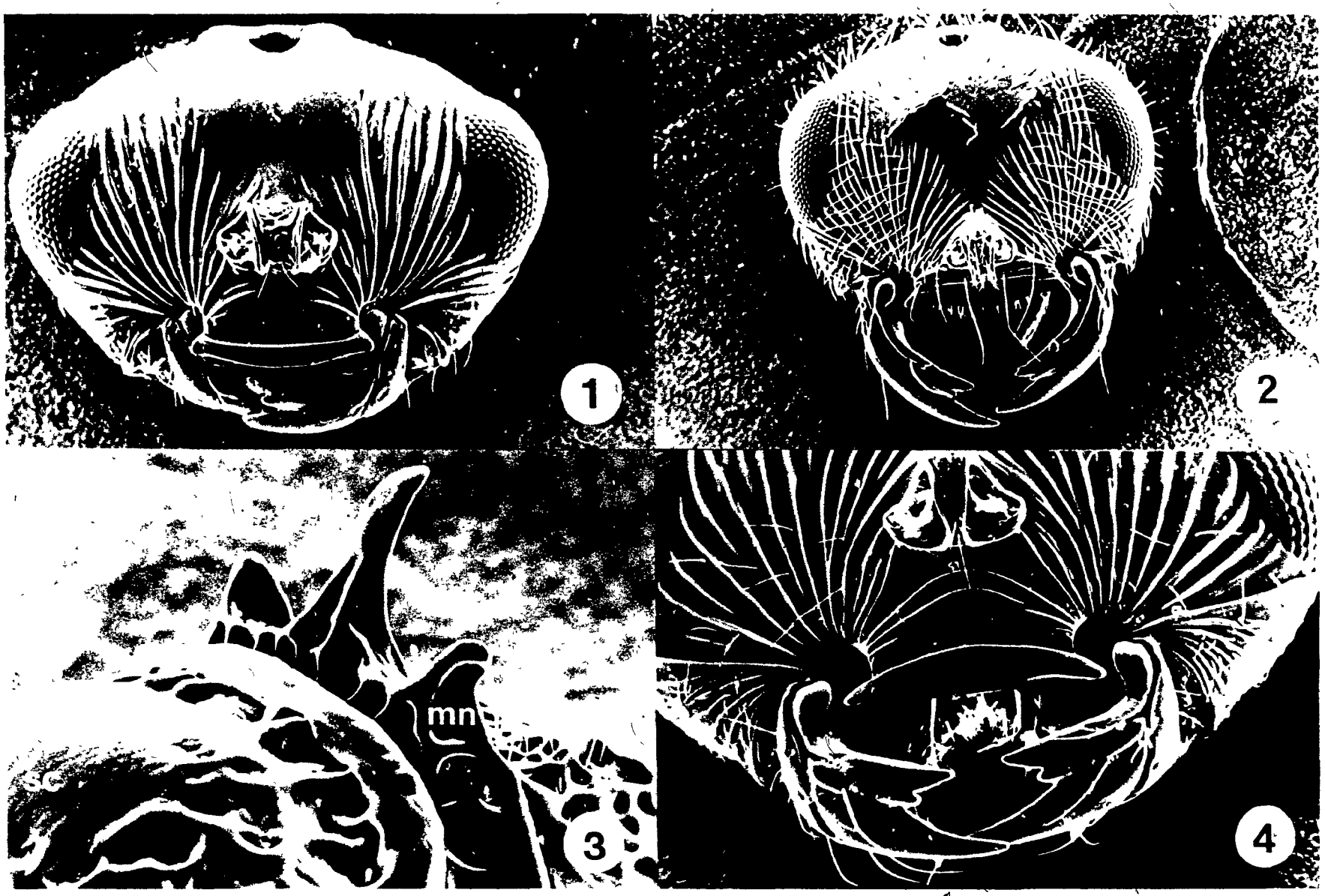
1
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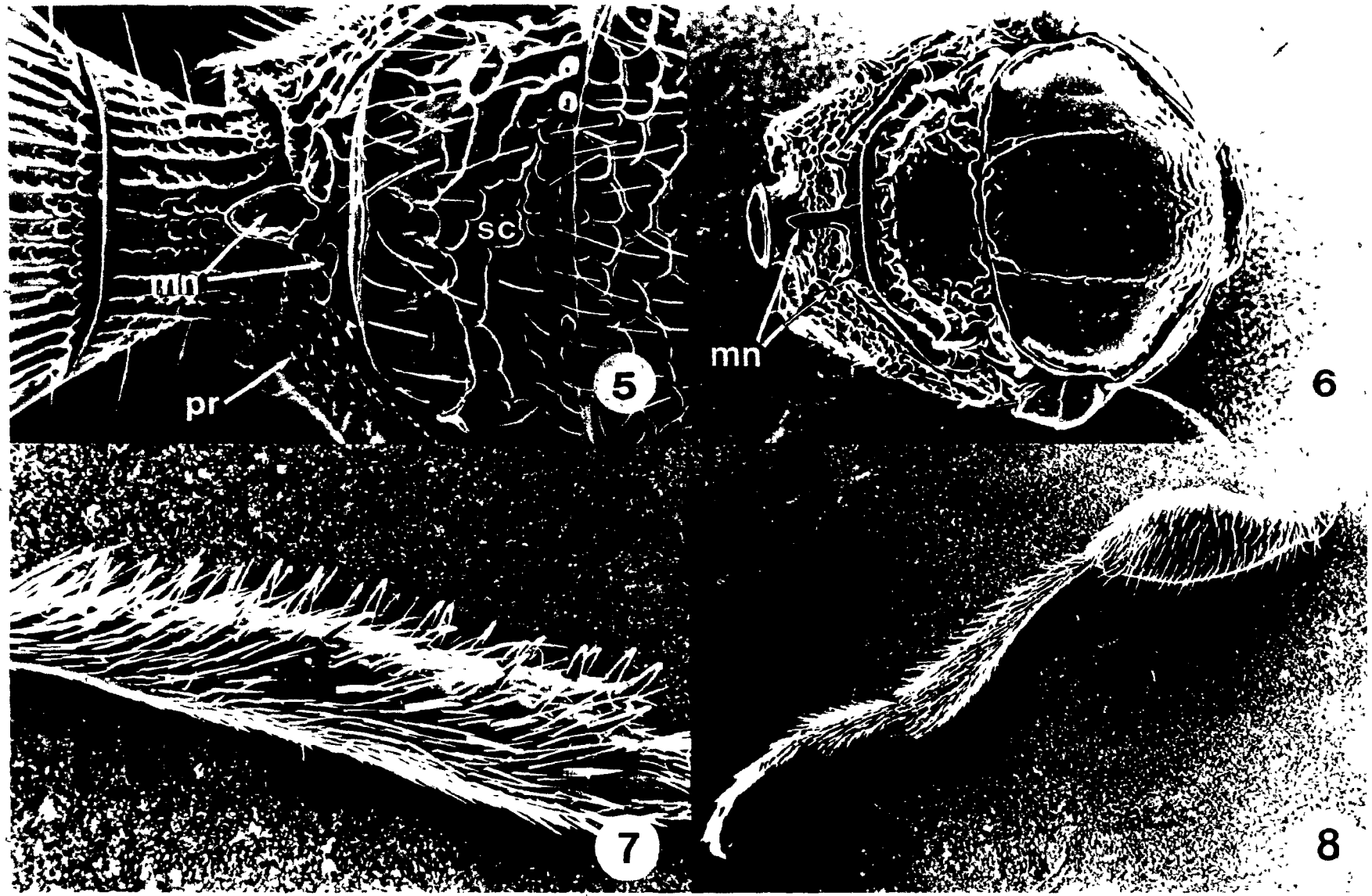
Figure 5. Teleas lineaticeps, scutellum, metanotum, propodeum and T1.

Figure 6. Trisacantha americana, mesosoma.

Figure 7. Teleas lineaticeps, tibia of middle leg.

Figure 8. Teleas lineaticeps, hind leg.

*Figures 1 to 8 from Masner 1980.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GLOSSARY

Antennal segments (Fig. 12). All segments of the antennae exclusive of radicle (rd) are numbered, from scape (A1) to the apical segment (A12).

Antennal process (Figs. 9,10,ap). A process on the frons ventrally, on which the toruli (tr) are situated laterally.

*Anterior ocellus (Figs. 9,11,ao). Middle ocellus in ocellar triangle. Syn.: median ocellus.

Areolae (Fig. 20). Regular depressions, larger than punctures. Syn.: reticulations.

Areolate-rugose (Figs. 26,39). Irregular depressions, larger than punctures. Syn.: reticulate-rugose.

*Cheek (Figs. 9,10,ck). An arbitrary region on the head comprising the malar region and gena between lower orbit of eye and base of mandible (md).

Clava (Fig. 12,cv). In female antennae, the six distal incrassate flagellomeres (A7-A12).

Clypeus (Figs. 9,10,cl). Region between toruli (tr) and labrum. Width measured between the two prominent lateral corners, length between base of antennal process (ap) and median distal portion of clypeus.

Coriarious (Fig. 29). Leather-like in sculpture, with minute cracks like the human skin. Syns.: alutaceous, coriaceous (Harris, 1979).

Costae (Fig. 32). Longitudinal raised ribs or ridges (Harris, 1979).

Costate. Furnished with costae.

Crenulate (Fig. 31). Having the margin finely notched with small, rounded teeth (Harris, 1979).

Flagellomeres (Fig. 12). Antennal segments A3 to A12 in either sex.

Frons (Figs. 9, 10). Region of head between inner orbits of eyes (io), antennal process (ap), and anterior ocellus (ao). Divided into lateral frons (lf) and medial frons (mf).

Funicle. In female Teleas segments A3, A4, A5 and A6 of the antenna. Those segments between the clava and the pedicel (A2).

Inner orbit (Figs. 9,11,io). Inner median part of eye margin, approximately between level of posterior ocellus (po) and the ventral margin of eye.

*Interocellar space (Figs. 9,11,is). Region within ocellar triangle, i.e. encompassed by POL and LOL lines.

*Lateral Ocellar Line (Fig. 11,LOL). Shortest distance between inner margins of anterior (ao) and posterior (po) ocelli.

*Laterotergite. Flexed lateral part of metasomal tergum.

Marginal vein (Fig. 15,mv). Vein along anterior margin of fore wing; measured from proximal junction with wing margin to outermost point of angle formed by stigmal (sv) and postmarginal (pmv) veins. Syn.: marginalis.

Mesepimeron (Fig. 13,me). In Teleas the smooth glabrous posterior area of the mesopleuron (mpl).

Mesopleural depression (Fig. 13,mpd). A large diagonal declivity on the mesepisternum designed for the reception of the middle femur (Masner, 1979). Syn.: femoral groove.

Mesopleural pit (Fig. 13,mpp). A small, usually deep, pit on the mesopleuron (mpl) dorsomedially (Masner, 1979).

*Mesopleuron (Fig. 13,mpl). Lateral region of mesothorax.

*Mesoscutum (Fig. 14,ms). Anterior region of the mesonotum between pronotum (pn) and scutellum (sc).

*Mesosoma (Fig. 14). Thorax and propodeum (pr) combined.

Metanotal spine (Fig. 14,mns). Medial spine or flattened plate on metanotum (mn).

Metanotum (Fig. 14, mn). Dorsal sclerite of metathorax; in Teleas always with a medial spine or flattened plate.

*Metapleuron (Fig. 13,mp2). Lateral region of metathorax.

*Metasoma. Abdomen posterior to propodeum (pr).

Netrion (Fig. 13,nt). A specialized region of the pronotum (pn), between the tegula (tg) and the fore coxa (cxl), situated

anterior to the suture dividing pronotum (pn) from mesopleuron (mpl) (Masner, 1979).

*Notauli. Paramedial longitudinal furrows on mesoscutum (ms), often incorrectly termed parapsidal furrows by authors.

*Ocular Ocellar Line (Fig. 11,OOL). Shortest distance between outer margin of posterior ocellus (po) and inner orbit (io) of eye.

*Palpal formula. Total number of maxillary (first number) and labial (second number) palpal segments of either sex.

*Pedicel (Fig. 12 A2). Second antennal segment.

*Posterior ocelli (Figs. 9,11,po). Paired outer ocelli of the ocellar triangle. Syn.: lateral ocelli.

*Posterior Ocellar Line (Fig. 11,POL). Shortest distance between inner margins of posterior ocelli (po).

Postmarginal vein (Fig. 15,pmv). Apical vein along anterior margin of forewing; measured from apex to outermost angle formed with stigmal vein (sv).

*Pronotum (Figs. 13,14,pn). Dorsal sclerite of prothorax, including sides reaching to fore coxa (cx1).

Propleuron. In Teleas the anteroventral sclerite of the prothorax, concealed by ventral portion of head.

*Propodeum (Figs. 13,14,pr). Segment of mesosoma posterior to metanotum (mn); originally first abdominal tergum which has fused with thorax. Syn.: "Mediansegment" of Kieffer

1926; metanotum of Ashmead 1893.

Punctate. Furnished with punctures.

Punctures. Fine impressed points appearing as pin pricks (Harris, 1979).

*Radicle (Figs. 9,10,rd). Connective joint between antenna and head; radicle not included in antennal formula. Syn.: radicula.

*Scape (Figs. 9,10,12,A1). First antennal segment.

*Scutellum (Figs. 13,14,sc). Posterior region of mesonotum between mesoscutum (ms) and metanotum (mn).

Stigmal vein (Fig. 15,sv). Oblique vein between marginal (mv) and postmarginal (pmv) veins; measured from innermost angle formed with marginal vein (mv) to its apex. Syn.: stigmalis.

*Submarginal groove. Furrow on ventrolateral side of metasoma formed by sutures between sterna and laterosternites and corresponding sutures on inner edge of laterotergites.

*Submarginal vein (Fig. 15,smv). Vein of fore wing preceding marginal vein (mv); measured from tegula (tg) to junction with anterior margin of wing. Syn.: "Subcostalis" of Kieffer 1926.

*Tegula (Figs. 13,14,tg). Basal dorsal sclerite of the fore wing.

*Temple (Fig. 11,te). Region of head posterior to eye, between dorsal and ventral limits of eye in lateral view.

Terga (Fig. 16,T1,T2,T3...). Dorsal sclerites of metasoma.

Toruli (Figs. 9,10,tr). Paired circular openings on the antennal process (ap) laterally, housing proximal ends of radicles (rd). Syn.: antennal sockets.

*Vertex (Figs. 9,11,vx). Dorsal region of head between posterior ocelli (po) and occipital carina.

*From Masner, 1980

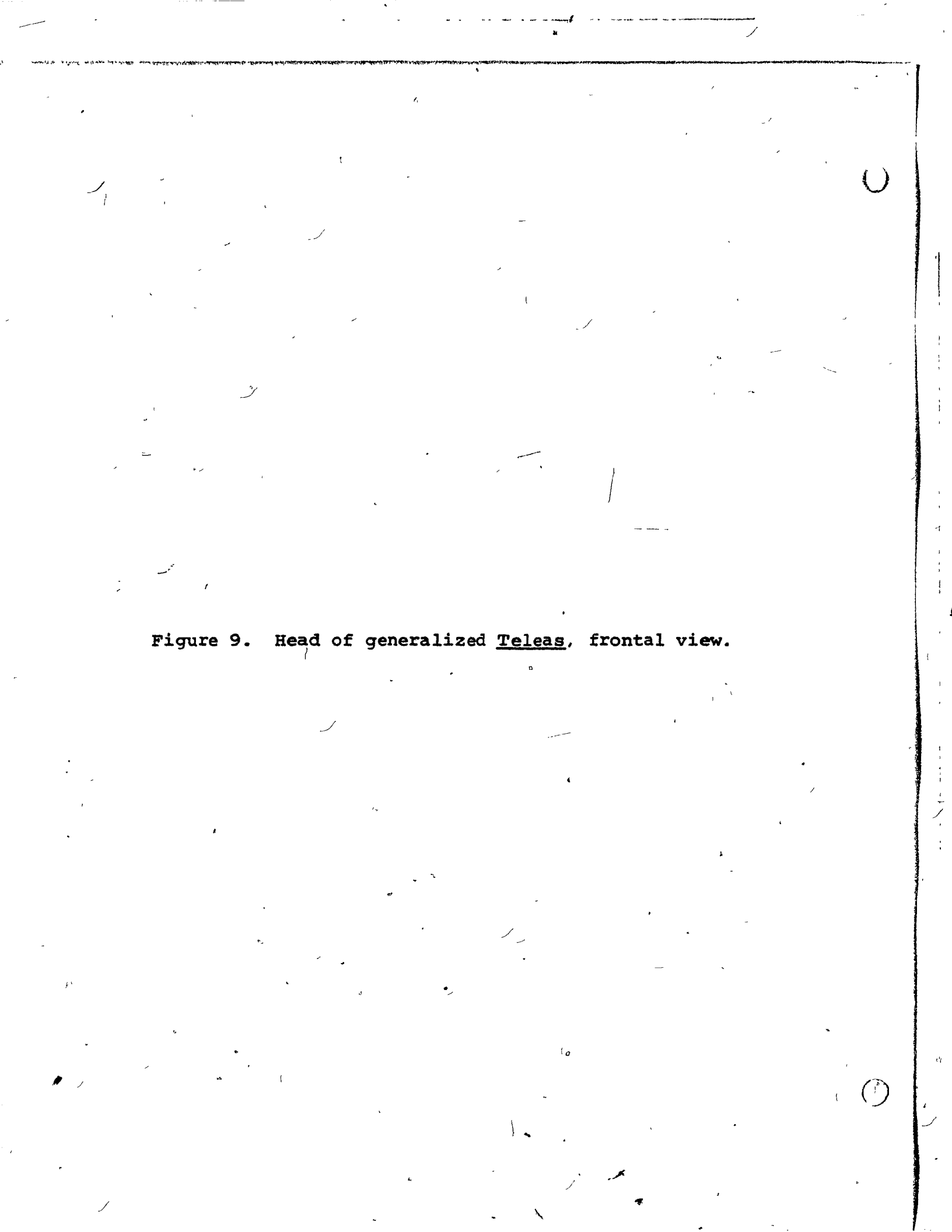

Figure 9. Head of generalized Teleas, frontal view.

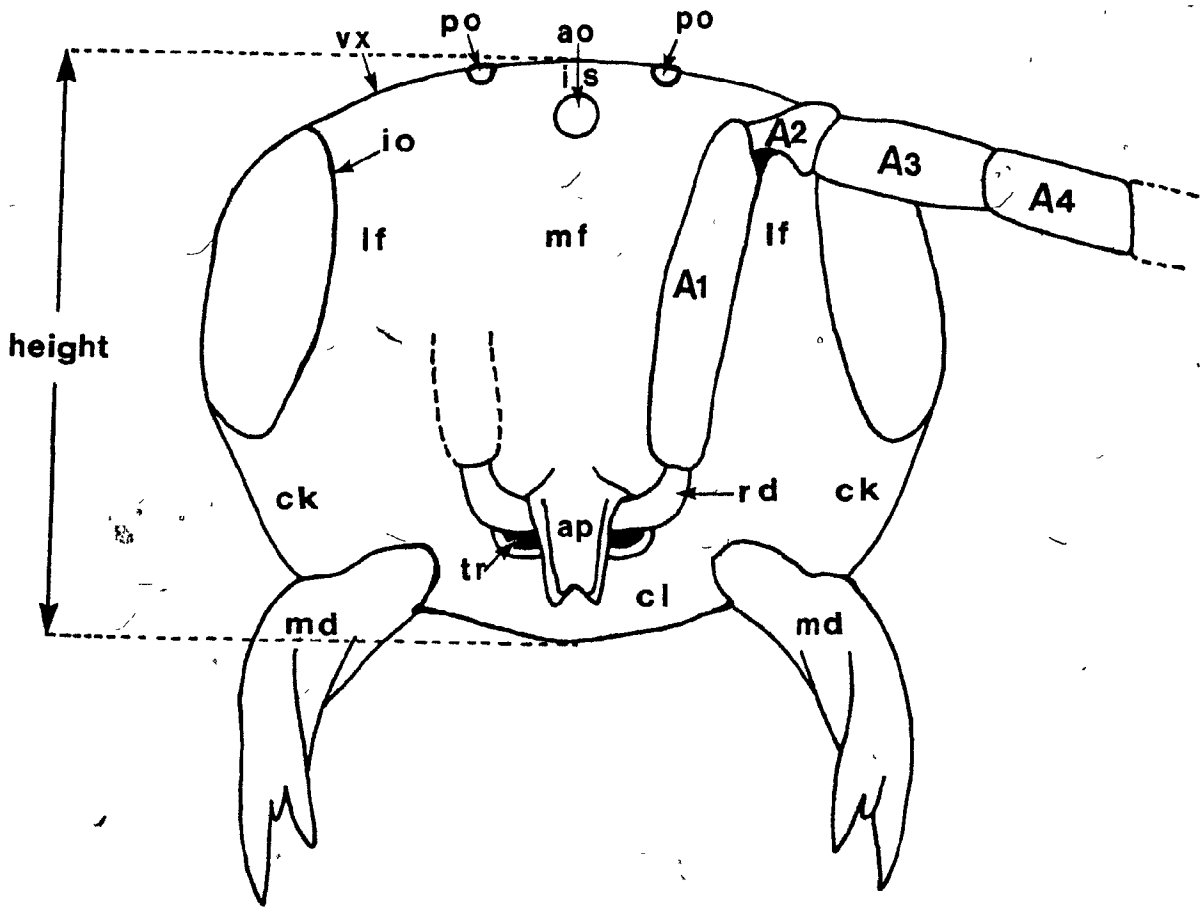

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Figure 10. Ventral portion of head of generalized *Teleas*, frontal view.

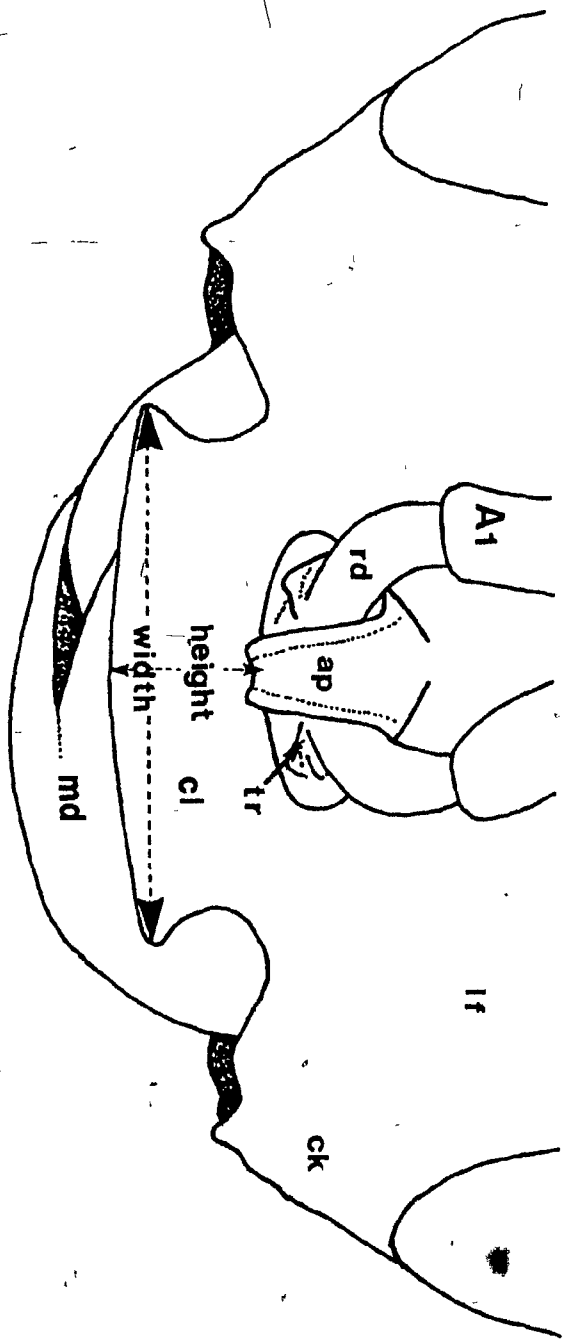

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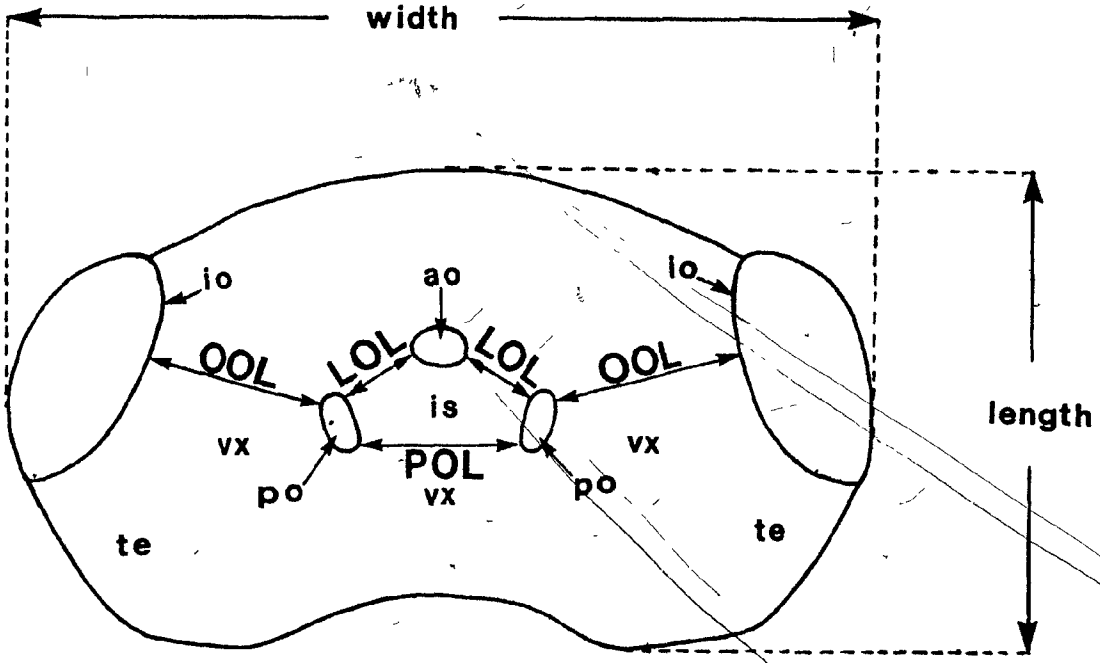
Figure 11. Head of generalized Teleas, dorsal view.

Figure 12. Antenna of generalized Teleas female.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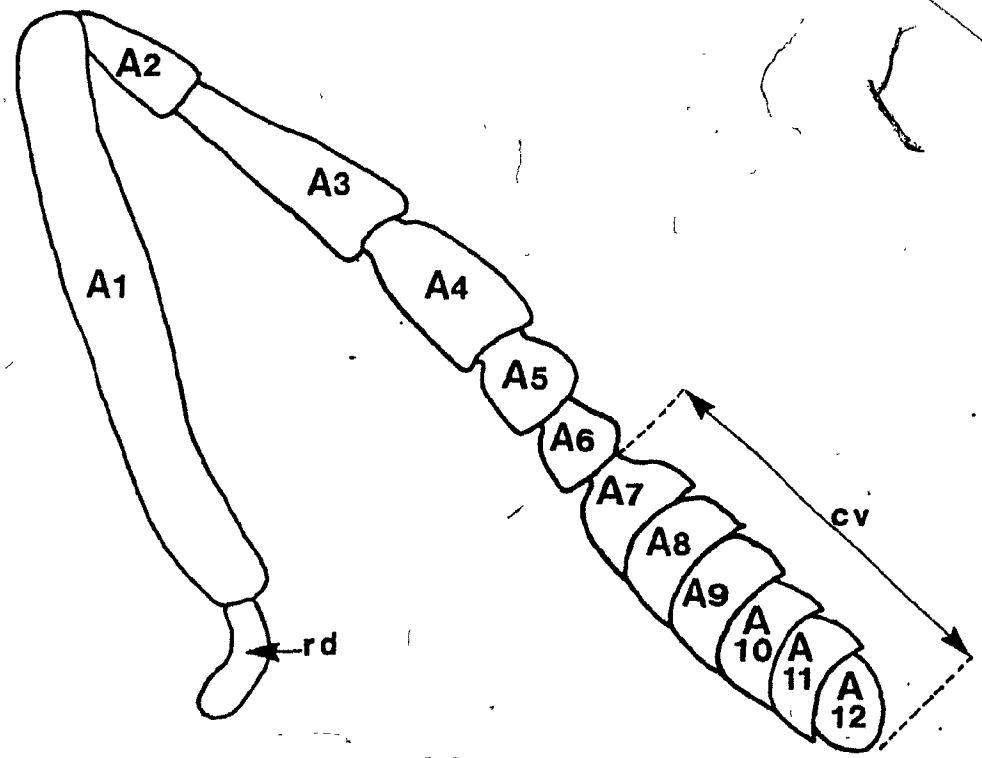
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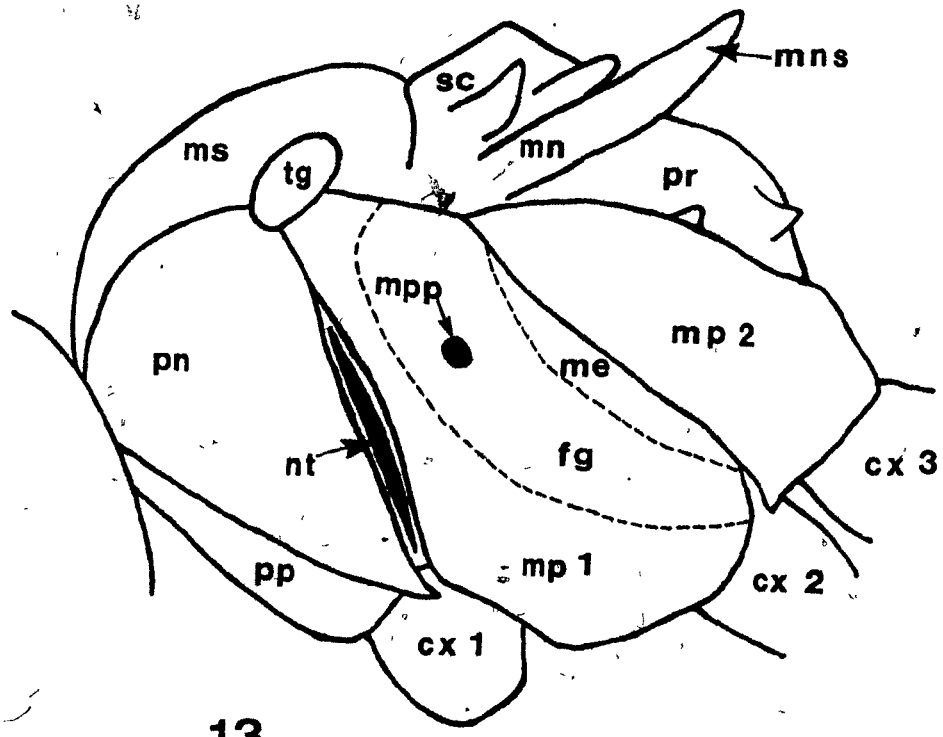
Figure 13. Mesosoma of generalized Teleas, lateral view.

Figure 14. Mesosoma of generalized Teleas, dorsal view.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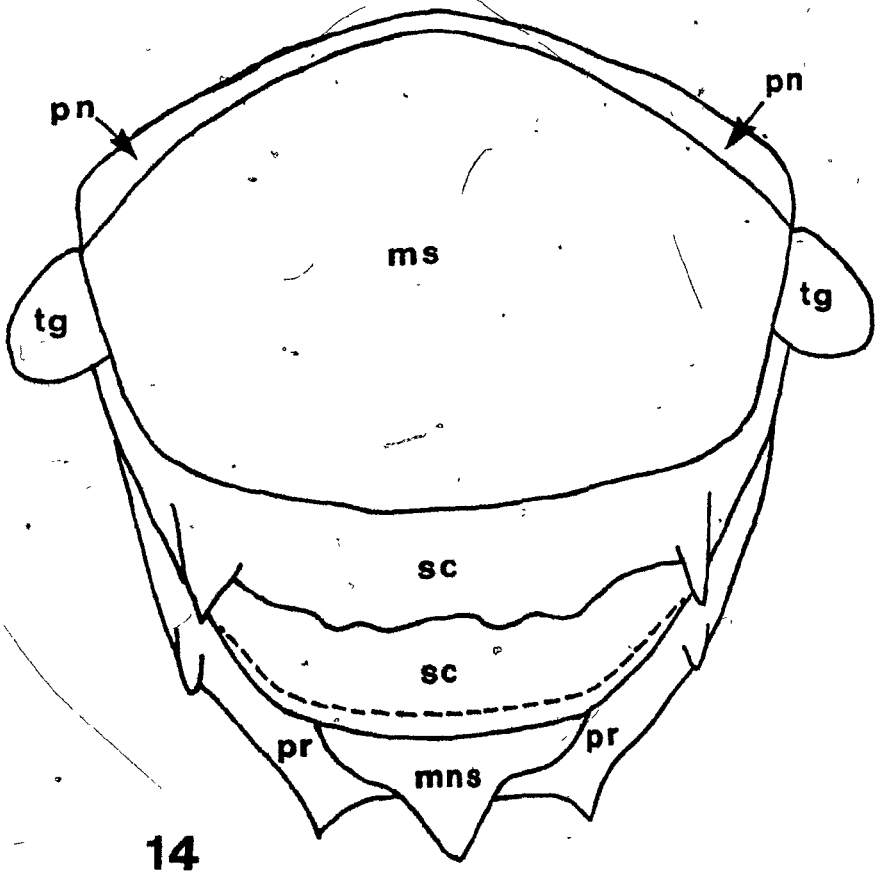
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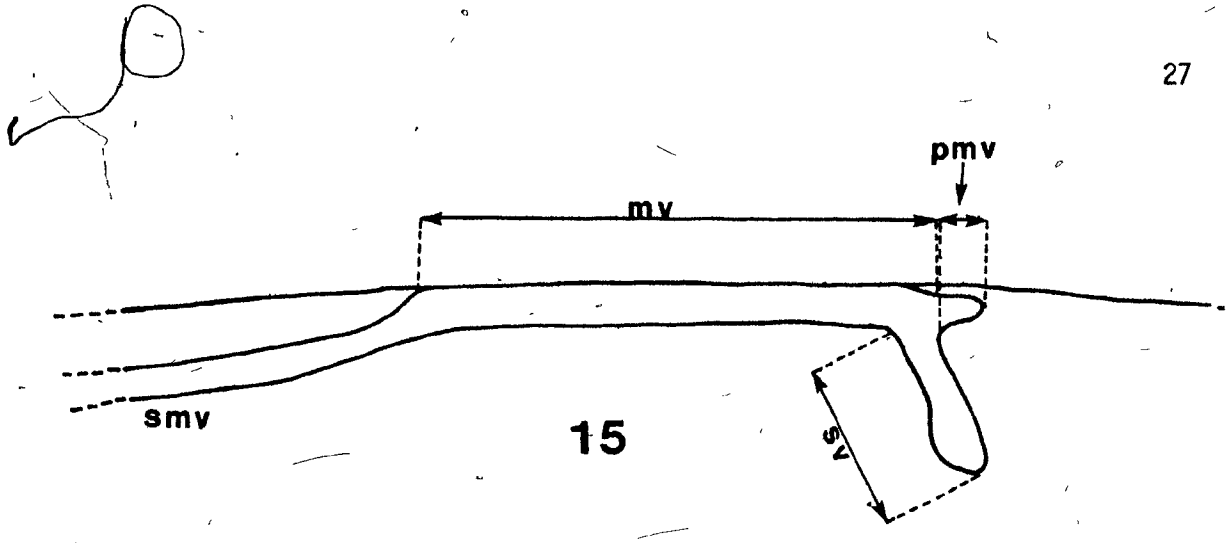
Figure 15. Venation of fore wing of generalized Teleas.

Figure 16. Metasoma of generalized Teleas, dorsal view.



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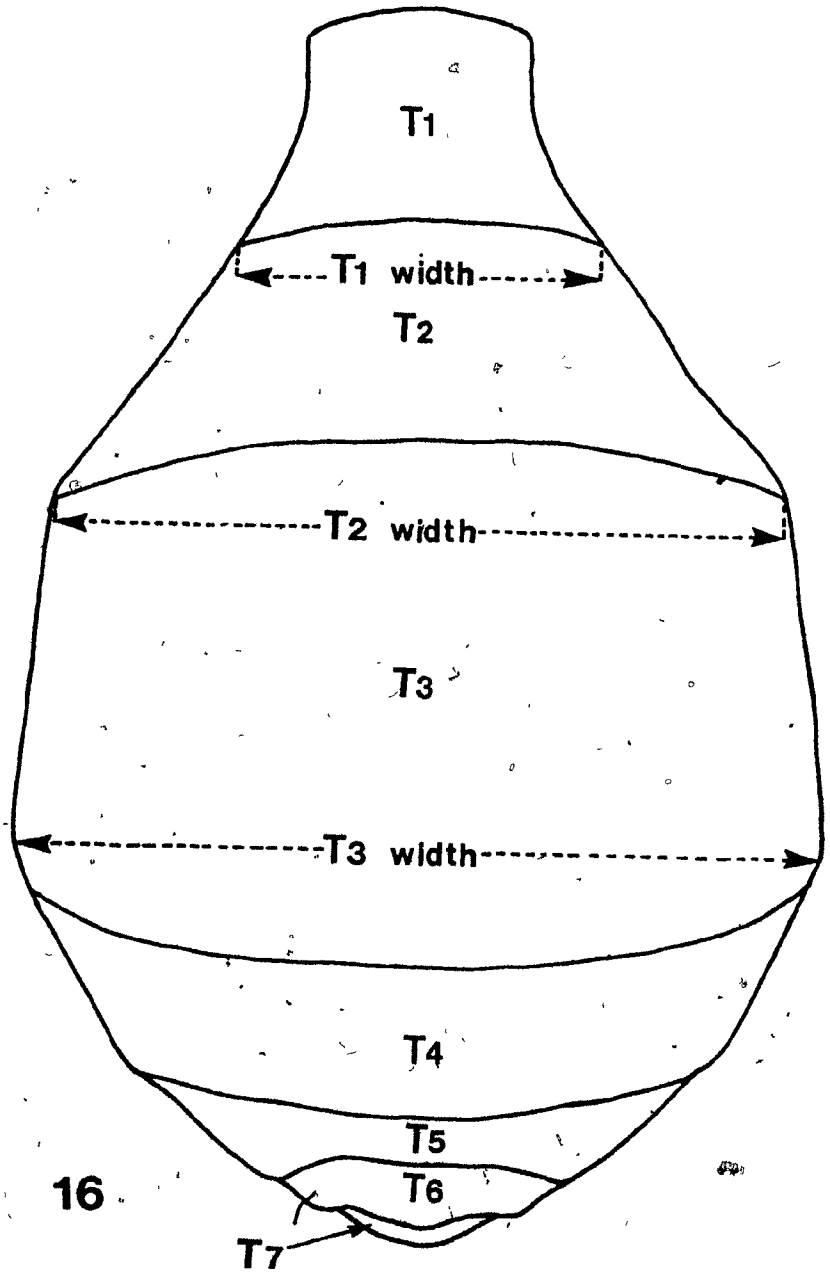

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TAXONOMIC CHARACTERS OF TELEAS

Antennae

The antennae of both male and female Teleas are 12-segmented. The female antennae terminate in a 6-segmented clava (Figure 12); male antennae are filiform (Figure 23). Useful measurable characters include the relative lengths of A1, A2 and A3 (scape, pedicel and first flagellar segment). For male specimens the length/width ratio of any flagellar segment is diagnostic. The coloration of A1 and A2 varies in Teleas from yellow through to black. This coloration is important although somewhat variable in some species. A3 to A12 are dark in all known Nearctic Teleas and their coloration is of little diagnostic value.

Head

Measurable characters considered most important are: the ratio of clypeus length to clypeus width (Figure 10), the shortest distance between compound eyes (inner orbits), the ratio of eye height to eye length, the LOL, POL, OOL ratio (Figure 11), and the relative length, width and height of the head.

The shape of the antennal process is important and may be acute, squared or rounded ventrally (Figures 22,37,19). The

shape of the lateral corners of the clypeus and the relative size of the mandibular teeth are diagnostic. Both of these characters are quite variable intraspecifically, as they probably are subject to wear (I presume that members of Teleas use their long mandibles as digging tools). Most species of Teleas have subtridentate mandibles (Figure 2), others have bidentate mandibles, having lost the middle tooth completely.

The degree of costate sculpturing, especially on the vertex and temples, is important, as is the sculpturing within the interocellar space. One species, Teleas neptuni, has small patches of coriarious sculpturing, laterad of the posterior ocelli, which are diagnostic. The presence or absence of setose punctures ventral to the anterior ocellus is diagnostic. The length of the setae on the head is important. I have compared the length of the setae that lie on the OOL line to the OOL distance for easy reference.

Wings

Measurable characters used are the lengths of the submarginal, marginal, stigmal and postmarginal veins. Most Teleas do not possess a postmarginal vein or have it reduced to a small stub (Figure 15).

Legs

The size and density of spines on the fore and middle

tibiae vary somewhat interspecifically, however I have not found this characteristic useful. The dimensions of the hind femora (length/max. width) and the degree of incrassation of the hind basitarsi are diagnostic. The coloration of the leg segments, especially of the coxae, is important.

Mesosoma

Sculpturing is the most important character of the mesosoma. The mesoscutum is areolate-rugose (Figure 39). In some species a semi-circular or longitudinal pattern of irregular costae break up the areolate sculpturing to some degree (Figure 26). This pattern is centered about the anteromedial region. T. terricola is exceptional in having the sculpturing of the mesoscutum reduced medially (Figure 46). Coloration is of some importance, although most species of Teleas have the mesosoma dark brown or black dorsally. The sculpturing of the scutellum is usually areolate-rugose (Figure 5), although this sculpturing is often reduced or absent posteriorly. The scutellum of T. terricola is exceptional in that it is predominantly setose-punctate (Figure 46). The size of the posterior lip of the scutellum and the degree to which it overhangs the metanotum are important. The shape, size and sculpture of the metanotal spine are very important characters. The diagnostic characters of the propodeum are the degree of setosity in the posterlateral

region and the shape of the posterolateral corners (acute or rounded). In the pleural region of the mesosoma, the sculpturing of the mesopleural depression and the sculpturing of the posterior region of the metapleuron are important.

Metasoma

Sculpturing, especially that of T3 and T4, is the most important character of the metasoma. Medially T3 usually contains punctures, costae or both. The widths and lengths of T1, T2 and T3, and the absolute length and width of the abdomen are given for each species. There is a good deal of intraspecific variability in these measurements. The arrangement and density of setae on T4 are diagnostic.

Sculpturing: The terms that I have used to describe surface sculpturing are included in the Glossary and as well are defined and figured by Harris (1979) and Eady (1968).

BIOLOGY

Very little is known about the biology of Teleas, as it is a rare and poorly collected genus. Telenga (1959) observed specimens of T. sibiricus Kieffer, a Palearctic species (which he mistook for a new species T. caraboides), emerging from the eggs of several species of carabid beetles: Zabrus tenebrioides, Amara sp. and Harpalus sp.. There are several other records of members of Teleasinae parasitizing carabid eggs. It is probable that all members of Teleasinae are specific to this family of beetles.

Most carabids deposit their eggs in soil and the large mandibles and spinose legs of Teleas are likely used for digging in the soil to reach host eggs.

Figures 17 and 18 show the seasonal distribution of Teleas females and males respectively. Tables 1 and 2 correspond to the figures and show the numbers of each species included in the figures. Although captured as early as March 27, most Teleas are collected in the late summer and early fall.

Teleas is a temperate genus preferring cooler climates. Generally Nearctic Teleas seem to be more abundant in southern Canada and northern USA, although this could reflect regional interest in the group. Teleas occur as far south as Colorado

in the west, Louisiana in the central USA and as far south as Georgia in the east. It appears, from the distribution maps in the text, that Teleas spp. extend their southern ranges along the Rocky and Appalachian mountains, where higher altitudes have a moderating effect on the climate.

Table 1. The numbers of females for each species composing the histogram in Figure 17.

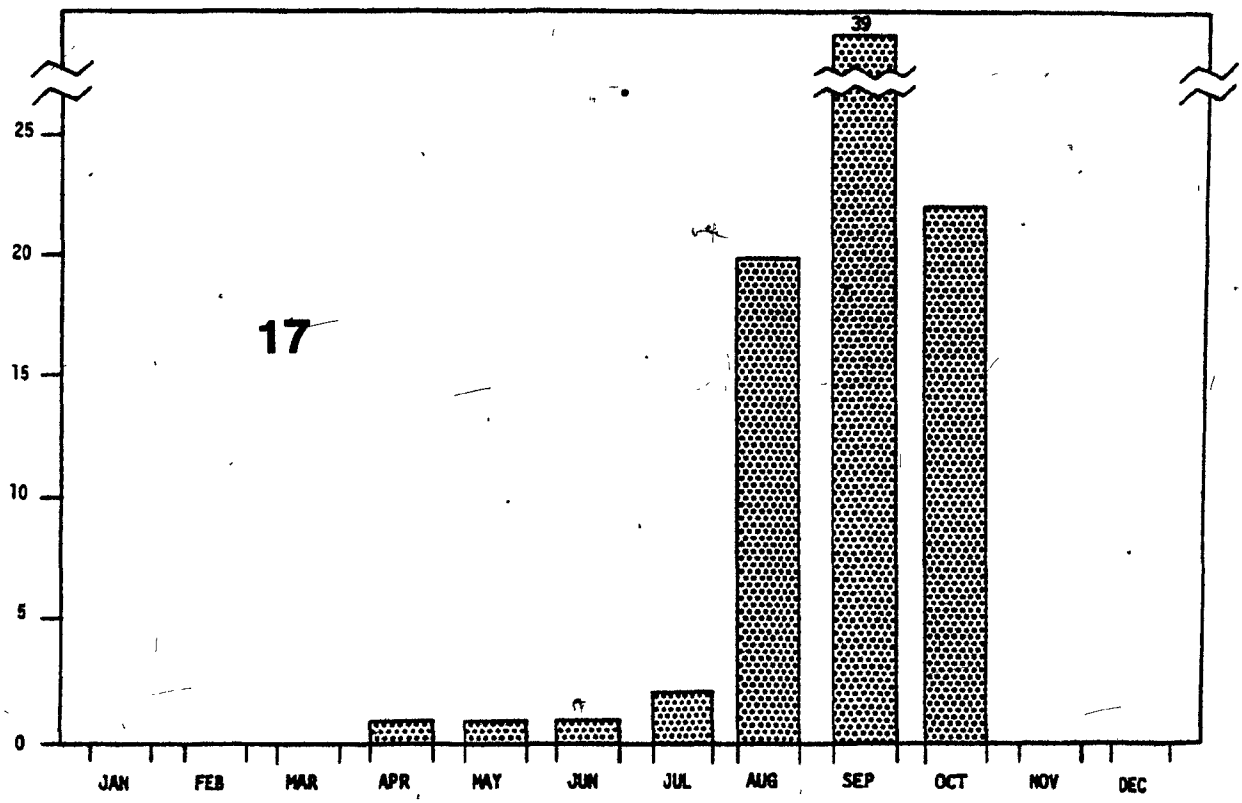
T. lineaticeps	*T. terricola*	*T. pallidipes*	*T. punctifrons*	*T. neptuni*
63	1	10	8	2

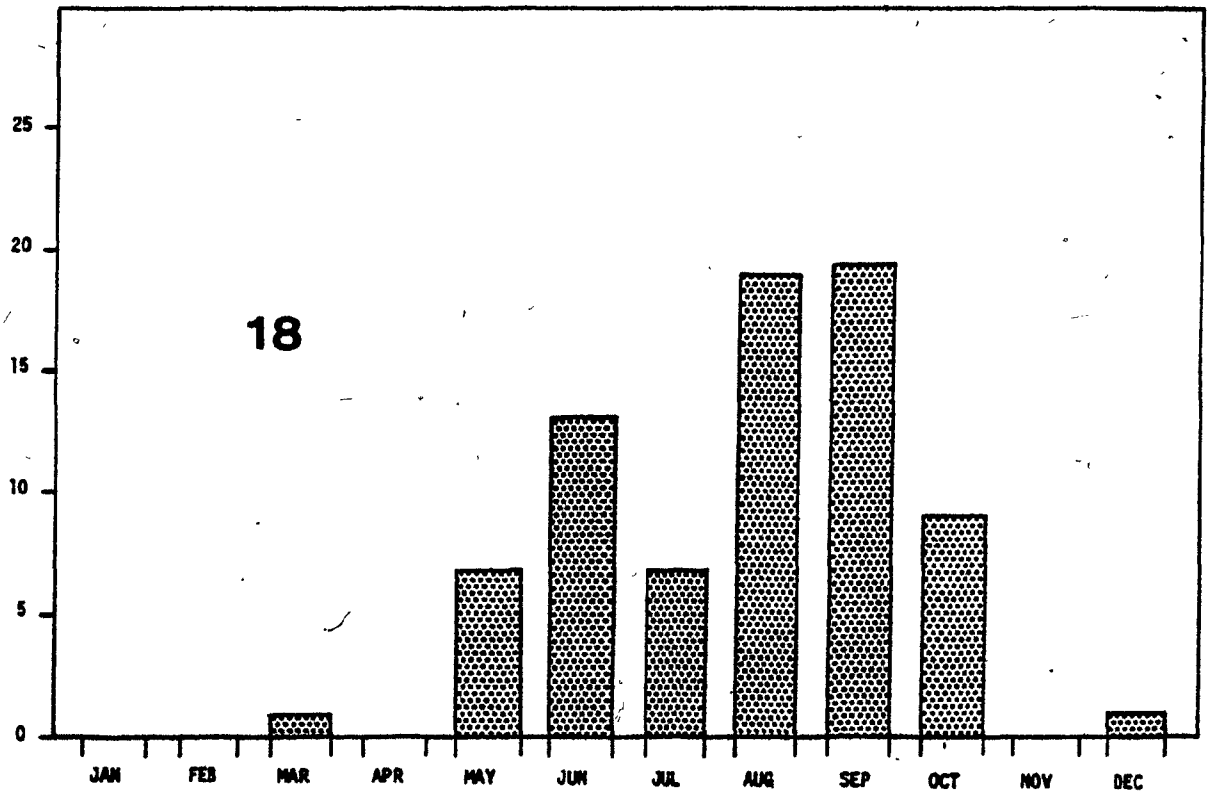
Table 2. The numbers of males for each species composing the histogram in Figure 18.

T. crassifemur	*T. lineaticeps*	*T. neptuni*	*T. niger*	*T. pallidipes*	*T. punctifrons*	*T. villus*
1	25	20	1	7	5	7

Figure 17. Histogram demonstrating seasonal distribution and abundance of Nearctic Teleas females, based on species listed in Table 1.

Figure 18. Histogram demonstrating seasonal distribution and abundance of Nearctic Teleas males, based on species listed in Table 2.


17
39
25
20
15
10
5
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC


18
25
20
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JAN
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JUN
JUL
AUG
SEP
OCT
NOV
DEC

GENUS TELEAS

Teleas Latreille, 1809. Gen. Crust. Ins., v. 4, p. 32.

Type: Scelio clavicornis Latreille. Desig. by Latreille, 1810.

Palpal formula 3-1; antennae 12 segmented in both sexes; female antennae with 6 segmented clava (Figure 12); male antennae filiform with cylindrical flagellomeres (Figure 23); head transverse, about twice as wide as long; posterior ocelli far from eye margins; OOL usually longer than POL (Figure 11); mandible long and strong, bidentate or subtridentate, the middle tooth much reduced; clypeus broad and short (Figure 10); sculpturing of lower frons costate, with scattered setose punctures; upper frons with smooth glabrous area medially, above antennal process; eyes with scattered setae.

Fore wing with submarginal, marginal and stigmal veins (Figure 15); postmarginal vein often indicated as a small stub; submarginal vein two to five times longer than marginal vein; marginal vein three to five times longer than stigmal vein; wings generally reaching apex of metasoma when folded.

Fore and middle tibiae with spines outwardly along most of their lengths (Figure 7); spines usually stronger on middle tibiae; hind femora and basitarsi strongly incrassate in female

specimens (Figure 8); moderately incrassate in males.

Pronotum barely visible from above; mesoscutum and scutellum generally areolate-rugose with scattered setae; scutellum sloping posteriorly to a "lip" or margin usually concealing lateral parts of the metanotum from above; scutellum with one pair of lateral spines; metanotum with a strong medial spine or flat plate; propodeum with small areolate rugosities and usually with two pairs of small spines; one pair situated anterolaterally above the spiracles and the other on the posterolateral corners of the propodeum; propleuron usually concealed by the head; netrion narrow and barely visible as a narrow strip between the tegula and the forecoxa (Figure 13); mesopleuron and metapleuron anteriorly with small areolate rugosities usually covered with dense setae; mesopleural depression glabrous with punctate, areolate or longitudinally costate sculpturing; mesopleural pit strong; mesopleuron posteriorly with a glabrous area which is usually smooth and surrounded by costae or irregular areolate sculpturing.

Metasoma ovate, 1.5 to 1.8 times longer than wide, and dorsolaterally flattened with laterotergites deeply incised into sterna; submarginal groove well developed; female metasoma with seven terga and six sterna; male metasoma with eight terga and seven sterna; T1 and T2 wider than long (Figure 16), with longitudinal costae; T3, the largest of metasomatic terga, longer

than wide; T3 medially, punctate, costate or both, rarely entirely smooth; remaining terga usually setose with weak sculpturing. Female T7 not extruded with ovipositor. T1 of males and females not humped or with a horn.

KEY TO THE NEARCTIC SPECIES OF TELEAS

1 Antennae filifrom (Figure 23); males .... 2.

1' Antennae with 6-segmented clava (Figure 12); females .... 8.

2 Setae on frons, cheeks, vertex and eyes long, setae between posterior ocellus and inner orbit as long as the OOL distance; metapleuron with a smooth area posteriorly and without longitudinal costae (Figure 50); T3 largely smooth with weak longitudinal costae anteromedially (Figure 51.) .... T. villus n.sp. pg. 127.

2' Setae on frons, cheeks, vertex and eyes short, setae between posterior ocellus and inner orbit less than half as long as the OOL distance; metapleuron with or without a smooth area posteriorly, often with longitudinal costae (Figure 30); sculpturing of T3 variable but usually heavily sculptured medially (Figures 28,32,33,36) .... 3.

3 All coxae yellow; antennal flagellomeres long and narrow, A10 more than seven times longer than wide; setae of flagellomeres longer than width of flagellomeres (Figure 38) .... T. pallidipes Ashmead. pg. 95.

3' Coxae orange, brown, red brown or black; antennal flagellomeres not elongated as above, A10 less than three times longer than wide; setae of flagellomeres shorter than

width of flagellomeres (Figure 23) .... 4.

4 Metanotal spine squared distally (Figure 35); all antennal segments black; all coxae black, other leg segments black except orange at points of articulation and some orange tarsal segments; T3 punctate over most of its surface (Figure 36); posterior glabrous area of metapleuron completely sculptured with irregular rugosities and costae, without a smooth area medially (Figure 34) .... T. niger n.sp. pg. 86.

4' Metanotal spine rounded or acute distally, never squared (Figures 31,27); A1 and A2 orange to dark brown, remaining antennal segments brown to black; coxae orange to black, other leg segments usually orange, rarely red brown or brown; T3 variable; posterior glabrous area of metapleuron smooth medially (Figures 25,41,45) .... 5.

5 T3 mostly smooth with weak longitudinal costae anteromedially (Figure 44); metanotal spine blunt with a median longitudinal ridge (Figure 43); A1 and A2 orange, remaining antennal segments brown to black; frons with deep punctures below anterior ocellus (as in T. lineaticeps Figure 2); metapleuron areolate-rugose with a smooth area posteriorly, without longitudinal costae (as in T. villus Figure 50).... T. punctifrons n.sp. pg. 109.

5' T3 well sculptured with costae, punctures or both

(Figures 28,32,33,36); metanotal spine variable, often acute and usually without a median ridge; coloration of antennal segments variable; frons usually smooth or with costae below anterior ocellus, rarely with punctures; sculpturing of metapleuron variable, often with longitudinal costae posteriorly.....6.

6 Vertex transversely costate with a patch of coriarious sculpturing laterad of the posterior ocellus (Figure 29); posterior glabrous area of metapleuron with smooth area broken by longitudinal costae (Figure 30); metanotal spine usually blunt (Figure 31).....T. neptuni n.sp. pg. 71.

6' Vertex transversely costate but without coriarious sculpturing; posterior glabrous area of metapleuron smooth medially (Figure 25); metanotal spine usually acute (Figure 27), rarely blunt with an irregular median ridge (Figure 21).....7.

7 Antennal process rounded, without an acute angle ventrally (Figure 19); posterolateral corners of propodeum rounded (Figure 21); metanotal spine blunt with a median longitudinal ridge (Figure 21); A1 and A2 dark brown .... T. crassifemur n.sp. pg. 45.

7' Antennal process forming at least a 90° angle ventrally (Figures 22,37); posterolateral corners of propodeum acute (Figure 27); metanotal spine usually long and

acute often with a median depression (Figure 27); A1 and A2 orange .... T. lineaticeps Ashmead pg. 54.

8 Vertex transversely costate with a patch of coriarious sculpturing laterad of the posterior ocellus (Figure 29); mesopleural depression longitudinally costate (Figure 30) .... T. neptuni n.sp. pg. 71.

8' Vertex transversely costate but without coriarious sculpturing; mesopleural depression variable, often with areolae .... 9.

9 All coxae yellow; A1 and A2 yellow, mesosoma partly orange with some black dorsally; metanotal spine acute, roughly sculptured and usually without a median depression or longitudinal ridge (Figure 39) .... T. pallidipes Ashmead pg. 95.

9' Color of coxae variable, from orange to black but never yellow; A1 and A2 yellow to black; mesosoma variable but never orange, usually dark brown or black; metanotal spine variable, usually with a median depression or longitudinal ridge (Figures 27,43,46) .... 10.

10 Metanotal spine with an irregular longitudinal ridge medially (Figure 43); T3 mostly smooth and shining with weak longitudinal costae restricted to the anteromedial region (Figure 44) .... T. punctifrons n.sp. pg. 109.

10' Metanotal spine usually acute, often depressed medially, never with a median longitudinal ridge (Figures 27, 46); T3 heavily sculptured with longitudinal costae and/or punctures (Figures 28,47) .... 11.

11 Mesoscutum punctate medially (Figure 46); scutellum generally smooth posteriorly with deep scattered punctures (Figure 46); metanotal spine acute, roughly sculptured, without a median depression (Figure 46) .... T. terricola n.sp. pg. 118.

11' Mesoscutum entirely areolate rugose (Figure 26); scutellum with irregular longitudinal costae posteriorly and without deep punctures; metanotal spine usually long and narrow with a medial depression (Figure 27) .... T. lineaticeps Ashmead pg. 54.

Teleas crassifemur n.sp. (All new names proposed have no validity in Zoological Nomenclature, pending publication of this thesis.)
Type Locality: USA, Arkansas, Crawford

Type Deposition: Holotype ♂, (UAC)

Diagnosis: T. crassifemur is similar to T. neptuni but may be distinguished by the following set of characters: antennal process rounded, without a sharp angle ventrally (Figure 19); posterolateral corners of propodeum rounded (Figure 21); head more than twice as wide as long; metapleuron without longitudinal costae.

Male

Length 2.5 mm. Head generally black, antennal process, radicle, A1 and A2 dark brown; A3 to A12 black; mandible orange darkening distally; mesosoma black except orange posterior margin of scutellum; legs orange except for brown coxae; metasoma black except orange anterior margin of T1.

Head: Transverse, slightly more than twice as wide as long, with sparse setose punctures; frons smooth and glabrous medially, costate laterally and ventrally; cheeks costate; temples and vertex weakly costate; interocellar space with a few transverse rugosities and setose punctures; posterior ocellus far from inner orbit; LOL, POL, OOL measurements as follows, 0.09,

0.17, 0.20; clypeus wide, transversely costate with acute lateral corners; length of clypeus 0.11, width 0.30; antennal process rounded without an acute angle ventrally (Figure 19); mandible subtridentate, middle tooth appearing as a small bump; flagellomeres cylindrical, A10 less than three times as long as wide (as in T. lineaticeps Figure 23); setae of flagellomeres shorter than width of flagellomeres.

Mesosoma: Mesoscutum and scutellum areolate-rugose; scutellum sharply sloping posteriorly, its posterior margin large, concealing lateral parts of metanotum from above; metanotal spine wide, roughly triangular with a short median ridge (Figure 21); propodeum with small areolate rugosities and sparse setae; posterolateral corners of propodeum rounded; mesopleural depression mostly smooth, with longitudinal costae above pleural pit and longitudinal rugosities posteriorly, bordering mesepimeron (Figure 20); smooth glabrous area of metapleuron surrounded by irregular areolae or rugosities (Figure 20); hind femur greatly swollen for a male Teleas, only slightly more than twice as long as wide; fore wing with postmarginal vein indicated.

Metasoma: T1 irregularly longitudinally costate with a few transverse rugosities; T2 longitudinally costate; T3 punctate medially, laterally and posteriorly smooth with scattered setose punctures; T4 with scattered setose punctures not arranged in

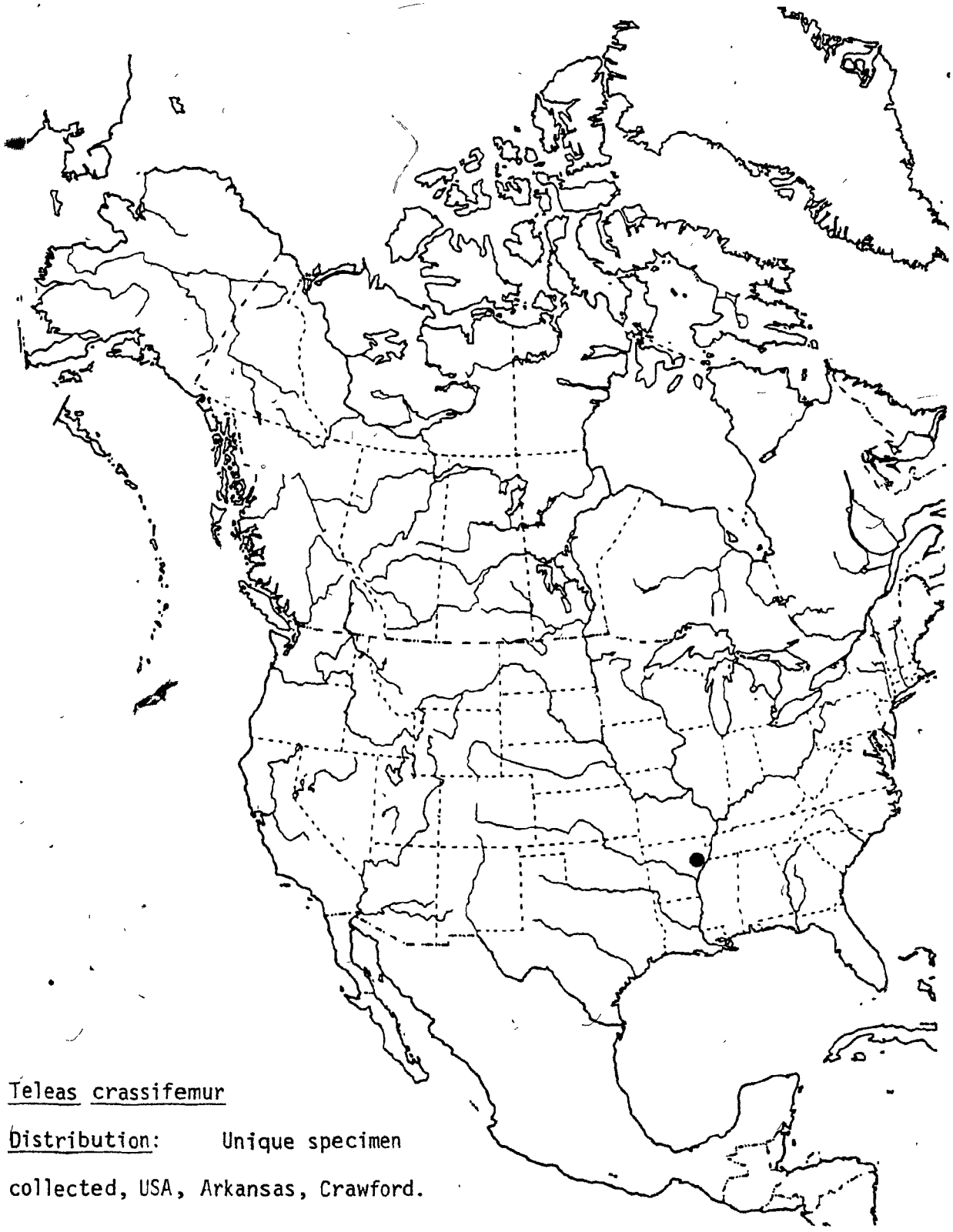
transverse rows.

Female: Unknown

Material Examined: Holotype ♂, (UAC), USA, Arkansas, Crawford, 25.VII.1969, (Collector ?).

Table 3. Teleas crassifemur n.sp.

		Holotype Male
Total length		2.45
Head:	length	0.36
	width	0.78
	height	0.63
	dist. between eyes	0.53
	length of scape	0.40
	length of A3	0.20
	length of A4	0.15
	length of A10, Males	0.15
	width of A10, Males	0.06
	LOL	0.09
	POL	0.17
	OOL	0.20
	eye height	0.32
	eye length	0.21
Mesosoma:	length of metanotal spine	0.13
	width of mesoscutum	0.71
	length of hind femur	0.56
	width of hind femur	0.25
	length of submarginal vein	0.83
	length of marginal vein	0.36
	length of postmarginal vein	0.02
	length of stigmal vein	0.10
Metasoma:	Total length	1.20
	T1 length	0.23
	T2 length	0.23
	T3 length	0.45
	maximum width, T3 width	0.78
	T1 width	0.37
	T2 width	0.70



Teleas crassifemur

Distribution: Unique specimen collected, USA, Arkansas, Crawford.

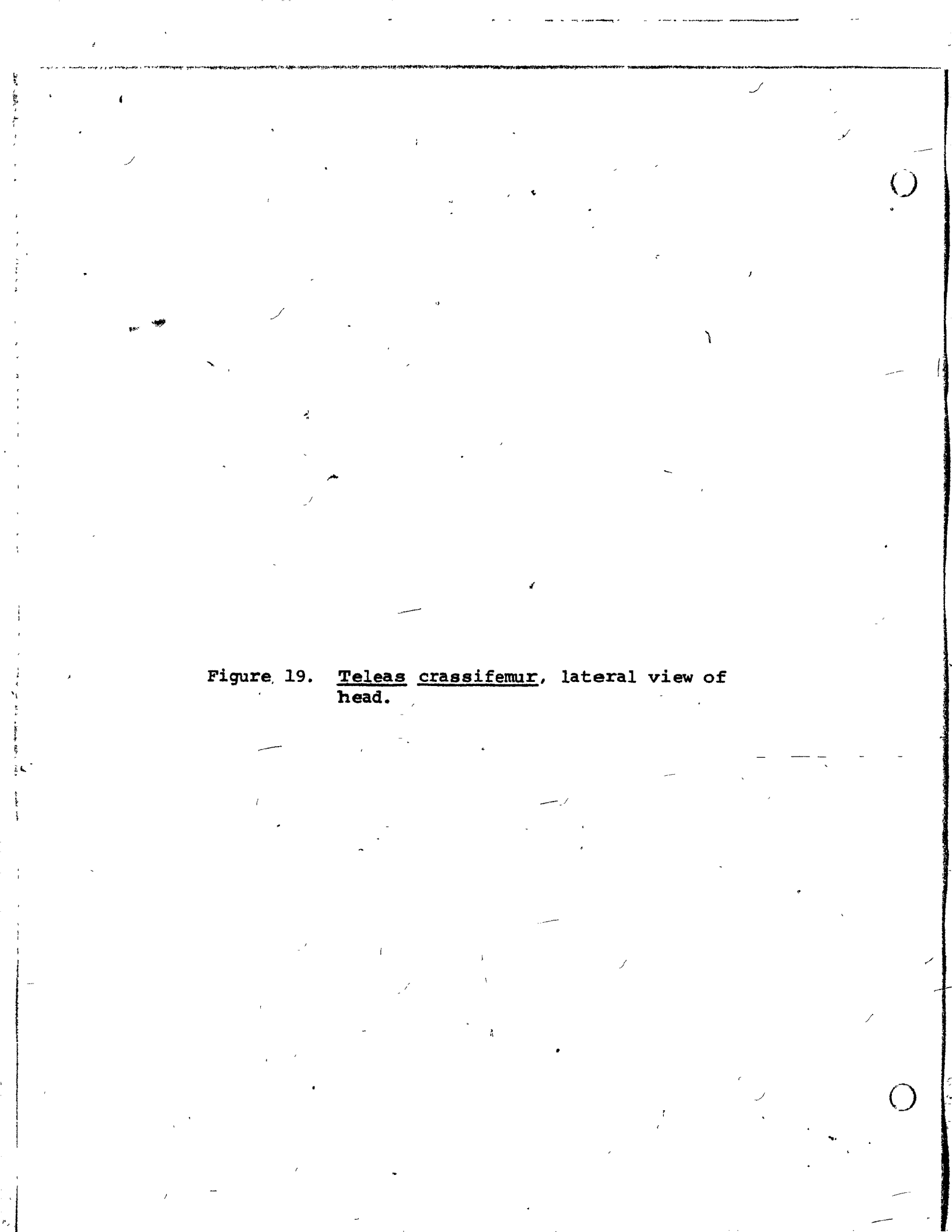


Figure 19. *Teleas crassifemur*, lateral view of head.

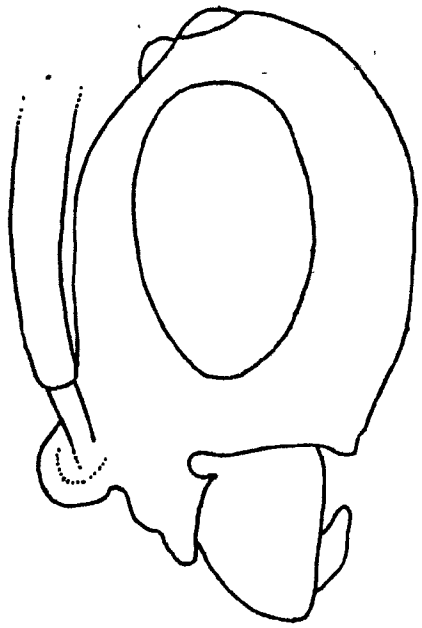


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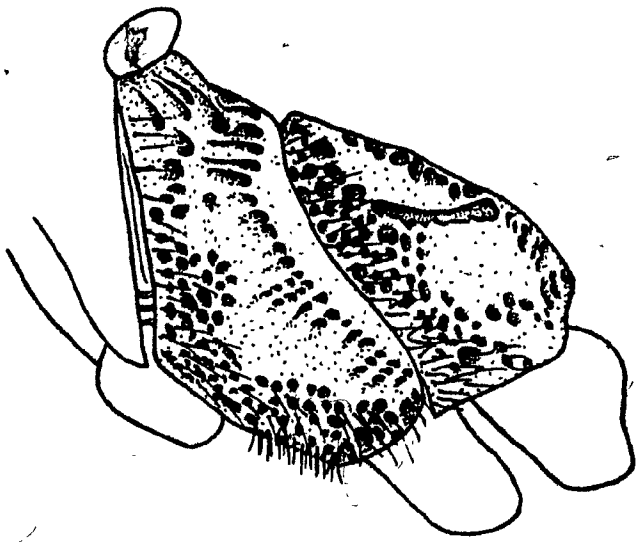
Figure 20. Teleas crassifemur, lateral view of mesosoma.

Figure 21. Teleas crassifemur, scutellum, metasoma and propodeum, dorsal view.



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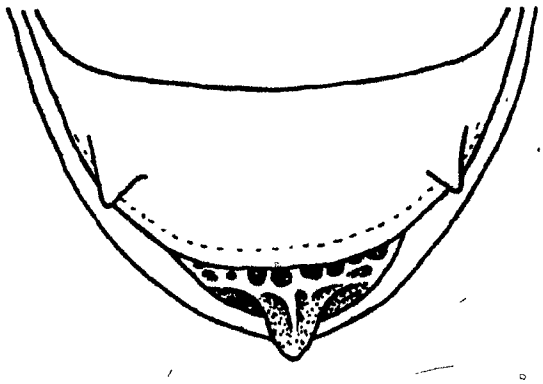

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Teleas lineaticeps Ashmead

1893, Teleas lineaticeps Ashmead, Bull. U.S. natn. Mus. 45: 198, 199.

1926, Teleas lineaticeps: Kieffer, Das Tierreich, 48: 173-264.

1968, Teleas lineaticeps: Masner & Muesebeck, Bull. U.S. natn. Mus. 270: 46.

1979, Teleas lineaticeps: Muesebeck, in Krombein et al., Catalog of Hymenoptera in America north of Mexico, 1: 1161.

Type Locality: USA, District of Colombia.

Type Deposition: Lectotype , (by Masner & Muesebeck 1968), (USNM no. 2242).

Diagnosis: T. lineaticeps may be distinguished from other Nearctic species of Teleas by the presence of the following combination of characters: A1 and A2 orange, A3 to A12 black; metanotal spine long and narrow (Figures 5,27); T3 with longitudinal costae strong.

Male

Length 2.8 mm. Head generally black, antennal process, radicle, A1 and A2 orange; mandible orange darkening distally; legs orange except for brown coxae; mesosoma black except orange posterior margin of scutellum; metasoma black except orange anterior margin of T1.

Head: Transverse, twice as wide as long, with scattered setae; frons smooth medially with scattered setose punctures (Figure 2); costae on cheeks, temples, vertex and ventral and

lateral areas of frons; costae of frons along inner orbits continue around eyes dorsally; interocellar space with transverse rugosities; posterior ocellus far from eye margin; LOL, POL, OOL measurements as follows, 0.10, 0.18, 0.20; clypeus wide, transversely costate with acute lateral corners; length of clypeus 0.14, width 0.36; antennal process forming an acute angle ventrally (Figure 22); mandible subtridentate, middle tooth much reduced; flagellomeres cylindrical; A10 (missing from lectotype) less than three times longer than wide; setae of flagellomeres short, shorter than width of flagellomeres (Figure 23).

Mesosoma: Mesoscutum and scutellum areolate-rugose; areolae of mesoscutum long and narrow midlaterally, mesoscutum therefore appearing somewhat costate (Figure 26); scutellum sloping sharply to its posterior margin which overhangs lateral parts of metanotum (Figure 5); metanotal spine (broken on lectotype) long, narrow, and depressed medially (Figure 5); posterolateral corners of propodeum acute (Figure 5); propodeum with small areolate rugosities, densely setose posterolaterally; mesopleural depression irregularly longitudinally costate (Figure 24); smooth glabrous area of metapleuron surrounded by irregular rugosities and areolae (Figure 25); hind femur slightly swollen, about three times longer than wide; fore wing without a postmarginal vein.

Metasoma: (Figure 28) T1 irregularly and longitudinally costate; T2 longitudinally costate; T3 longitudinally costate, costae broken and irregular anteromedially appearing areolate, laterally and posteriorly T3 smooth with scattered setose punctures; T4 with weak, wavy transverse sculpturing and two transverse rows of setose punctures.

New Female.

Type Locality: Canada, Quebec, Old Chelsea

Differs from male lectotype in the following characters:

Length 2.9 mm. Coloration slightly darker than male, hind femur with some brown medially; all coxae black.

Head: Sculpturing of the head weaker; costae not continuing around eye dorsally leaving the area between posterior ocellus and the inner orbit predominantly smooth; clypeus wide, transversely costate, length 0.12 width 0.40.

Mesosoma: Mesoscutum and scutellum areolate-rugose; areolae of mesoscutum not elongated midlaterally; posterior part of scutellum sloping almost vertically; mesopleural depression with small areolate rugosities arranged in irregular longitudinal rows; hind femur greatly swollen, about twice as long as wide.

Metasoma: (Figure 28) T1 irregularly and longitudinally

costate; T2 longitudinally costate; T3 medially with irregular costae, anteromedially costae becoming areolate.

Variability: This is one of the most collected species of Teleas in North America and shows a relatively large degree of variation in size (Table 4).

The coloration of the legs is variable. Although predominantly orange, they may be brown in areas; coxae vary from light brown to black. Costae of lateral frons, along inner orbit, may continue around eyes dorsally; dorsal area of frons may lack punctures; antennal process may be less acute ventrally than in the lectotype, always with a minimum angle of 90°. Mesoscutum may appear costate laterally and posteriorly with notauli indicated; shape of metanotal spine somewhat variable, usually long and narrow but sometimes wider in small specimens; medial depression of metanotal spine reduced in some large specimens; sculpturing of mesopleural depression varies from evenly longitudinally costate to areolate; a small postmarginal vein of less than 2 mm may be present on the fore wing. T3, although costate over most of its surface, varies from costate to areolate medially.

Material Examined

Lectotype ♂, (USNM no. 2242), USA, District of Columbia, 27.III,

W.H. Ashmead (no further information on label). 33 ♀♀, (USNM) USA, Missouri, Columbia, 20.IX - 4.X. 1967, (malaise trap), F.D. Parker. 1♀, (DAVIS),USA, Columbia, 21.VI. 1970, (malaise trap), F.D. Parker. 1 ♀, (DAVIS)USA, Missouri, Columbia, 17.IX. 1969, F.D. Parker. 1 ♀, (CNC), Canada, Ontario, Rondeau Prov. Park, 8-12.VIII. 1973, (malaise trap), L. Masner. 1 ♀, (CNC), Canada, Ontario, Innisville, 29.VIII. 1963, W.M. Mason. 1♀, (CNC), Canada, Ontario, Innisville, 13.IX. 1963, W.M. Mason. 1♂, (CNC), Canada, Ontario, Chatterton, 4.IX. 1968, C.D. Dondale. 1 ♀, (CNC), Canada, Ontario, Chatterton, 1.IX. 1970, C.D. Dondale. 1 ♀, (CNC), Canada, Ontario, Chatterton, 31.VIII. 1970, C.D. Dondale. 1 ♀, (CNC), Canada, Ontario, Oxford Mills, 1-6. IX. 1978, (pan trap), G. Gibson. 1 ♀, (CNC), Canada, Ontario, Ottawa, 28.VIII. 1940, O. Peck. 1 ♀, (CNC), Canada, Quebec, Hull, 16.VIII. 1965, (malaise trap), (Collector ?). 1 ♀, (CNC), Canada, Quebec, Low, Mt. Ste. Marie, 20.IX. 1965, J.R. Vockeroth. 1♂, (CNC), USA, North Carolina, Highlands, 27.VIII. 1957, L.A. Kelton. 1♂, (CNC), USA, North Carolina, Taxaway, 30.VIII. 1957, W.R. Richards. 1 ♀, (CNC), USA, Missouri, Williamsville, (no exact date) X-XI. 1968, (malaise trap), J.T. Becker. 1♂, (CNC), USA, Missouri, Williamsville, 5.X-5.XI. 1969, J.T. Becker. 1 ♀, 1♂, (CNC), USA, Missouri, Williamsville, 15.VIII-10.IX. 1969, J.T. Becker. 1 ♀, (CNC), USA, Maryland, Patuxent, 29.VI-6.VII. 1979, (malaise trap), M. Schauff. 1 ♀, (CNC), USA,

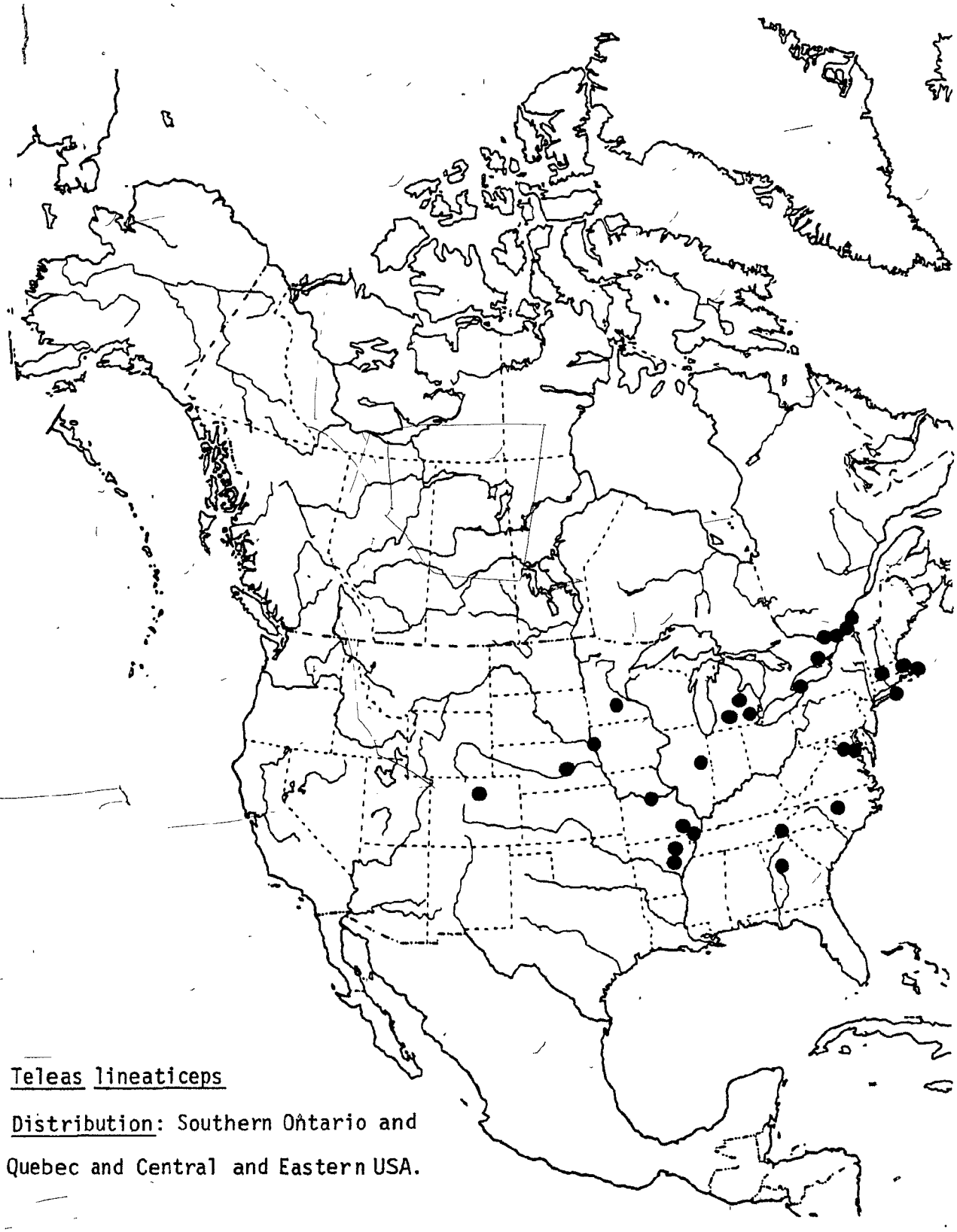
Georgia, Forsyth, 9-17.X. 1970, (malaise trap), F.T. Naumann. 1 ♂, (USNM), Canada, Ontario, Vineland Station, 30.VIII. 1937, W.L. Putman. 1 ♀, (USNM), Canada, Quebec, La Trappe, 31.VIII. 1943, J. Ouellet. 1 ♀, (USNM), USA, Missouri, Stoddard Co., 25.IX. 1936, W.H. Anderson. 1 ♀, (USNM), USA, Michigan, Livingston Co., 2.IX. 1958, M.O. Engelmann. 1 ♀, (USNM), USA, Michigan, Saginaw Co., 11.IX. 1942, R.R. Dreisbach. 1 ♂, (USNM), USA, Colorado, Greeley, 8.VIII. 1929, W.J. Zaumeyer. 1 ♀, (USNM), USA, Arkansas, Cross Co., 7.X. 1936, W.F. Turner. 1 ♂, (USNM), USA, Arkansas, Cross Co., 2.X. 1936, W.F. Turner. 2 ♂♂, (USNM), USA, Arkansas, Lee Co., 1.X. 1936, W.F. Turner. 1 ♀, (USNM), USA, Missouri, Boone Co., Columbia, 17-31.VIII. 1968, (malaise trap), F.D. Parker. 1 ♀, (USNM), USA, Missouri, Boone Co., Columbia, 16.X. 1967, F.D. Parker. 1 ♀, (USNM), USA, Missouri, Boone Co., Columbia, 1-15.IV. 1968, (malaise trap), F.D. Parker. 1 ♀, (INHS), USA, Illinois, Urbana, 19.VIII. 1975, (sticky trap), M.E. Irwin. 1 ♀, (MSU), USA, Michigan, Bangor, 30.VIII. 1963, T. Burger. 1 ♀, (MCZ), USA, Virginia, Falls Church, (date ?), N. Banks. 1 ♂, (MCZ), USA, Massachusetts, Wellesley, 28.V. 1916, (no further data). 1 ♂, (MCZ), USA, New York, Gardiner's Island, 17-23.VIII. 1918, J. Bequaent. 2 ♂♂, (MCZ), USA, Massachusetts, Holliston, 24.VIII (year ?), N. Banks. 1 ♀, (UG), USA, Massachusetts, Cape Cod, 25.VIII. 1977, W.A. Attwater. 2 ♂♂, (MSU), Canada, Quebec, La Trappe, 10.VIII. 1950, J. Ouellet. 1 ♀,

(MSU), Canada, Quebec, La Trappe, 30.VIII. 1946, J. Ouellet. 1 ♀, (MSU), Canada, Quebec, La Trappe, 19.IX. 1950, J. Ouellet. 1 ♂, (AEI), USA, South Carolina, Cleveland, 12.X. 1975, G.F. Townes. 1 ♂, (AEI), USA, South Carolina, Cleveland, 5.X. 1975, G.F. Townes. 2 ♂♂, (CNC), Canada, Quebec, Ste. Anne de Bellevue, 5.IX. 1967, W. Boyle. 1 ♀, (USNM), USA, Iowa, Sioux City, (date ?), C.N. Ainslie. 1 ♂, (USNM), USA, Massachusetts, Springfield, (date ?), G. Dimmock. 1 ♀, (CNC), Canada, Ontario, Brighton, 2.IX. 1954, J.C. Martin. 1 ♀, (GUC), USA, Minnesota, Hennepin Co., Lake Minnetonka, 17.VIII. 1974, H.O. Lund. 1 ♂, (MSU), USA, Nebraska, Fullerton, 19.VIII. 1949, R.R. Dreisbach. 1 ♀, (DAVIS)USA, Missouri, Columbia, 5.IX. 1969, (malaise trap), F.D. Parker.

Table 4. *Teleas lineaticeps* Ashmead.

		Lectotype Male	Maximum Male	Minimum Male	Maximum Female	Minimum Female
Total length		2.84	3.02	2.51	3.60	2.36
Head:	length	0.44	0.45	0.39	0.54	0.37
	width	0.88	0.96	0.78	1.09	0.72
	height	0.76	0.80	0.69	0.97	0.64
	dist. between eyes	0.60	0.64	0.53	0.69	0.47
	length of scape	0.50	0.53	0.44	0.73	0.50
	length of A3	0.28	0.30	0.25	0.28	0.16
	length of A4	*	0.23	0.20	0.20	0.12
	length of A10, Males	*	0.19	0.16		
	width of A10, Males	*	0.08	0.07		
	LOL	0.10	0.10	0.09	0.13	0.08
	POL	0.18	0.18	0.15	0.22	0.14
	OOL	0.20	0.25	0.19	0.28	0.16
	eye height	0.34	0.37	0.33	0.43	0.30
	eye length	0.22	0.23	0.21	0.29	0.21
Mesosoma:	length of metanotal spine	*	0.19	0.14	0.20	0.15
	width of mesoscutum	0.80	0.85	0.70	1.04	0.63
	length of hind femur	0.66	0.73	0.60	0.84	0.56
	width of hind femur	0.23	0.26	0.19	0.36	0.26
	length of submarginal vein	1.05	1.06	0.89	1.27	0.79
	length of marginal vein	0.43	0.43	0.31	0.36	0.28
	length of postmarginal vein	0	0.01	0.02	0	0
	length of stigmal vein	0.10	0.10	0.08	0.10	0.05
Metasoma:	Total length	1.52	1.68	1.36	2.00	1.26
	T1 length	0.29	0.29	0.25	0.33	0.22
	T2 length	0.32	0.32	0.26	0.36	0.23
	T3 length	0.56	0.63	0.54	0.78	0.55
	maximum width, T3 width	0.91	1.02	0.76	1.30	0.77
	T1 width	0.79	0.40	0.35	0.68	0.35
	T2 width	0.40	0.92	0.70	1.28	0.71

*Missing from lectotype



Teleas lineaticeps

Distribution: Southern Ontario and Quebec and Central and Eastern USA.

Figure 22. Teleas lineaticeps, lateral view of head.

Figure 23. Teleas lineaticeps, male antenna with close-up of A10, A11 and A12, showing setae.

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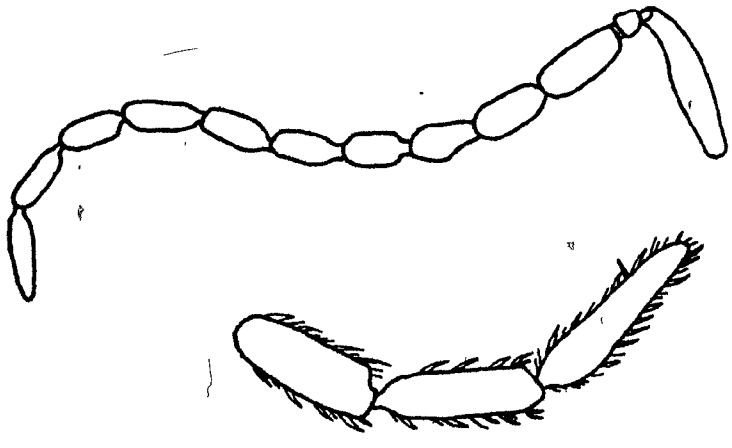

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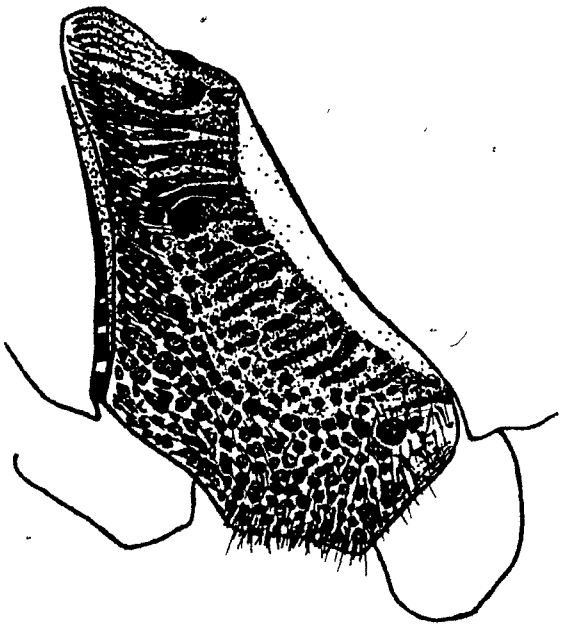
Figure 24. Teleas lineaticeps, lateral view of mesopleuron.

Figure 25. Teleas lineaticeps, lateral view of metapleuron.



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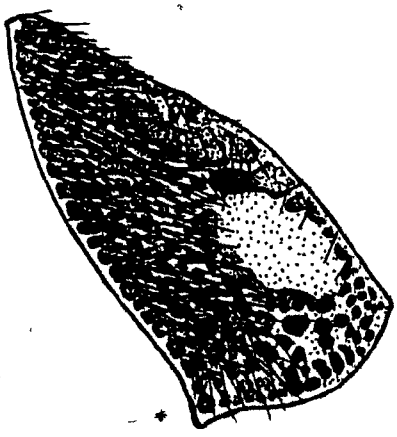

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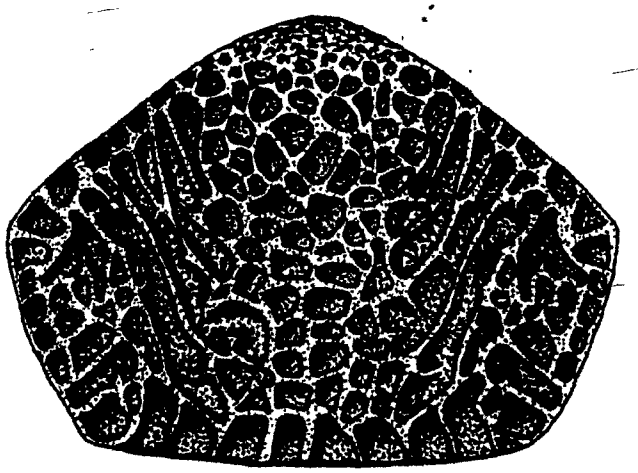
Figure 26. Teleas lineaticeps, dorsal view of mesoscutum.

Figure 27. Teleas lineaticeps, dorsal view of scutellum, metanotum and propodeum.



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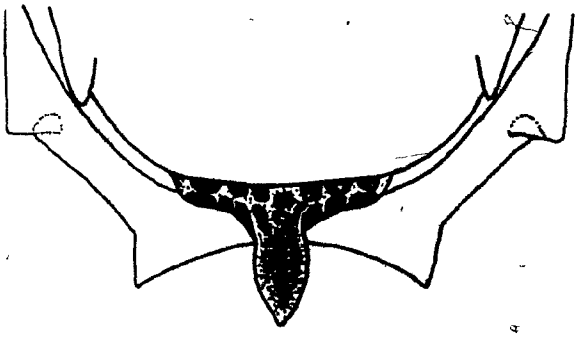

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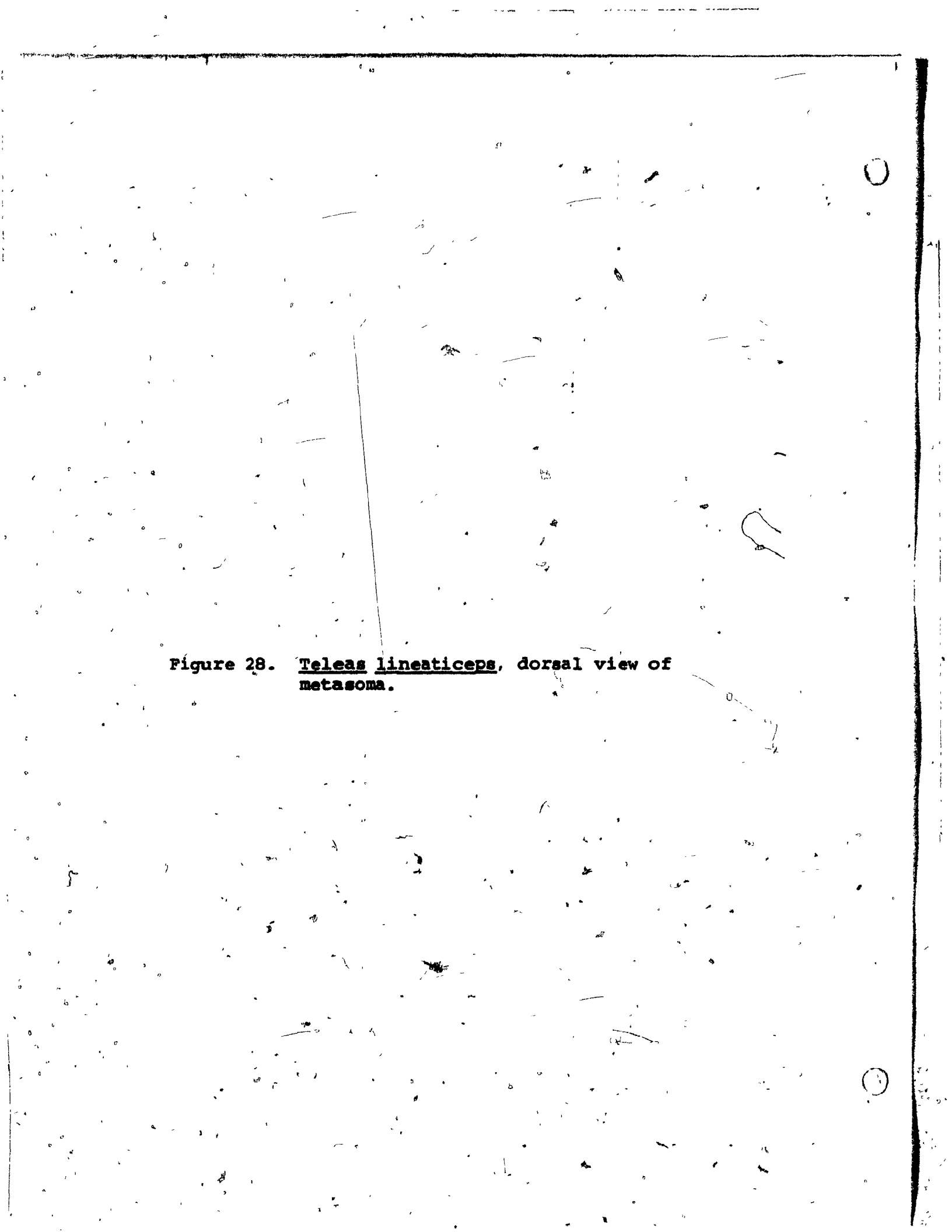
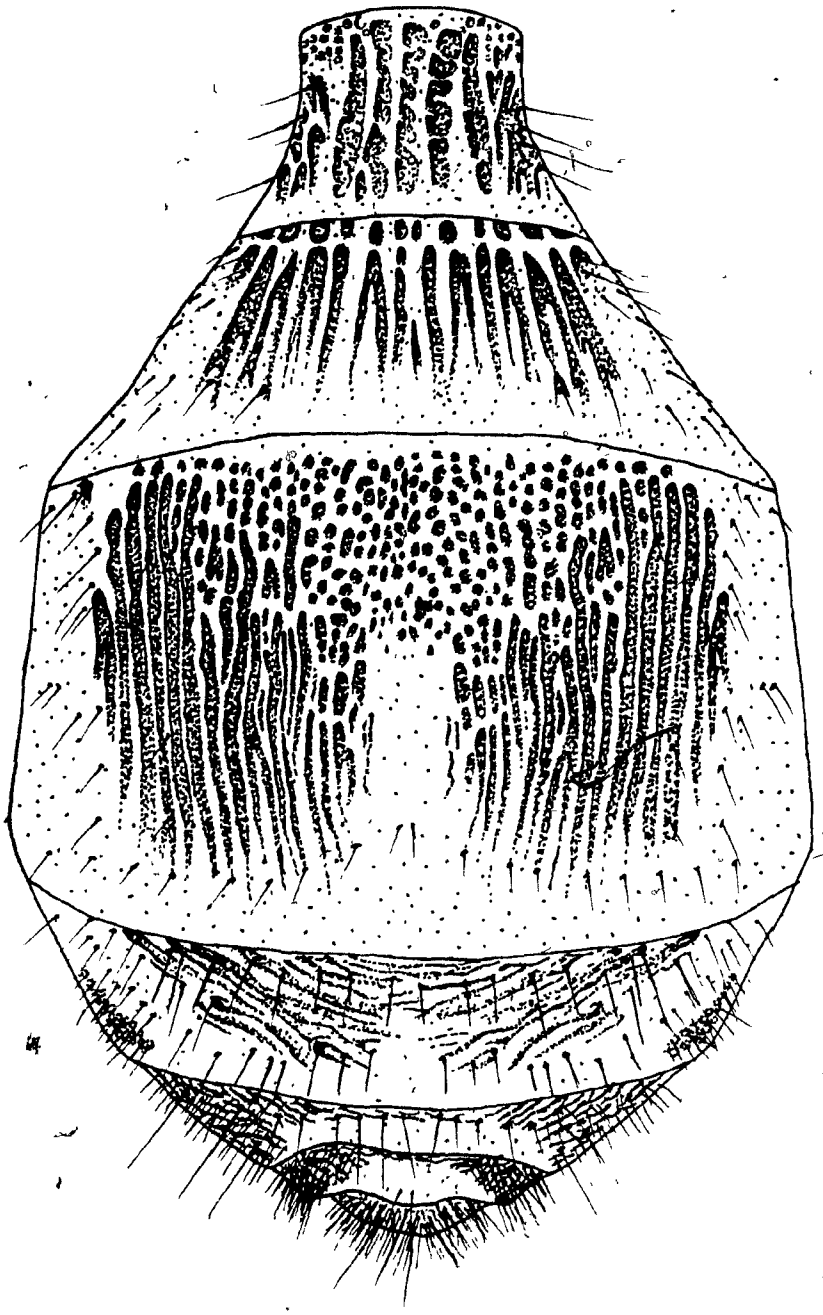


Figure 28. Teleas lineaticeps, dorsal view of metasoma.



28

Teleas neptuni n.sp.

Type Locality: Canada, Ontario, Carleton Place

Type Deposition: Holotype ♀, (CNC) no. 16149

Diagnosis: T. neptuni may be distinguished from other Nearctic species of Teleas by the following characters: coriarious patch of sculpturing laterad of the posterior ocellus (Figure 29); A1 only slightly lighter than A3-A12.

Female

Length 2.34 mm. Black with the following exceptions; radicle and A1 dark brown; antennal process and A2 light brown, mandible orange, darker distally, legs except coxae yellow; posterior margin of scutellum red brown; anterior margin of T1 orange.

Head: Transverse, not quite twice as wide as long, with scattered setae; frons heavily costate except for a smooth area medially; frons with setose punctures dorsally; cheeks, temples and vertex heavily costate; interocellar space transversely costate with setose punctures; coriarious patch of sculpturing laterad of posterior ocellus (Figure 29); LOL, POL, OOL measurements as follows 0.08, 0.15, 0.17; clypeus wide, transversely costate with acute lateral corners; length of clypeus 0.09,

width 0.32; antennal process forming a 90° angle ventrally (as in T. pallidipes Figure 37); mandible subtridentate, middle tooth reduced.

Mesosoma: Mesoscutum and scutellum areolate-rugose; scutellum sloping down posteriorly to a narrow posterior margin and protruding over metanotum slightly; metanotal spine roughly triangular with irregular longitudinal sculpturing distally (Figure 31); propodeum with small areolate rugosities, lightly setose laterally; posterolateral corners of propodeum acute (Figure 31); mesopleural depression longitudinally costate (Figure 30); posterior glabrous area of metapleuron mostly smooth with several longitudinal costae (Figure 30); hind femur swollen, slightly less than three times longer than wide; fore wing with postmarginal vein indicated.

Metasoma: (Figure 32). T1 and T2 longitudinally costate; T3 with strong irregular costae over most of its surface, areolate anteromedially, smooth with scattered setose punctures on extreme lateral and posterior margins; T4 coriarious with scattered setose punctures; anteriorly T4 with weak wavy costae.

Male

Type Locality: Canada, Ontario, Constance Bay.

Differs from female holotype in the following characters:

Length 2.7 mm. Antennal process and A2 dark brown; legs

except coxae red brown.

Head: Transverse, twice as wide as long; coriarious patch of sculpturing laterad of posterior ocellus slightly reduced; posterior ocellus far from inner orbit; LOL, POL, OOL measurements as follows, 0.09, 0.15, 0.20; length of clypeus 0.12, width 0.30; flagellomeres cylindrical; A10 less than three times as long as wide; setae of flagellomeres shorter than width of flagellomeres.

Mesosoma: Hind femur three times longer than wide, otherwise mesosoma as in female holotype.

Metasoma: T3 with fewer areolae anteromedially; T3 almost entirely sculptured with longitudinal costae.

Variability: A1 varies from brown to black; A2 from light brown to black, usually lighter in females; coxae red brown to black; other leg segments vary from yellow to light orange in females and from red brown to brown in males; pleural regions of mesosoma often red brown, especially in western specimens. Costae of head generally strong, although they may be weak in the interocellar space and absent below the anterior ocellus; antennal process may be very acute, always forming at least a 90° angle ventrally. Metanotal spine with or without a median depression and longitudinal rugosities; costae of mesopleural depression sometimes reduced medially leaving it smooth; posterior

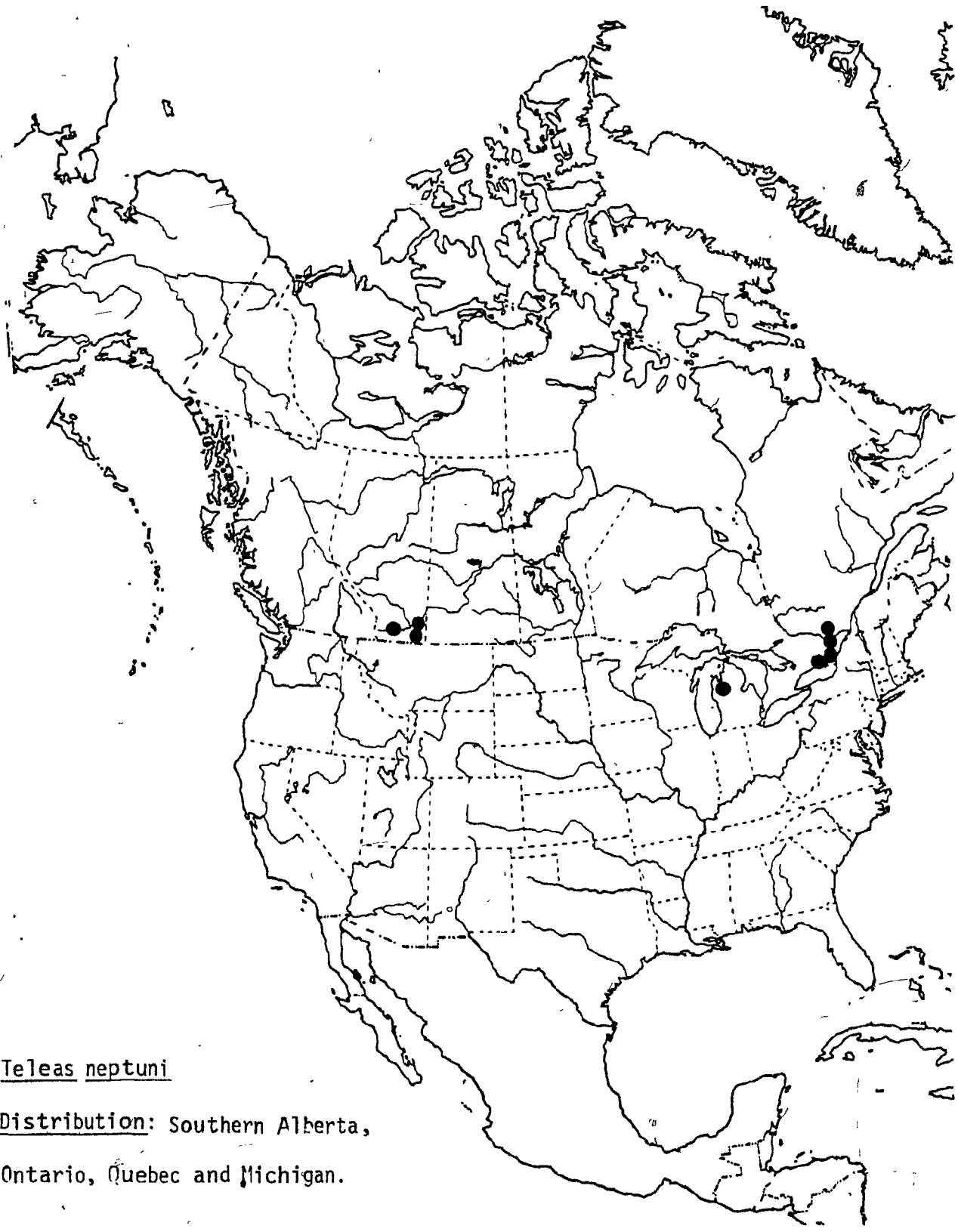
glabrous area of metapleuron sometimes completely longitudinally costate, a tiny postmarginal vein may or may not be present in the fore wing. T3 of metasoma varies from almost completely costate (Figure 32) to predominantly punctate with costae restricted to lateral regions (Figure 33).

Material Examined: Holotype ♀ (CNC no. 16149), Canada, Ontario, 7 km S.W. of Carleton Place, 20-25.VI. 1980, (interception trap), S. Miller. Allotype ♂, (CNC), Canada, Ontario, Constance Bay, 17-20.VI. 1977, (pan trap), L. Masner. Paratypes: 2 ♂♂, (CNC), Canada, Ontario, Stittsville, VII-VIII. 1977, (malaise trap), M. Sanborne. 1 ♂, (CNC), Canada, Quebec, Kazabazua, 21.V. 1957, J.G. Chillcott. 1 ♂, (MSU), USA, Michigan, Wexford Co., 20.VIII. 1973, (malaise trap), R.D. Averill. 5 ♀♀, 8 ♂♂, Canada, Ontario, 7 km S.W. of Carleton Place, 20-25.VI. 1980, (interception trap), S. Miller. 1 ♀, 3 ♂♂, Canada, Ontario, 7 km S.W. of Carleton Place, 20-27.V. 1980, (interception trap), S. Miller. 1 ♀, (CNC), Canada, Ontario, 1.6 km west of Kemptville, 23-27.V. 1975, L. Masner. 4 ♂♂, (CNC), Canada, Alberta, Lethbridge, Oldman River, 22.VI. 1956, O. Peck. 1 ♂, (CNC), Canada, Alberta, Aden, Gilchrist Ranch, 28.VI. 1956, O. Peck. 1 ♂, (CNC), Canada, Alberta, Medicine Hat, 14.VII. 1956, O. Peck. 5 ♂♂ (CNC), Canada, Quebec, Old Chelsea, 13.V. 1965, G.S. Walley. 1 ♂, (CNC), Canada, Quebec, Gatineau Park, Harrington

Lake, 8.VI. 1954, W.R. Mason. 1 ♂, (CNC), Canada, Quebec, Gatineau Park, Ramsey Lake, 1.VII. 1970, L. Masner. 1 ♂, (CNC), Canada, Ontario, Madoc, Crystal Beach, 15.VII. 1953, J.C. Martin. 1 ♀, (CNC), Canada, Ontario, Chatterton, 24.IX. 1969, C.D. Dondale.

Table 5. *Teleas neptuni* n.sp..

		Holotype Female	Maximum Female	Minimum Female	Maximum Male	Minimum Male
Total length		2.34	2.74	2.01	2.66	1.85
Head:	length	0.40	0.45	0.33	0.42	0.34
	width	0.75	0.85	0.63	0.84	0.64
	height	0.65	0.71	0.55	0.69	0.54
	dist. between eyes	0.44	0.52	0.38	0.58	0.43
	length of scape	0.45	0.50	0.39	0.41	0.31
	length of A3	0.16	0.18	0.11	0.27	0.18
	length of A4	0.12	0.13	0.09	0.22	0.15
	length of A10, Males	-	-	-	0.19	0.14
	width of A10, Males	-	-	-	0.07	0.05
	LOL	0.08	0.09	0.07	0.09	0.07
	POL	0.15	0.19	0.11	0.15	0.11
	OOL	0.17	0.18	0.12	0.20	0.17
	eye height	0.38	0.38	0.27	0.34	0.27
	eye length	0.23	0.26	0.20	0.22	0.17
Mesosoma:	length of metanotal spine	0.14	0.17	0.10	0.16	0.11
	width of mesoscutum	0.62	0.72	0.51	0.69	0.59
	length of hind femur	0.60	0.66	0.49	0.60	0.45
	width of hind femur	0.22	0.28	0.20	0.20	0.14
	length of submarginal vein	0.84	0.90	0.62	0.94	0.69
	length of marginal vein	0.28	0.33	0.22	0.38	0.27
	length of postmarginal vein	0.01	0.02	0	0.02	0
	length of stigmal vein	0.07	0.08	0.05	0.08	0.07
Metasoma:	Total length	1.28	1.54	1.06	1.46	1.08
	T1 length	0.23	0.26	0.21	0.26	0.20
	T2 length	0.25	0.31	0.18	0.29	0.20
	T3 length	0.57	0.72	0.52	0.60	0.43
	maximum width, T3 width	0.81	0.95	0.71	0.89	0.67
	T1 width	0.43	0.46	0.34	0.39	0.31
	T2 width	0.78	0.84	0.67	0.81	0.67

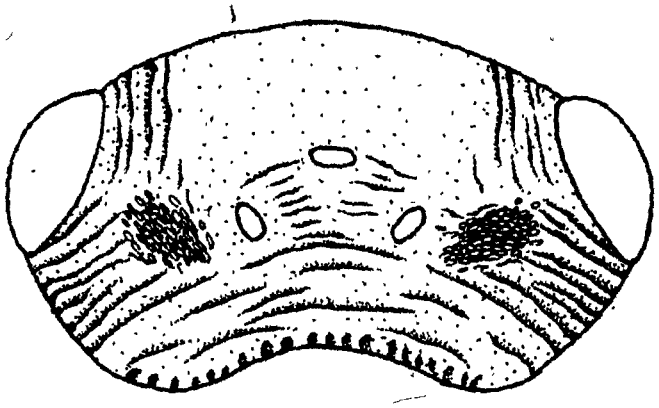


Teleas neptuni

Distribution: Southern Alberta, Ontario, Quebec and Michigan.

Figure 29. Teleas neptuni, dorsal view of head.

Figure 30. Teleas neptuni, lateral view of mesopleuron and metapleuron.



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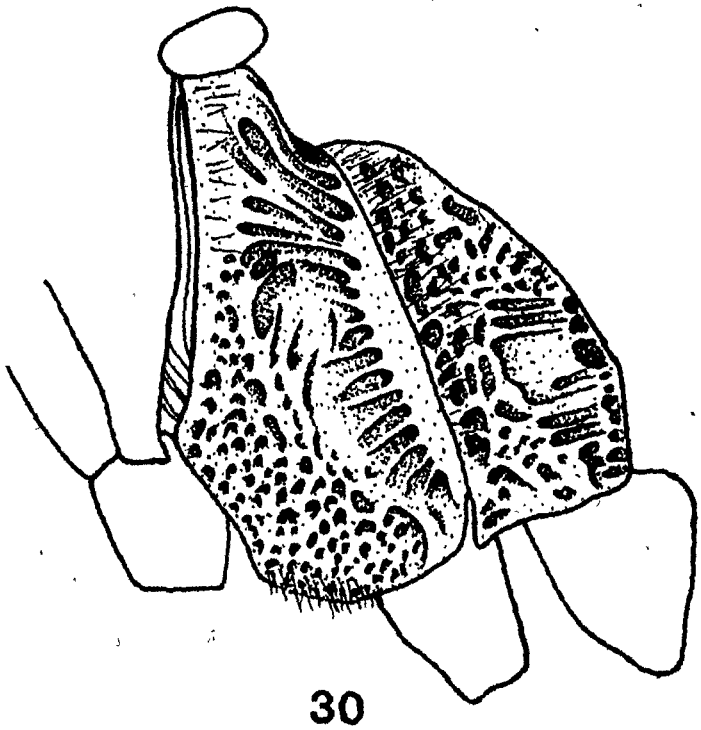

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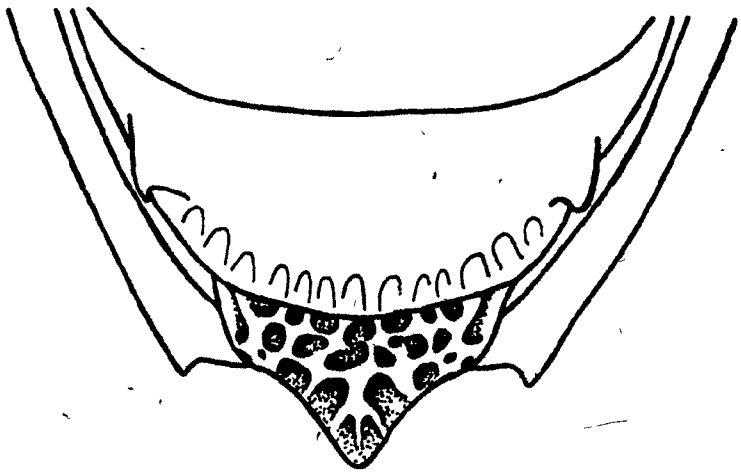
Figure 31. Teleas neptuni, dorsal view of scutellum, metanotum and propodeum.



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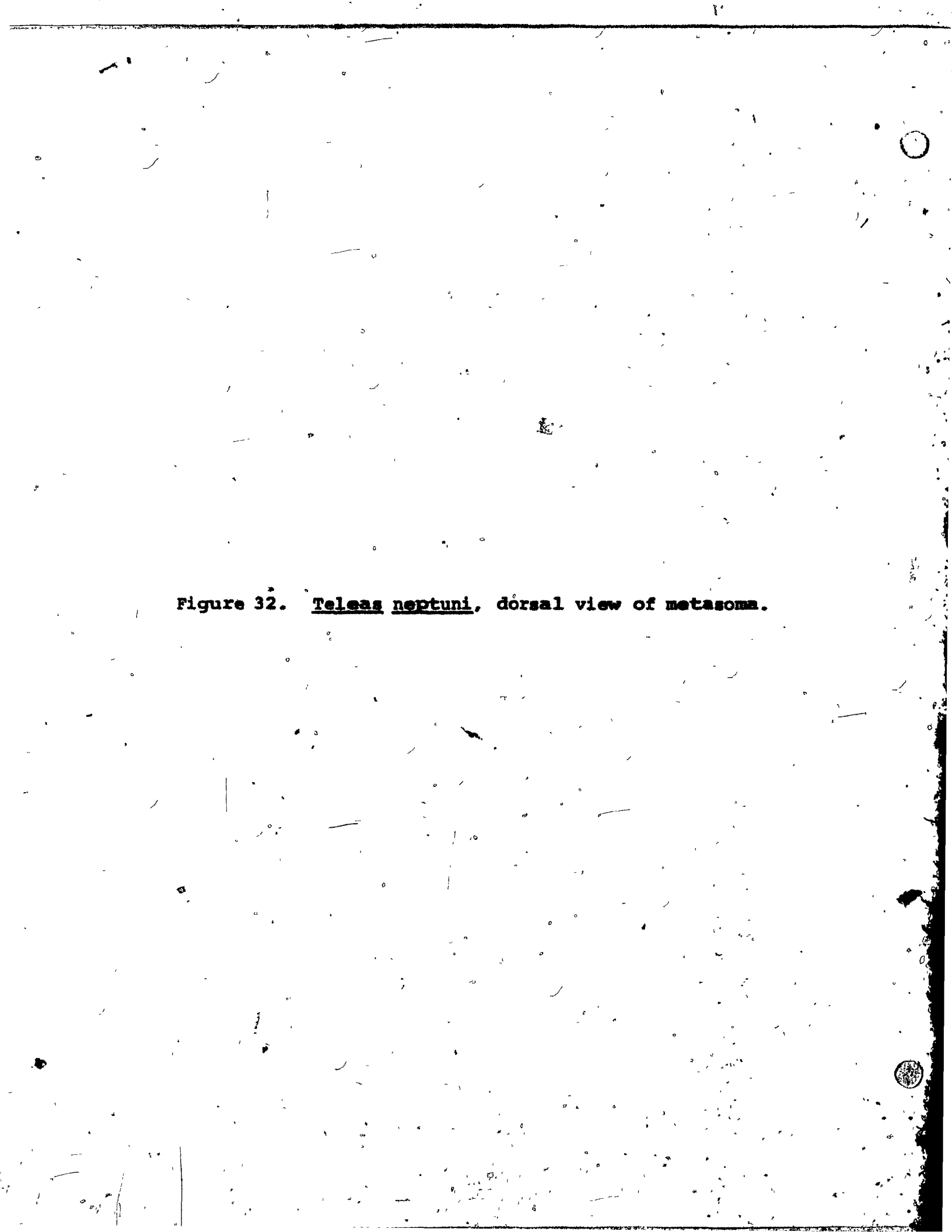
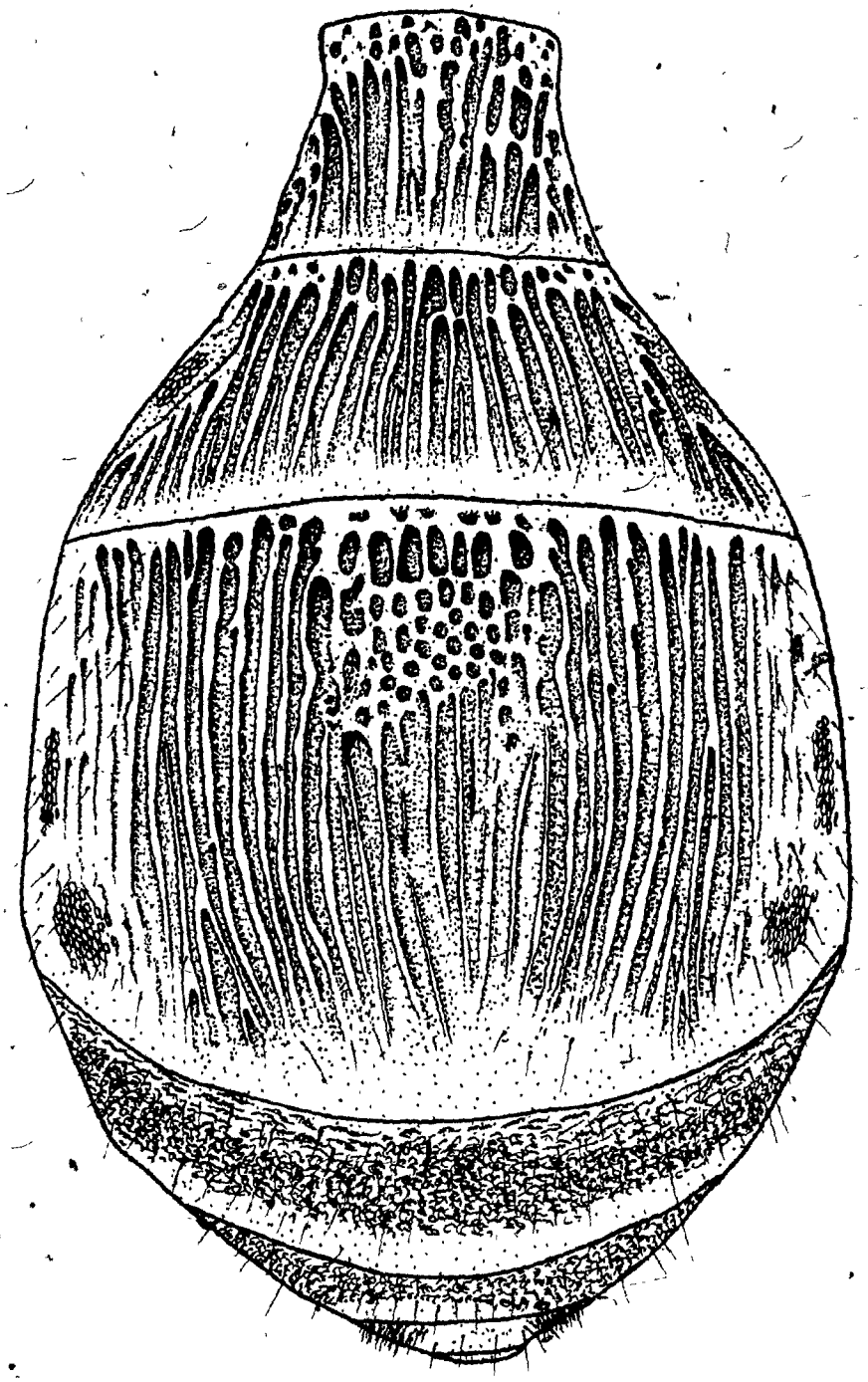


Figure 32. Teleas neptuni, dorsal view of metasoma.



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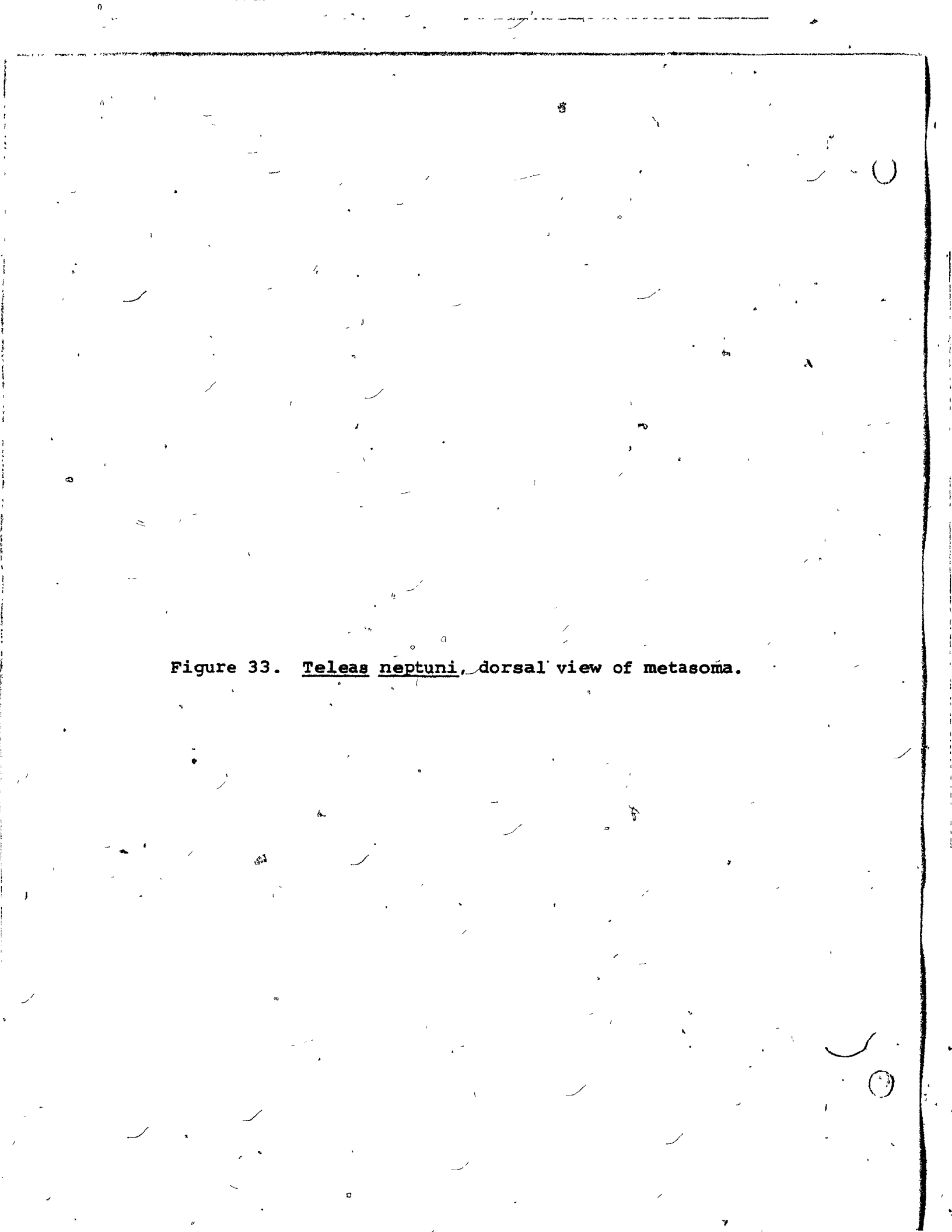
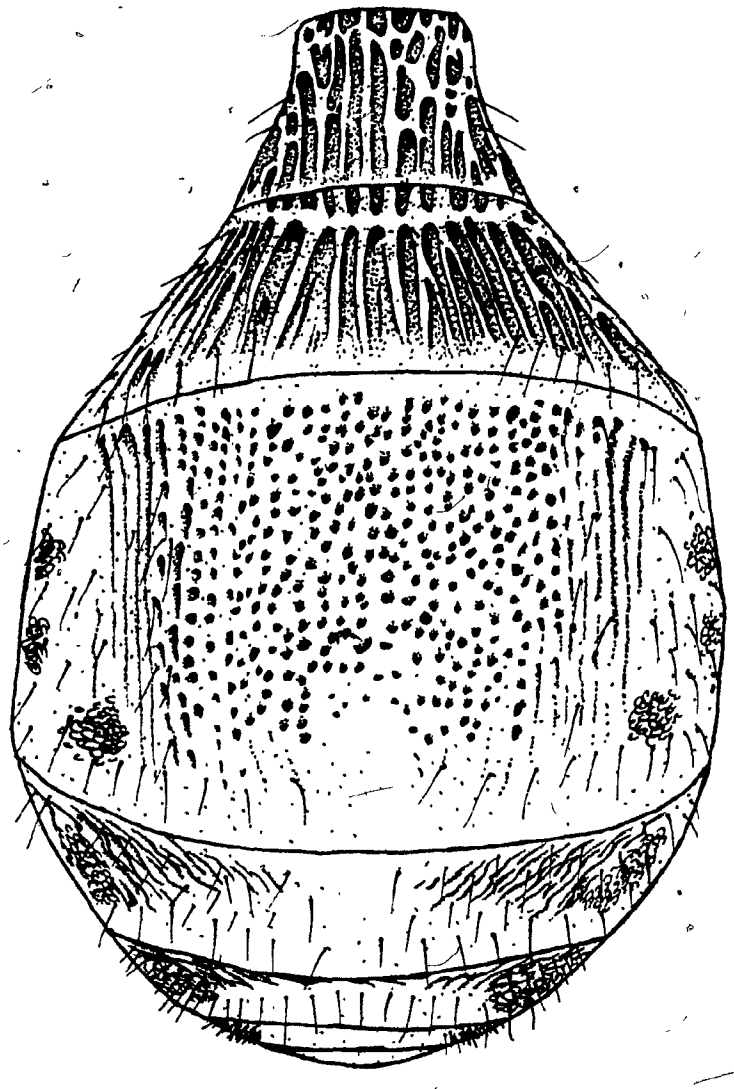


Figure 33. Teleas neptuni, dorsal view of metasoma.



33

Teleas niger n.sp.

Type Locality: USA, Nevada, Tuscarora

Type Deposition: Holotype ♂, (AEI)

Diagnosis: T. niger is the darkest of the Nearctic species of Teleas and may be distinguished from other Nearctic species by the following set of characters: legs black, striped with orange at points of articulation; metanotal spine squared distally (Figure 35); metapleuron completely sculptured, without a smooth section (Figure 34).

Male

Length 2.8 mm. Black with the following exceptions, mandible partly orange; trochanters and most leg joints orange; basitarsi of all legs orange; tarsal segments 2-5 of hind leg brown; anterior margin of T1 of metasoma orange.

Head: Transverse, about twice as wide as long, with scattered setae; costae on cheeks, temples, vertex and ventral and lateral areas of frons; costae of frons not continuing around eyes dorsally, leaving area between posterior ocellus and inner orbit smooth; POL and OOL distances equal; LOL, POL, OOL measurements as follows, 0.09, 0.18, 0.18; clypeus wide, transversely costate, its lateral corners relatively blunt;

length of clypeus 0.12, width 0.32; antennal process with an acute angle ventrally (as in T. lineaticeps Figure 22); mandible subtridentate, the middle tooth small; flagellomeres cylindrical, not elongated; A7 less than three times longer than wide (A10 of both antennae missing from holotype); setae of flagellomeres short, shorter than width of flagellomeres (as in T. lineaticeps Figure 23).

Mesosoma: Mesoscutum and scutellum areolate-rugose, scutellum sharply sloping posteriorly, its posterior margin concealing lateral parts of metanotum from above; metanotal spine squared distally and smooth dorsally without a medial depression (Figure 35); propodeum with small areolate rugosities, lightly setose laterally, posterolateral corners of propodeum acute; mesopleural depression longitudinally costate with smooth areas anteriorly (Figure 34): posterior glabrous area of metapleuron completely covered with irregular rugosities and costae (Figure 34), no smooth area present; hind femur swollen, about two and one half times longer than wide; postmarginal vein of fore wing absent.

Metasoma: (Figure 36) T1 with irregular longitudinal costae; T2 longitudinally costate; T3 punctate medially, punctures arranged in longitudinal rows; T3 smooth with scattered setose punctures laterally and posteriorly; T4 with fine wavy transverse costae medially.

Female:Unknown

Material Examined: Holotype ♂ (AEI), USA, Nevada, Tuscarora, 4.VI.1976, H. and M. Townes.

Table 6. Teleas niger n.sp.

		Holotype Male
Total length		2.84
Head:	length	0.40
	width	0.82
	height	0.68
	dist. between eyes	0.55
	length of scape	0.23
	length of A3	0.17
	length of A4	0.09
	length of A10, Males	*
	width of A10, Males	*
	LOL	0.09
	POL	0.18
	OOL	0.18
	eye height	0.34
	eye length	0.24
Mesosoma:	length of metanotal spine	0.10
	width of mesoscutum	0.75
	length of hind femur	0.60
	width of hind femur	0.24
	length of submarginal vein	0.97
	length of marginal vein	0.36
	length of postmarginal vein	0
	length of stigmal vein	0.09
Metasoma:	Total length	1.48
	T1 length	0.27
	T2 length	0.30
	T3 length	0.55
	maximum width, T3 width	0.94
	T1 width	0.40
	T2 width	0.85

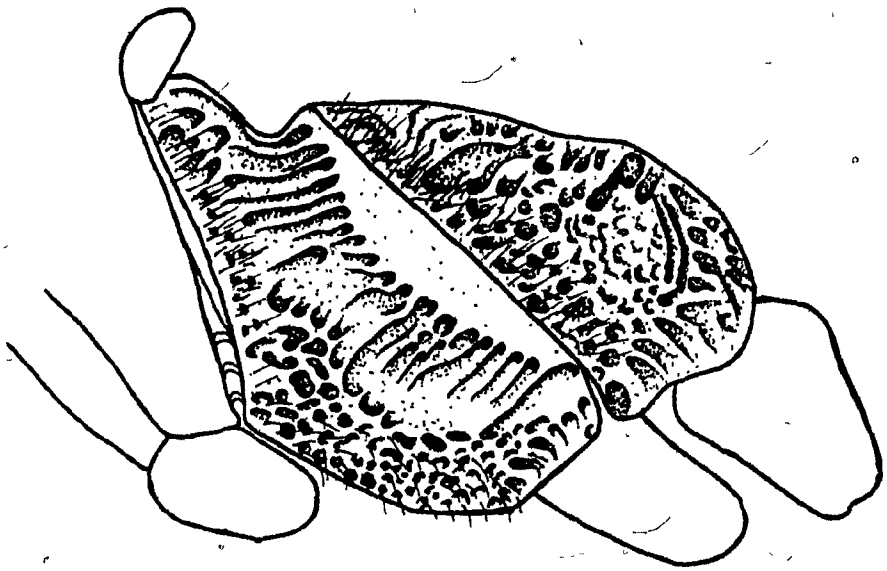
*Missing from holotype

Teleas niger

Distribution: Unique specimen collected, USA, Nevada, Tuscarora.

Figure 34. Teleas niger, lateral view of mesopleuron and metapleuron.

Figure 35. Teleas niger, dorsal view of scutellum, metanotum and propodeum.



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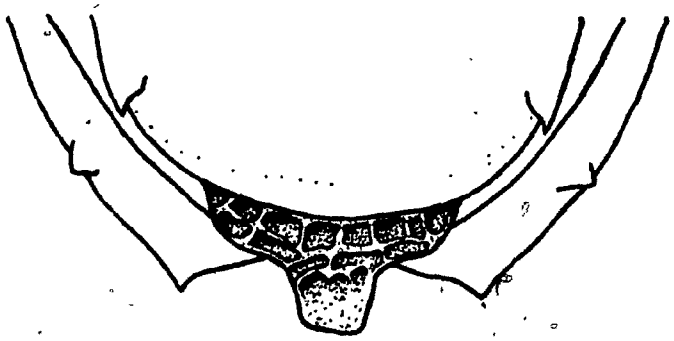

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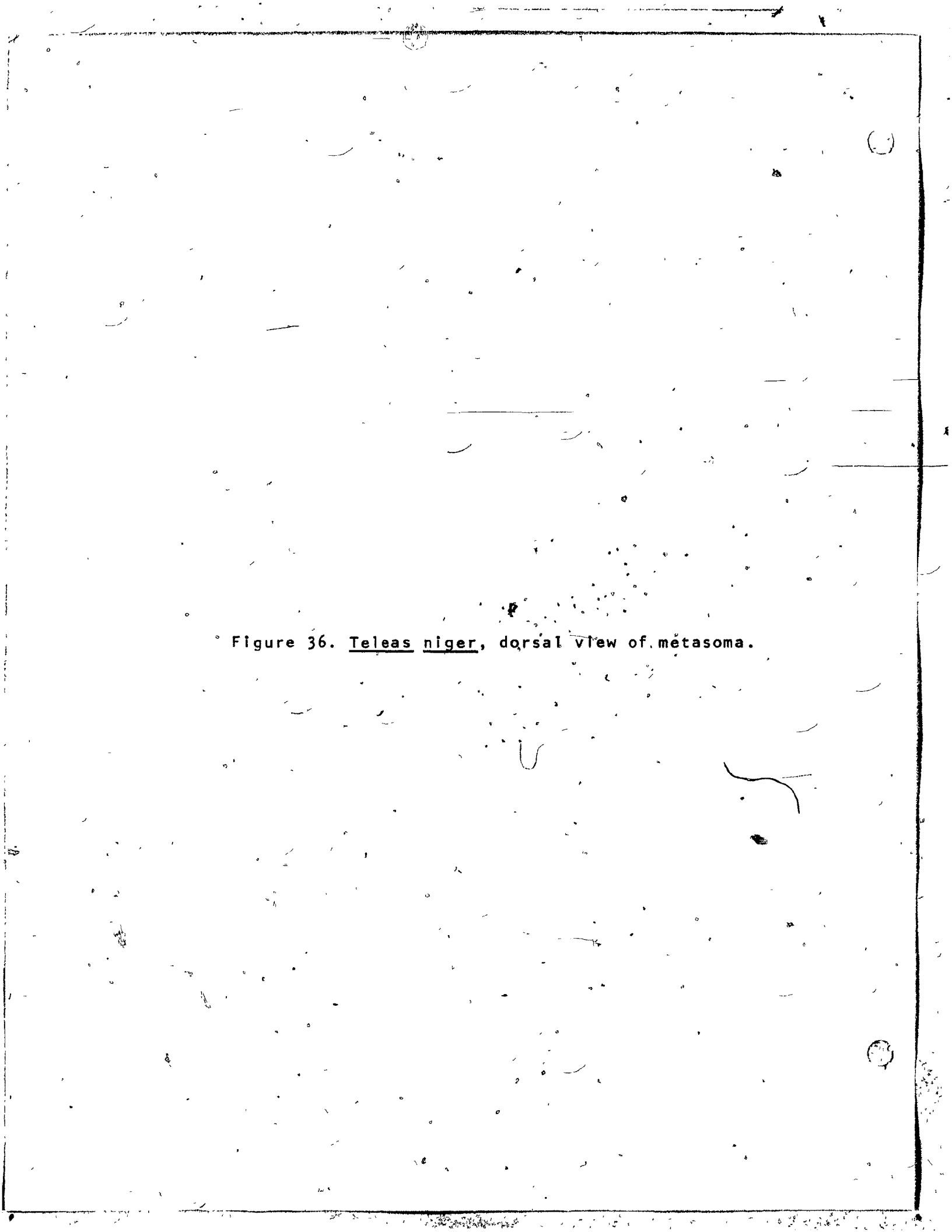
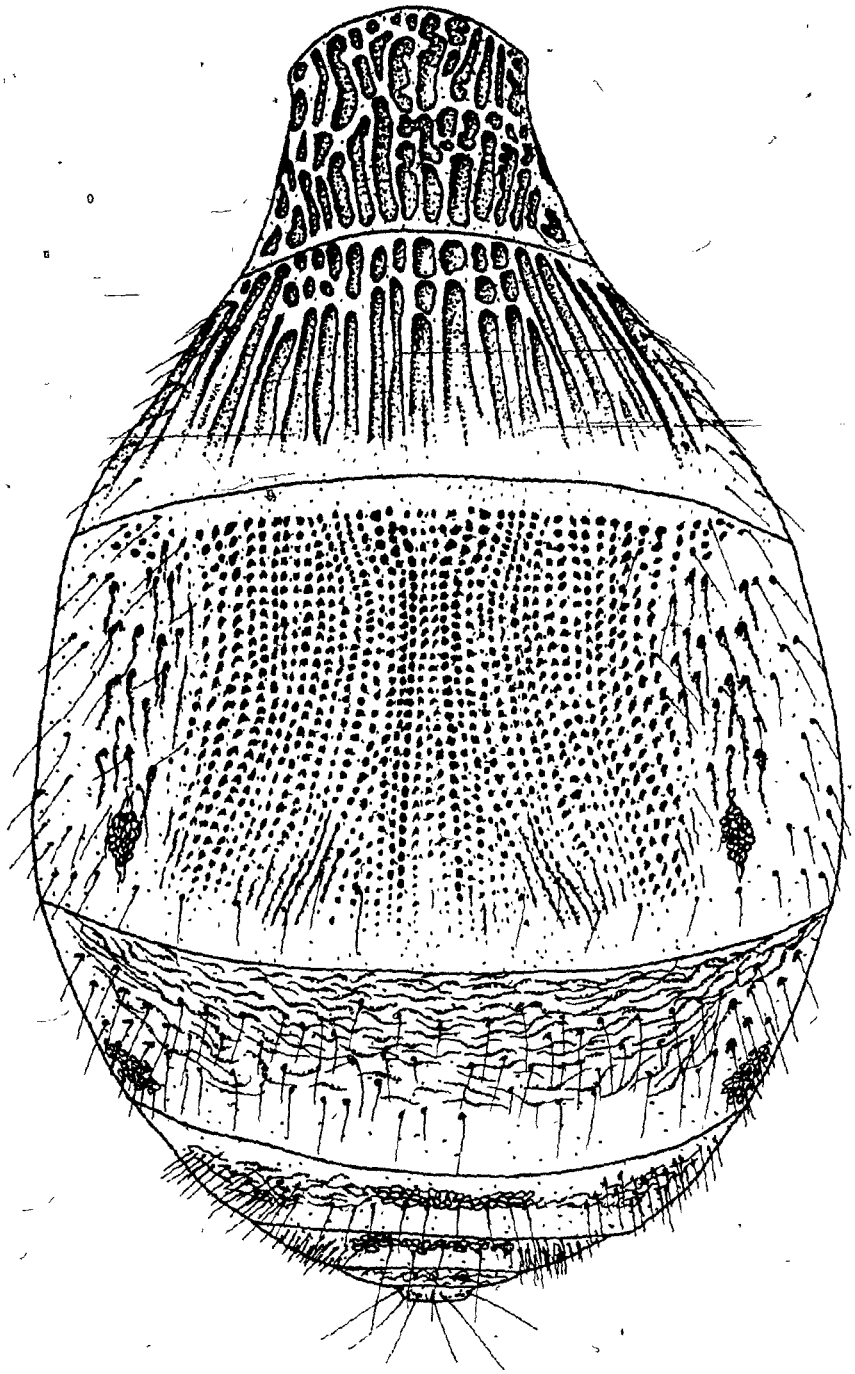


Figure 36. Teleas niger, dorsal view of metasoma.



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Teleas pallidipes Ashmead

1893, Teleas pallidipes Ashmead, Bull. U.S. natn. Mus. 45: 199,200.

1926, Teleas pallidipes: Kieffer, Das Tierreich, 48: 173-264.

1968, Teleas pallidipes: Masner & Muesebeck, Bull. U.S. natn. Mus. 270: 47.

1979, Teleas pallidipes: Muesebeck, in Krombein et al., Catalog of Hymenoptera in America north of Mexico, 1: 1161.

Type Deposition: Holotype ♂, (USNM no. 24520)

Diagnosis: T. pallidipes may be distinguished from other Nearctic species of Teleas by the following characters: lightly colored mesosoma in combination with a black metasoma in both sexes; antennal flagellomeres in male extremely long and thin, A10 more than seven times as long as wide, setae of antennae longer than the width of flagellomeres (Figure 38); A1 and A2 in both sexes yellow and all coxae yellow.

Male

Length 2.8 mm. Head generally black, clypeus lighter; antennal process, radicle, A1 and A2 yellow, A3-A12 brown; mandible yellow, darkening distally; legs including coxae yellow; pleural regions of mesosoma orange; mesoscutum mostly orange, black anteromedially; scutellum and metanotum predominantly orange with some black; metasoma black.

Head: Transverse, about twice as wide as long, with scattered setae especially dense on cheeks; temples, cheeks and ventrolateral areas of frons costate; interocellar space with transverse rugosities; posterior ocellus far from eye margin, LOL, POL, OOL measurements as follows, 0.06, 0.13, 0.16; clypeus wide, transversely costate with lateral corners acute, length of clypeus 0.12, width 0.32; antennal process with a blunt 90° angle ventrally (Figure 37); mandible subtridentate, middle tooth much reduced; flagellomeres long and narrow, A10 more than seven times longer than wide; setae of flagellomeres slightly longer than width of flagellomeres (Figure 38).

Mesosoma: Mesoscutum and scutellum areolate-rugose, areolae smaller anteriorly (Figure 39); scutellum sharply sloping to its posterior margin which overhangs lateral parts of metanotum concealing them from above; metanotal spine roughly sculptured but without a medial depression or ridge (Figure 39); propodeum with tiny areolate rugosities, setose posterolaterally; posterolateral corners of propodeum acute (Figure 39); mesopleural depression longitudinally costate (Figure 40); metapleuron with a smooth glabrous area posteriorly bordered by weak costae (Figure 41); hind femur moderately swollen, about three times longer than wide; postmarginal vein of fore wing indicated.

Metasoma: (Figure 42) T1 longitudinally costate with transverse rugosities; T2 longitudinally costate; T3 largely

smooth and shining, with weak wavy longitudinal costae medially and scattered setose punctures laterally; T4 and T5 densely setose punctate.

New Female

Type Locality: Canada, Quebec, Rigaud

Differs from male in the following characters:

Head: Sculpturing of head generally stronger than males especially on vertex and temples; antennae without long setae; clypeus wide, length .10, width .31.

Mesosoma: Hind femur greatly swollen only slightly more than two times longer than wide; postmarginal vein of fore wing reduced to a small stub.

Metasoma: Sculpturing stronger on all terga; T3 with the smooth medial area with some wavy longitudinal costae, mostly smooth with scattered setose punctures posteromedially and laterally.

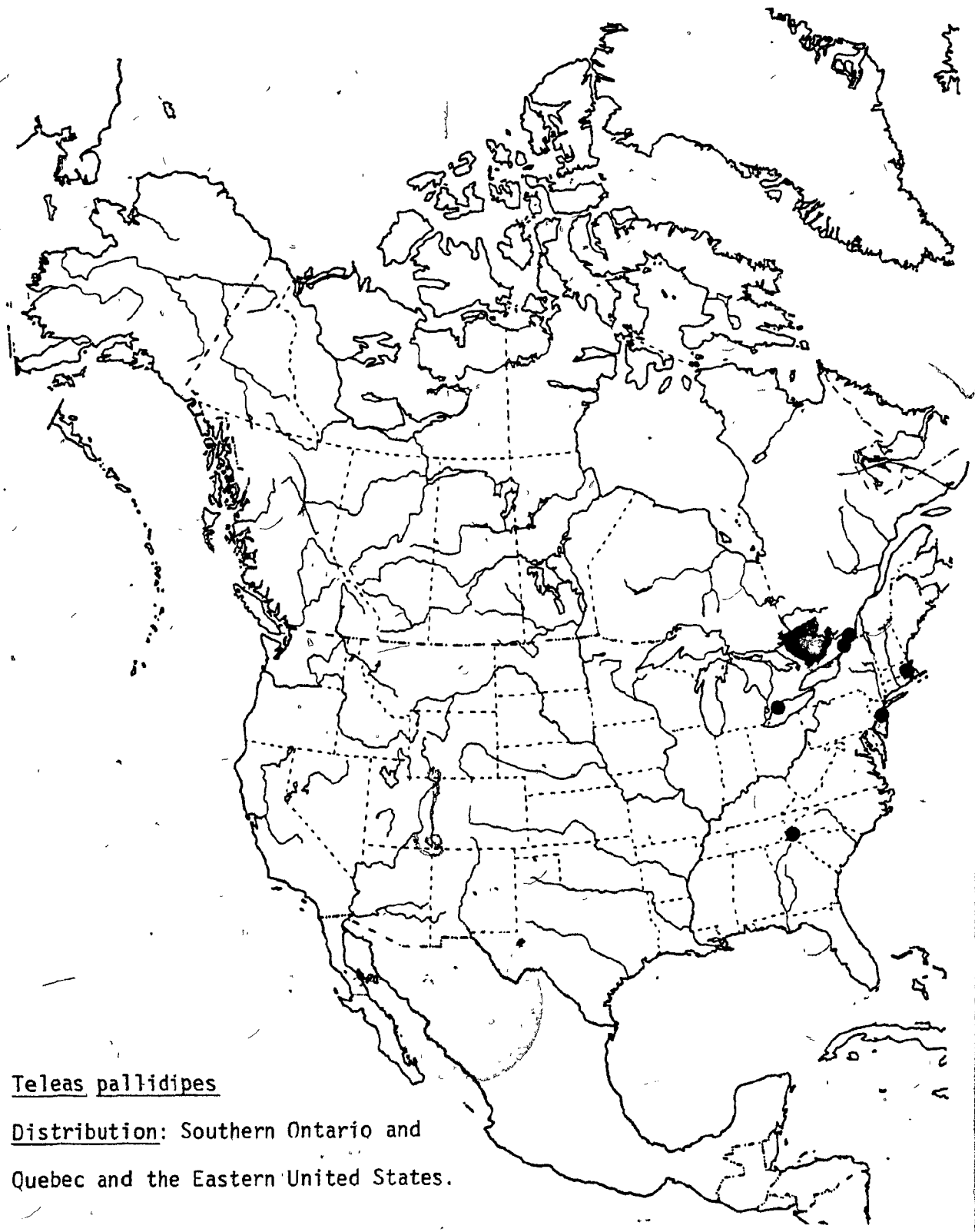
Variability: The sculpturing of the head, pleura and metasoma is variable; sculpturing reduced in smaller specimens. Vertex and temples may be smooth and shining lacking costae. Longitudinal costae of mesopleuron and metapleuron may be reduced. T1 varies from almost evenly longitudinally costate to longitudinally costate with strong transverse rugosities; T3 varies

from evenly longitudinally costate medially to completely smooth.

Material Examined: Holotype; 1 ♂ (USNM no. 24520), USA, New Jersey, (No further data given on label), W. Ashmead. 6 ♀♀, 6 ♂♂ (CNC) Canada, Quebec, Rigaud, 1-30.IX. 1979, (pan trap), M. Sharkey. 3 ♀♀, 4 ♂♂ (CNC) Canada, Quebec, Rigaud, 9.VIII. 1979, L. Masner. 1 ♀, 2 ♂♂, (CNC) USA, North Carolina, Highlands, 17.VIII. 1957, L.A. Kelton. 1♂ (MCZ) USA, Massachusetts, Holliston, 24.VIII. (year ?), N. Banks. 1♂ (CNC) Canada, Ontario, Maitland, 28.VII. 1978, (sweeping), G. Gibson. 1 ♂ (CNC) Canada, Ontario, Rondeau Prov. Park, in mature forest, (sweeping), 1.IX. 1979, L. Masner and H. Goulet.

Table 7. Teleas pallidipes Ashmead.

		Holotype Male	Maximum Male	Minimum Male	Maximum Female	Minimum Female
Total length		2.80	2.85	2.06	2.80	2.30
Head:	length	0.44	0.44	0.33	0.42	0.33
	width	0.76	0.82	0.62	0.79	0.71
	height	0.61	0.63	0.47	0.66	0.60
	dist. between eyes	0.47	0.47	0.39	0.49	0.42
	length of scape	0.48	0.48	0.35	0.56	0.50
	length of A3	0.30	0.32	0.21	0.22	0.19
	length of A4	0.20	0.25	0.18	0.15	0.13
	length of A10, Males	0.30	0.32	0.22		
	width of A10, Males	0.04	0.04	0.03		
	LOL	0.06	0.06	0.05	0.06	0.05
	POL	0.13	0.13	0.10	0.13	0.10
	OOL	0.16	0.17	0.14	0.15	0.13
	eye height	0.32	0.32	0.28	0.34	0.31
	eye length	0.22	0.25	0.20	0.23	0.20
Mesosoma:	length of metanotal spine	0.14	0.16	0.12	0.18	0.16
	width of mesoscutum	0.75	0.75	0.56	0.70	0.65
	length of hind femur	0.61	0.67	0.46	0.65	0.57
	width of hind femur	0.21	0.21	0.15	0.26	0.24
	length of submarginal vein	1.02	1.11	0.82	0.97	0.92
	length of marginal vein	0.43	0.45	0.32	0.30	0.25
	length of postmarginal vein	0.03	0.06	0.04	0.02	0.01
	length of stigmal vein	0.12	0.12	0.10	0.09	0.08
Metasoma:	Total length	1.40	1.48	1.06	1.52	1.28
	T1 length	0.23	0.34	0.20	0.24	0.22
	T2 length	0.33	0.34	0.22	0.33	0.23
	T3 length	0.54	0.55	0.36	0.62	0.57
	maximum width, T3 width	0.84	0.86	0.60	0.90	0.77
	T1 width	0.31	0.34	0.24	0.36	0.31
	T2 width	0.77	0.78	0.57	0.88	0.75

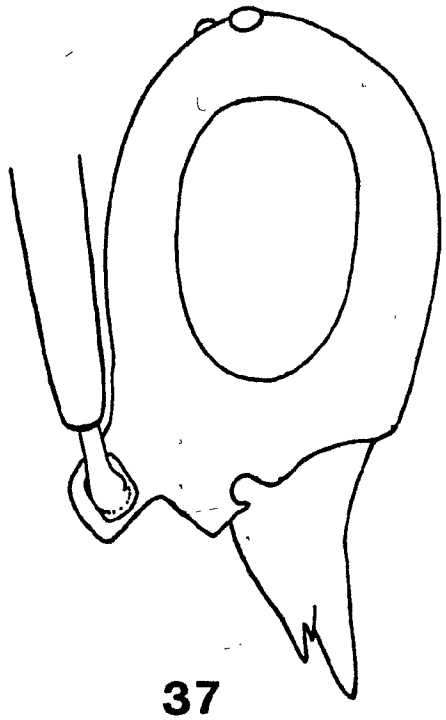


Teleas pallidipes

Distribution: Southern Ontario and Quebec and the Eastern United States.

Figure 37. Teleas pallidipes, lateral view of head.

Figure 38. Teleas pallidipes, male antenna with close-up of A10, A11 and A12 showing setae.



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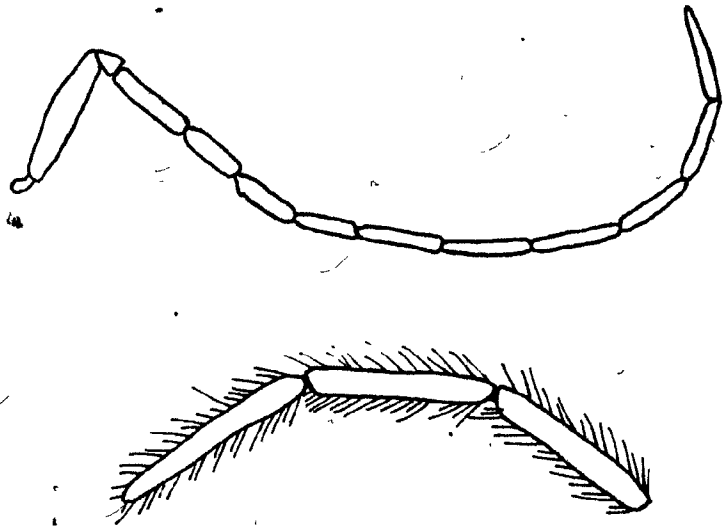

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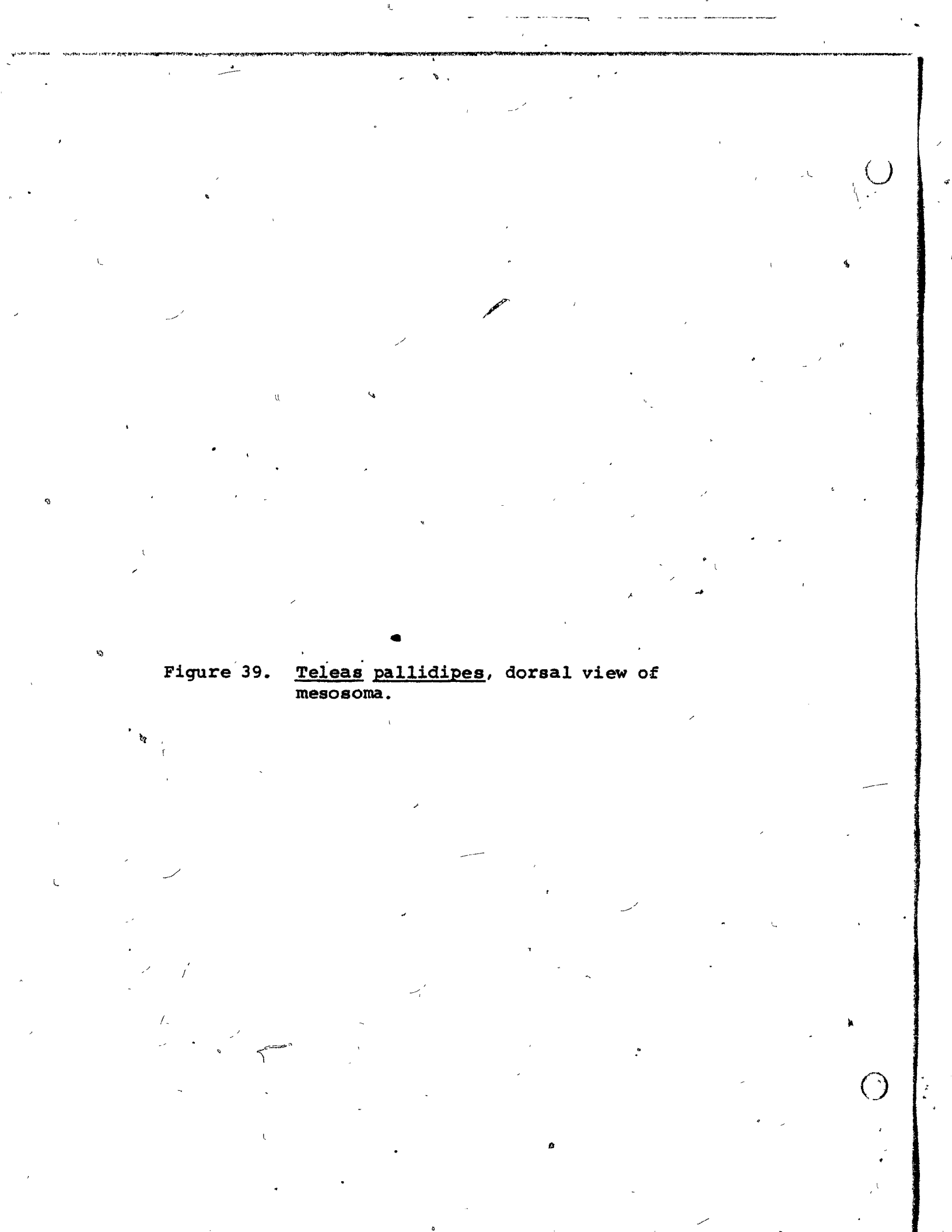

Figure 39. Teleas pallidipes, dorsal view of mesosoma.

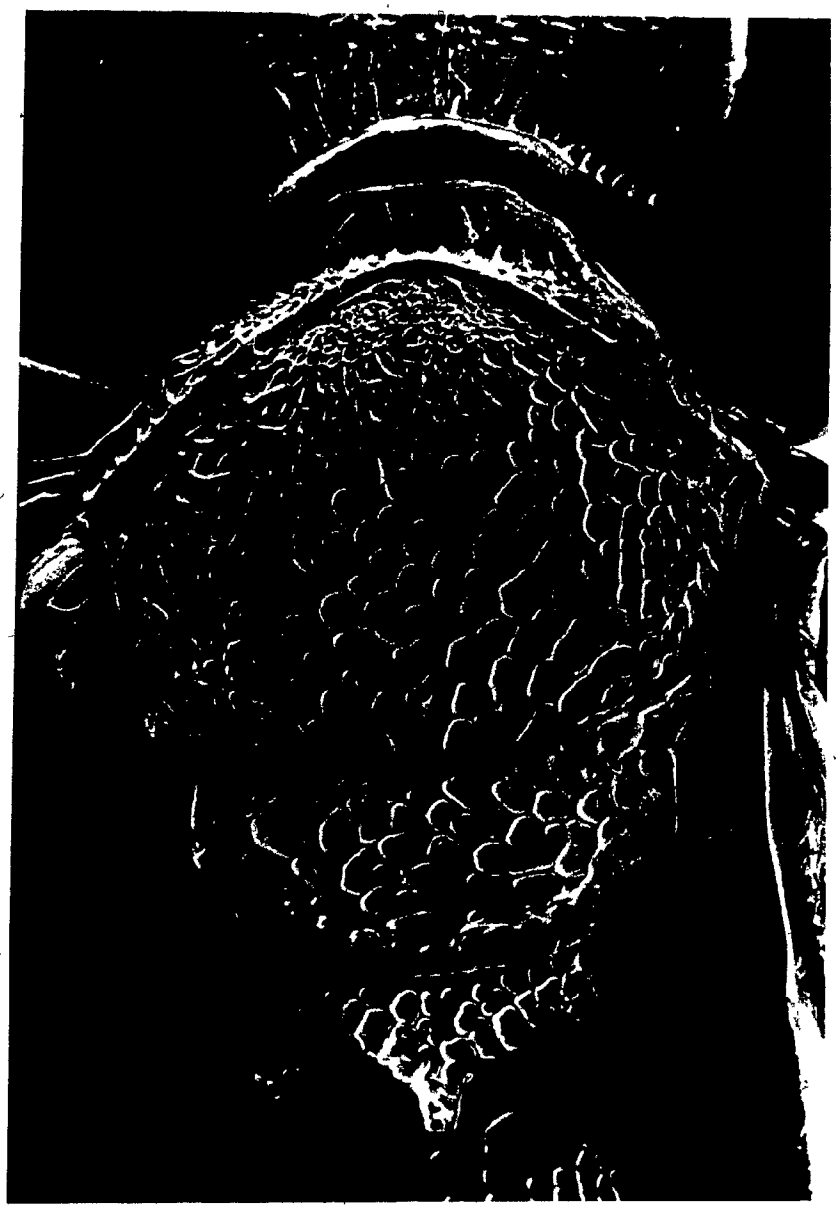

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Figure 40. Teleas pallidipes, lateral view of mesopleuron.

Figure 41. Teleas pallidipes, lateral view of metapleuron.

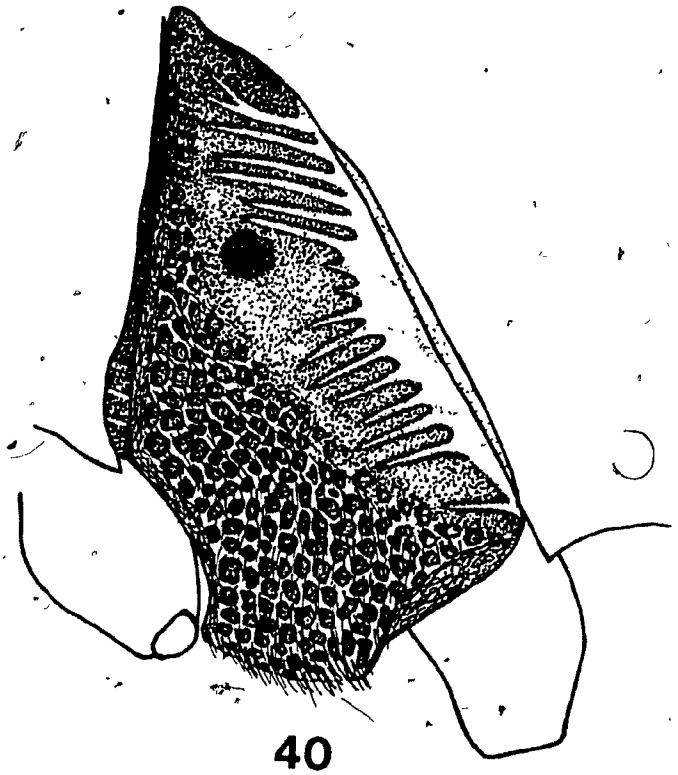

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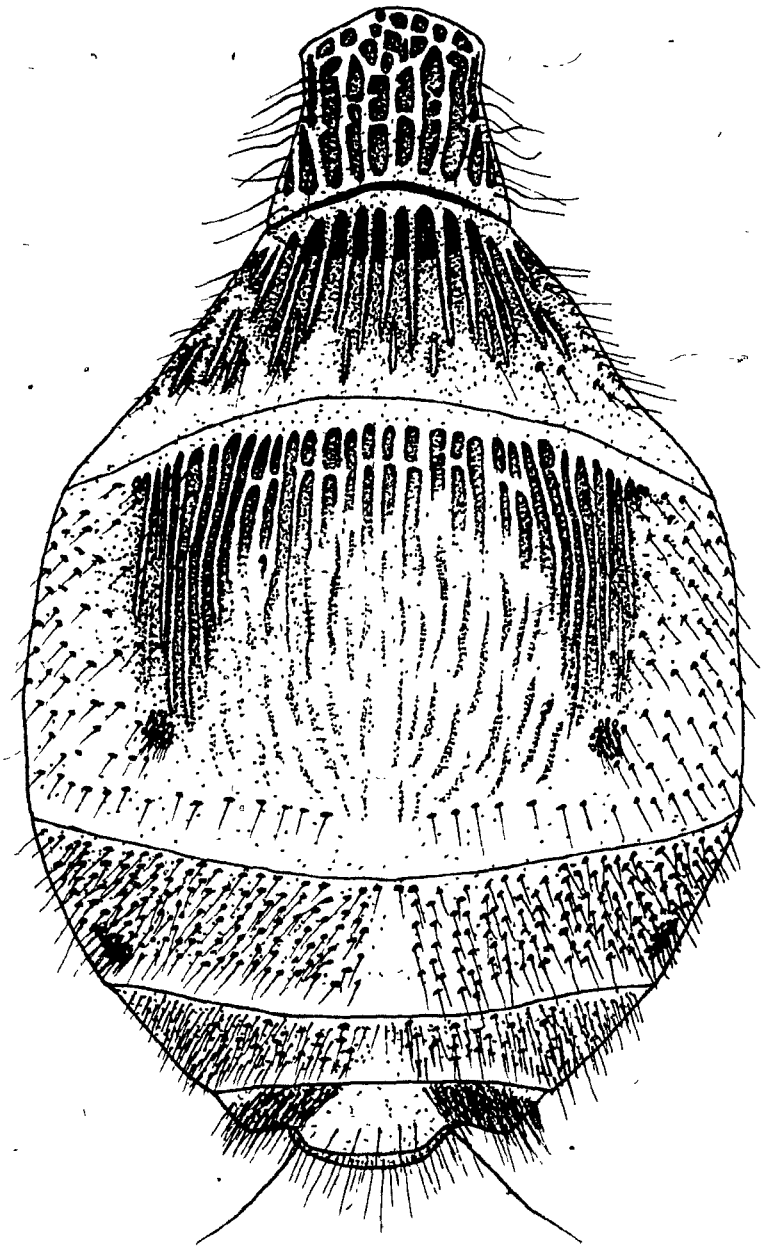
Figure 42. Teleas pallidipes, dorsal view of metasoma.



42

Teleas punctifrons n.sp.

Type Locality: USA, New Hampshire, Plaistow

Type Deposition: Holotype ♀, (USNM)

Diagnosis: T. punctifrons is the largest of the Nearctic species of Teleas varying in length from 3.7 to 4.3 mm.. It may be distinguished from other Nearctic species by the following set of characters; frons with deep setose punctures below anterior ocellus (more pronounced than those of T. lineaticeps Figure 2); A1 and A2 orange, A3 to A12 varying from brown to black; metanotal spine roughly triangular with a median longitudinal ridge (Figure 43).

T. scutellaris Kieffer, a Palearctic species of Teleas, is quite similar to T. punctifrons. Both species are large and have similar sculpturing and coloration. They may be distinguished by the sculpturing of T3. T3 of T. scutellaris is heavily sculptured with longitudinal costae separated by punctures and areolae. The costae continue to near the posterior margin of T3. T3 of T. punctifrons is predominantly smooth with weak wavy costae restricted to the anteromedial region. The metanotal spine is more acute in T. punctifrons, and the punctures on the frons are stronger than those of T. scutellaris.

Female

Length 3.7 mm. Head generally black; antennal process radicle; A1 and A2 orange, A3 to A12 brown; mandible orange, darker distally; mesosoma black with the following exceptions: posterior margin of scutellum brown; metanotal spine brown distally; legs orange except for partially brown hind coxae; metasoma black except orange anterior margin of T1.

Head: Transverse, slightly more than twice as wide as long, with scattered setose punctures; costae on cheeks, temples, vertex and ventral and lateral areas of frons; frons with deep setose punctures below anterior ocellus (more pronounced than those of T. lineaticeps Figure 2); interocellar space with transverse rugosities and setose punctures; posterior ocellus far from inner orbit; LOL, POL, OOL measurements as follows, 0.09, 0.20, 0.22; clypeus very wide, transversely costate with acute lateral corners; length of clypeus 0.10, width 0.44; antennal process with an acute angle ventrally (as in T. lineaticeps Figure 22); mandible subtridentate, ventral tooth large, much larger than middle and dorsal teeth which are mere bumps.

Mesosoma: Mesoscutum and scutellum areolate-rugose; posterior portion of scutellum sloping sharply to a wide posterior margin which conceals lateral parts of metanotum from above; metanotal spine roughly triangular with a median longitudinal ridge (Figure 43); propodeum with small areolate

rugosities, densely setose posteriorly and laterally; postero-lateral corners of propodeum acute (Figure 43); mesopleural depression smooth anteriorly, costate dorsally above pleural pit and with areolae arranged in longitudinal rows posteriorly (as in T. crassifemur Figure 20); smooth glabrous area of metapleuron bordered on all sides by rough areolate sculpturing (as in T. terricola Figure 45); hind femur swollen, slightly more than twice as long as wide; postmarginal vein of fore wing absent.

Metasoma (Figure 44): T1 with irregular longitudinal costae; T2 longitudinally costate; T3 mostly smooth and shining medially, anteromedially with weak wavy longitudinal costae, laterally with deep setose punctures, much stronger and covering a larger area than in other Nearctic Teleas; T4 coriarious with dense setose punctures.

Male

Type Locality: USA, Iowa, Sioux City

Differs from the female holotype in the following characters:

Length 4.0 mm. Coloration as in holotype except for coxae which are brown.

Head: Antennal flagellomeres cylindrical, A10 less than

three times longer than wide; setae of flagellomeres short, shorter than the width of the flagellomeres; clypeus wide with acute lateral corners; length of clypeus 0.13; width 0.43.

Mesosoma: Mesopleural depression mostly smooth, longitudinally costate posteriorly, with a few areolae anteriorly; hind femur quite swollen for a male Teleas, about two and one half times longer than wide.

Metasoma: Sculpturing of T3 stronger, punctures deep; costae, although restricted to the anteromedial region of T3, more pronounced than in holotype female.

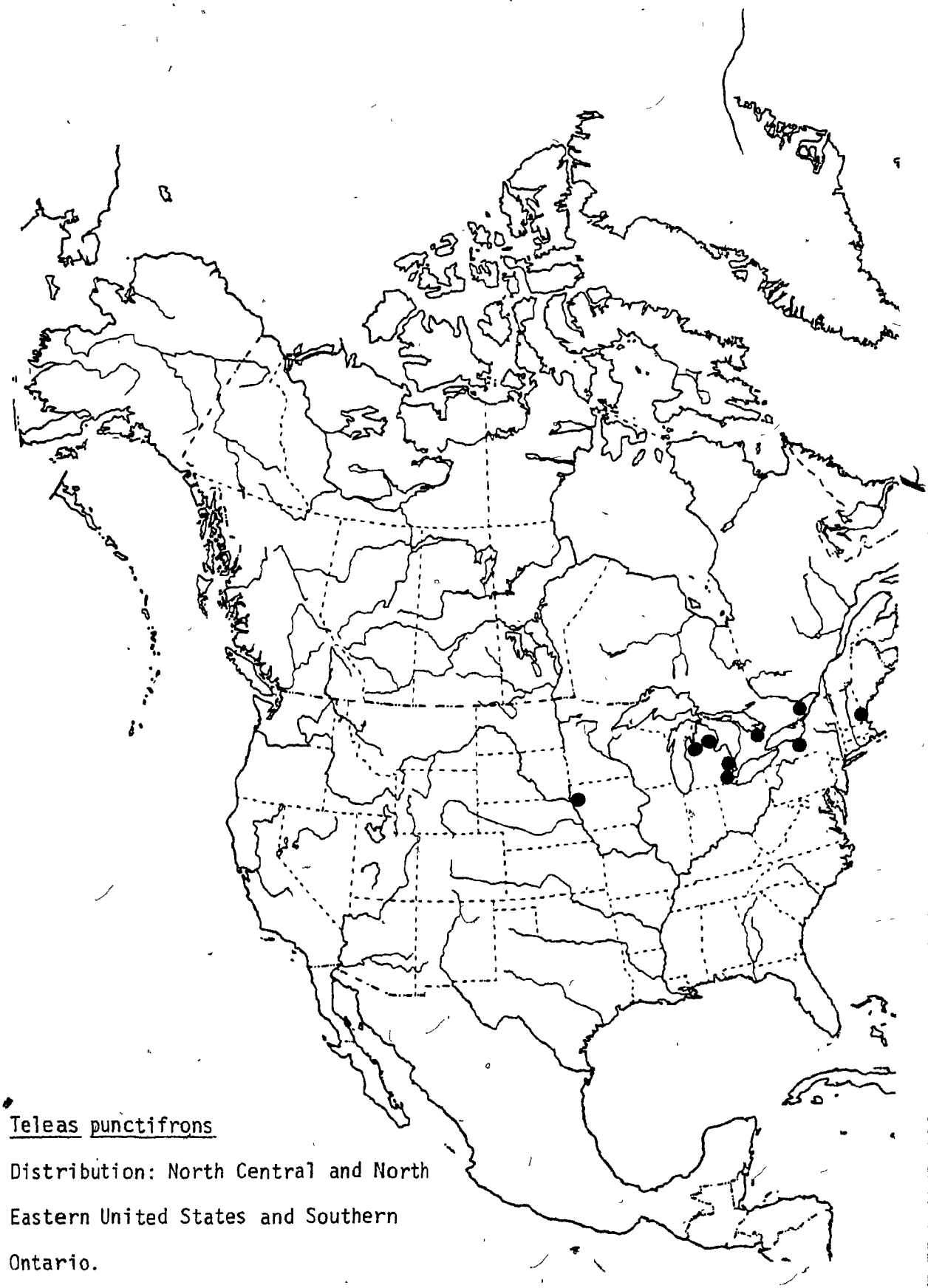
Variability: Coloration is quite consistent in this species, flagellomeres vary from brown to black and all coxae vary from orange to brown. Lateral corners of clypeus may be blunt; dorsal tooth of mandible may be stronger than in the holotype but always much smaller than ventral tooth; mandible may be bidentate, the middle tooth completely missing; sculpturing of mesopleural depression variable along its posterior margin, crenulate, areolate or costate; other aspects of the mesosoma relatively uniform; T3 varies in degree of sculpturing anteromedially, almost completely smooth, punctate with costae or longitudinally costate.

Material Examined

Holotype, ♀, (USNM), USA, New Hampshire, Plaistow, 2.IX. 1935, R. Dow. Allotype, ♂, USA, Iowa, Sioux City, 7.IX. 1936, C.N. Ainslie. Paratypes: 1♂, (USNM) (Same data as holotype). 2 ♂♂, (USNM), USA, Iowa, Sioux City, 7.IX. 1936, C.N. Ainslie. 1♂, (USNM), USA, Michigan, Detroit, 7.IX. 1933, G. Steyskal. 1 ♀, (USNM), USA, New York, Rochester, 19.VIII. 1933, (Collector ?). 2 ♀♀, (MSU), USA, Michigan, Kingsley, 2.IX. 1954, R.L. Fischer. 1 ♀, (MSU), USA, Michigan, Detroit, 7.IX. 1933, G. Steyskal. 1♂, (MSU), USA, Michigan, Detroit, 5.IX. 1938, G. Steyskal. 1 ♀, (MSU), USA, Michigan, Oscoda Co., Luzerne, 9.XII. 1966, (window pane trap), L.F. Wilson. 1 ♀, (CNC), Canada, Ontario, Constance Bay, 24-31.VIII. 1973, (pan trap), G. Gibson. 1 ♀, (AEI), USA, Michigan, Berrien Co., Warren Dunes, 3.X. 1959, H. and M. Townes. 1 ♀, (UG), Canada, Ontario, Midland, 26.VIII. 1974, J.T. Huber.

Table 8. Teleas punctifrons n.sp.

		Holotype Female	Maximum Female	Minimum Female	Maximum Male	Minimum Male
Total length		3.72	4.26	3.72	4.18	3.66
Head:	length	0.48	0.58	0.48	0.51	0.50
	width	1.08	1.20	1.08	1.09	1.05
	height	0.83	0.95	0.83	0.84	0.83
	dist. between eyes	0.70	0.80	0.70	0.72	0.63
	length of scape	0.67	0.74	0.67	0.58	0.56
	length of A3	0.24	0.26	0.24	0.32	0.30
	length of A4	0.16	0.19	0.16	0.26	0.25
	length of A10, Males				0.19	0.18
	width of A10, Males				0.08	0.07
	LOL	0.09	0.12	0.09	0.09	0.09
	POL	0.20	0.24	0.20	0.17	0.17
	OOL	0.22	0.24	0.22	0.25	0.23
	eye height	0.41	0.49	0.41	0.45	0.42
	eye length	0.27	0.32	0.27	0.28	0.28
Mesosoma:	length of metanotal spine	0.19	0.22	0.19	0.22	0.22
	width of mesoscutum	0.94	1.14	0.94	1.00	0.72
	length of hind femur	0.85	0.95	0.85	1.00	0.84
	width of hind femur	0.40	0.47	0.40	0.37	0.37
	length of submarginal vein	1.26	1.40	1.26	1.34	1.34
	length of marginal vein	0.44	0.44	0.44	0.50	0.48
	length of postmarginal vein	0	0	0	0	0
	length of stigmal vein	0.09	0.12	0.09	0.15	0.13
Metasoma:	Total length	1.92	2.26	1.92	2.04	1.92
	T1 length	0.34	0.42	0.34	0.39	0.38
	T2 length	0.33	0.37	0.33	0.41	0.38
	T3 length	0.80	0.98	0.80	0.73	0.70
	width maximum, T3 width	1.30	1.44	1.30	1.26	1.24
	T1 width	0.53	0.65	0.53	0.53	0.52
	T2 width	1.15	1.30	1.15	1.14	1.12

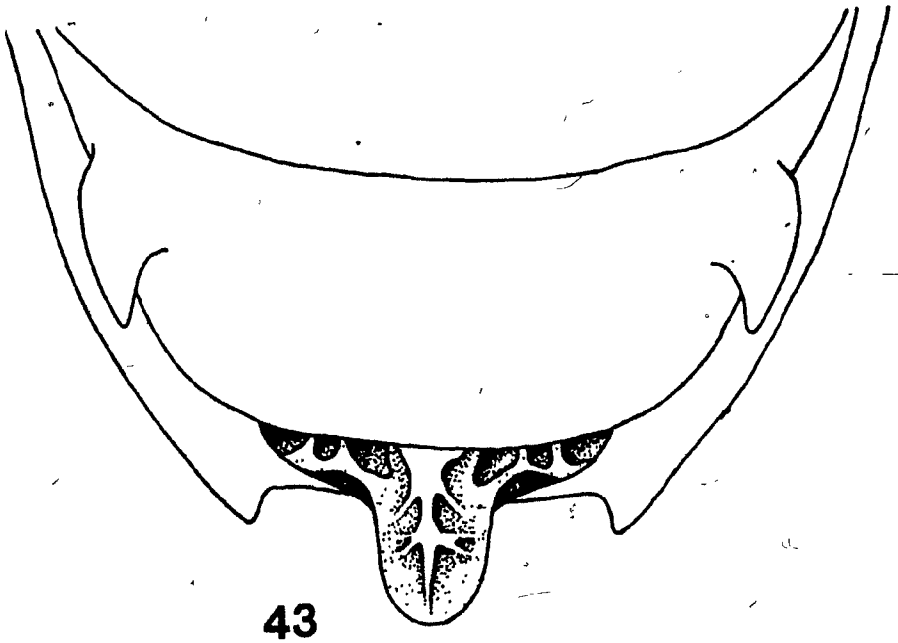


Teleas punctifrons

Distribution: North Central and North Eastern United States and Southern Ontario.

Figure 43. Teleas punctifrons, dorsal view of scutellum, metasoma and propodeum.

Figure 44. Teleas punctifrons, dorsal view of metasoma.



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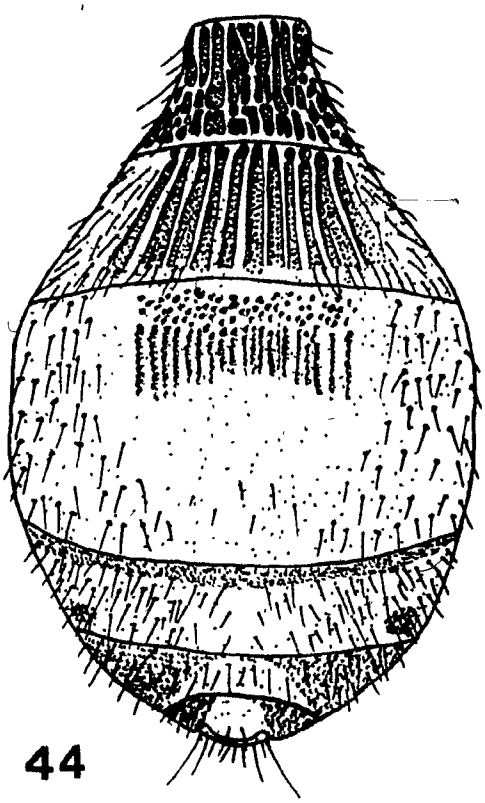


44

Teleas terricola n.sp.

Type Locality: USA, Nebraska, Halsey

Type Deposition: Holotype ♀, (USNM)

Diagnosis: T. terricola may be distinguished from other Nearctic species of Teleas by the following characters: frons with deep punctures below anterior ocellus (as in T. lineaticeps Figure 2); mesoscutum and scutellum with areolate-rugose sculpturing reduced medially, replaced with punctures (Figure 46); metanotal spine areolate-rugose and without a medial depression or ridge (Figure 46).

Female

Length 3.0 mm. Black with the following exceptions: antennal process, radicle, A1 and A2 orange; mandible orange, darker distally; coxae brown; remaining leg segments orange; posterior margin of scutellum orange; metanotal spine orange distally.

Head: Transverse, slightly more than twice as wide as long, with scattered setae; frons costate ventrally and laterally, setose punctate dorsally (as in T. lineaticeps Figure 2); cheeks, temples and vertex with scattered setose punctures and weak costae; costae of frons along inner orbits not continuing

around eyes dorsally, leaving area between posterior ocellus and inner orbit smooth; interocellar space mostly smooth with a few setose punctures; POL distance equal to OOL; LOL, POL, OOL measurements as follows, 0.09, 0.19, 0.19; vertex narrow, occiput dropping off sharply behind eyes; clypeus wide, transversely costate with blunt lateral corners; length of clypeus 0.09, width 0.37; antennal process with an acute angle ventrally (as in T. lineaticeps Figure 22); antennal club with short setae; mandible subtridentate, middle tooth very tiny.

Mesosoma: Mesoscutum generally areolate-rugose except medially where setose punctures predominate (Figure 46); scutellum areolate-rugose anteriorly, punctate medially and smooth posteriorly where it slopes sharply to crenulate posterior margin; posterior margin of scutellum wide and upcurved, concealing lateral parts of metanotum from above; metanotal spine areolate-rugose dorsally without a medial depression or ridge (Figure 46); propodeum with small areolate rugosities, lightly setose laterally; posterolateral corners of propodeum very acute, appearing as spines (Figure 46); mesopleural depression generally smooth, costate dorsally above pleural pit, crenulate on anterior and posterior margins (Figure 45); smooth glabrous area of metapleuron surrounded by areolate-rugose sculpturing (Figure 45); hind femur swollen two and one third times longer than wide; postmarginal vein of fore wing absent.

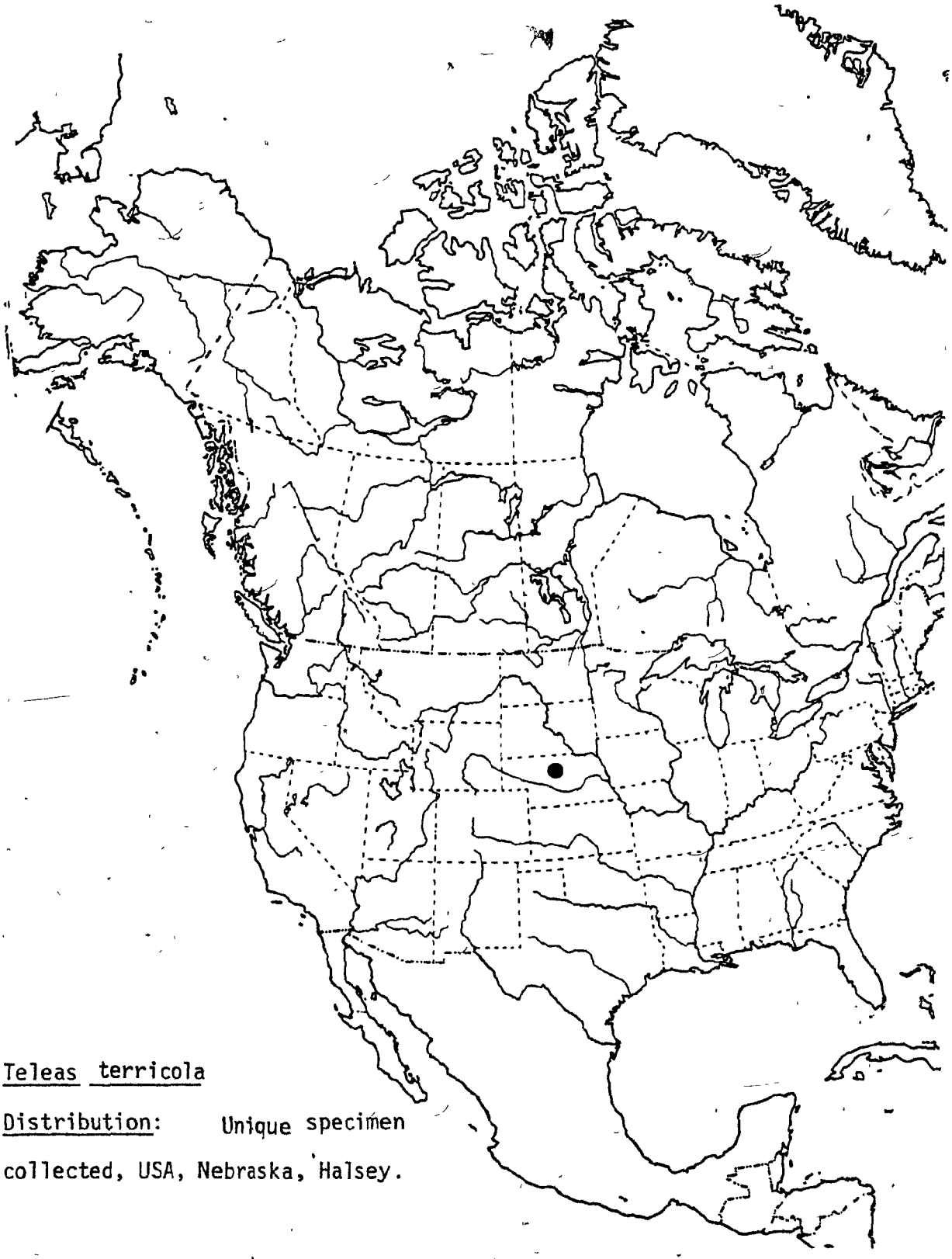
Metasoma (Figure 47) T1 with irregular longitudinal costae; T2 longitudinally costate; T3 costate medially, anteriorly costae irregular and broken by punctures; T3 with setose punctures laterally and posteriorly; T4 coriarious with sparse setose punctures.

Male: Unknown

Material Examined: Holotype, ♀, (USNM), USA, Nebraska, Halsey, 14.IX. 1958, R. Henzlik.

Table 9. Teleas terricola n.sp..

		Holotype Female
Total length		3.00
Head:	length	0.41
	width	0.90
	height	0.74
	dist. between eyes	0.59
	length of scape	0.50
	length of A3	0.18
	length of A4	0.11
	length of A10, Males	
	width of A10, Males	
	LOL	0.09
	POL	0.19
	OOL	0.19
	eye height	0.36
	eye length	0.25
Mesosoma:	length of metanotal spine	0.19
	width of mesoscutum	0.86
	length of hind femur	0.70
	width of hind femur	0.30
	length of submarginal vein	1.03
	length of marginal vein	0.30
	length of postmarginal vein	0.01
	length of stigmal vein	0.08
Metasoma:	Total length	1.60
	T1 length	0.26
	T2 length	0.31
	T3 length	0.66
	maximum width, T3 width	1.08
	T1 width	0.45
	T2 width	1.00

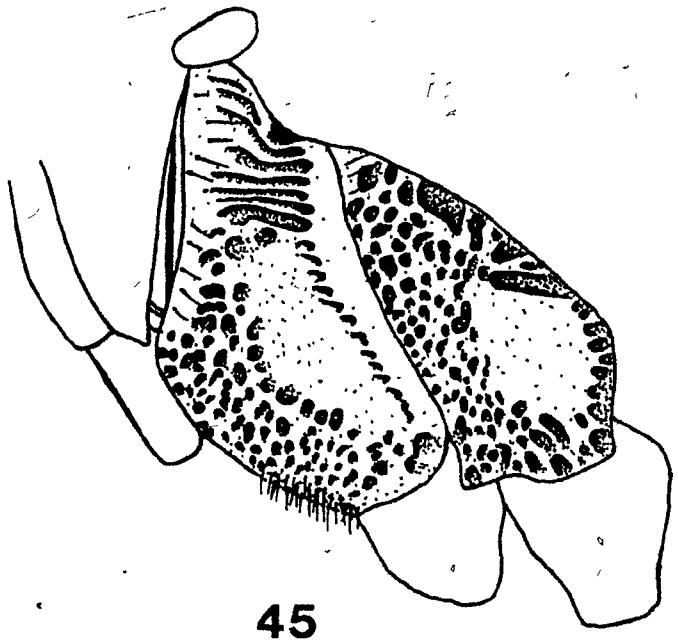


Teleas terricola

Distribution: Unique specimen collected, USA, Nebraska, Halsey.

Figure 45. Teleas terricola, lateral view of mesopleuron and metapleuron.

Figure 46. Teleas terricola, dorsal view of mesosoma.



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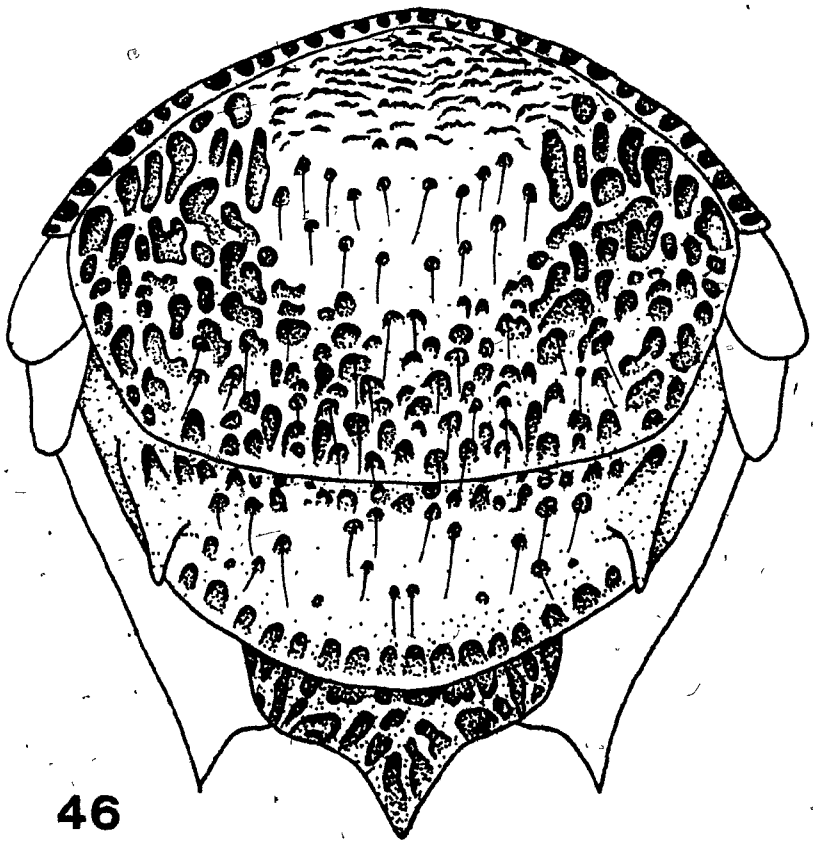

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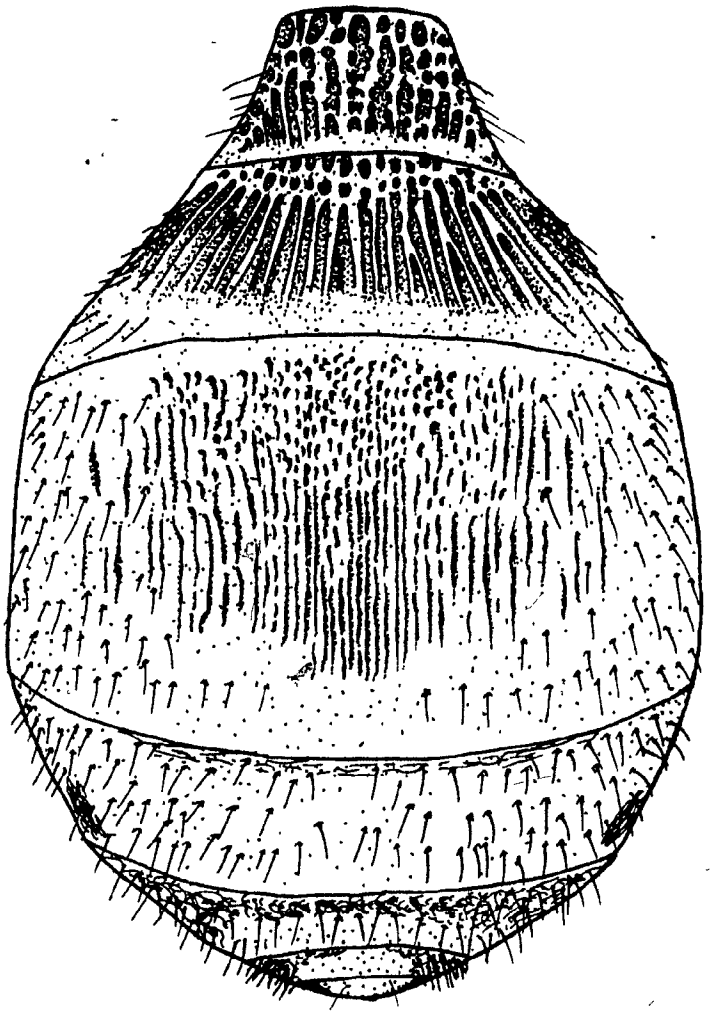
Figure 47. *Teleas terricola*, dorsal view of metasoma.



47

Teleas villus n.sp.

Type Locality: USA, Oklahoma, Caddo Co., Hinton

Type Deposition: Holotype ♂ (MSU)

Diagnosis: T. villus may be distinguished from other Nearctic species of Teleas by the following set of characters: setae on all areas of body long; setae between posterior ocellus and inner orbit at least as long as the OOL distance; metapleuron without longitudinal costae (Figure 50); T3 largely smooth and shining with weak longitudinal costae anteromedially (Figure 51); antennal process rounded, without a sharp angle ventrally (as in T. crassifemur Figure 19); posterolateral corners of propodeum rounded (Figure 48).

Male

Length 3.4 mm. Head generally black; antennal process, radicle, A1 and A2 orange; A3 to A12 brown; mandible orange, darkening distally; mesosoma generally black; legs orange except for brown coxae; posterior margin of scutellum orange.

Head. Transverse, slightly more than twice as wide as long, head with long sparse setae except for the frons medially which is glabrous; setae between posterior ocellus and inner orbit as long as the OOL distance; costae on lower frons,

cheeks, temples and vertex weak, several costae on frons laterally, not continuing around eyes dorsally, interocellar space smooth with a few setose punctures; posterior ocellus far from inner orbits; LOL, POL, OOL measurements as follows, 0.09, 0.18, 0.17; clypeus wide, with weak transverse costae and relatively blunt lateral corners; length of clypeus 0.15, width 0.39; antennal process rounded, without an acute angle ventrally (as in T. crassifemur Figure 19); mandible bidentate, middle tooth completely absent; flagellomeres cylindrical, length of A10 less than three times width (as in T. lineaticeps Figure 23); setae of flagellomeres shorter than width of flagellomeres.

Mesosoma: Mesoscutum and scutellum areolate-rugose; scutellum sharply sloping posteriorly, its posterior margin long and upcurved, concealing much of metanotum from above; metanotal spine blunt, roughly triangular with some rugose sculpturing (Figure 48); propodeum areolate-rugose with dense setae posterolaterally; posterolateral corners of propodeum rounded (Figure 48); mesopleural depression smooth medially, crenulate on its posterior margin (Figure 50); metapleuron with a smooth glabrous area posteriorly surrounded by small irregular areolae (Figure 50); hind femur slightly swollen, about three times longer than wide; fore wing without a postmarginal vein.

Metasoma: (Figure 51) T1 irregularly longitudinally

costate; T3 with weak longitudinal costae anteromedially, mostly smooth laterally and posteriorly, with scattered setose punctures laterally; T4 with scattered setose punctures not arranged in transverse rows.

Female. Unknown.

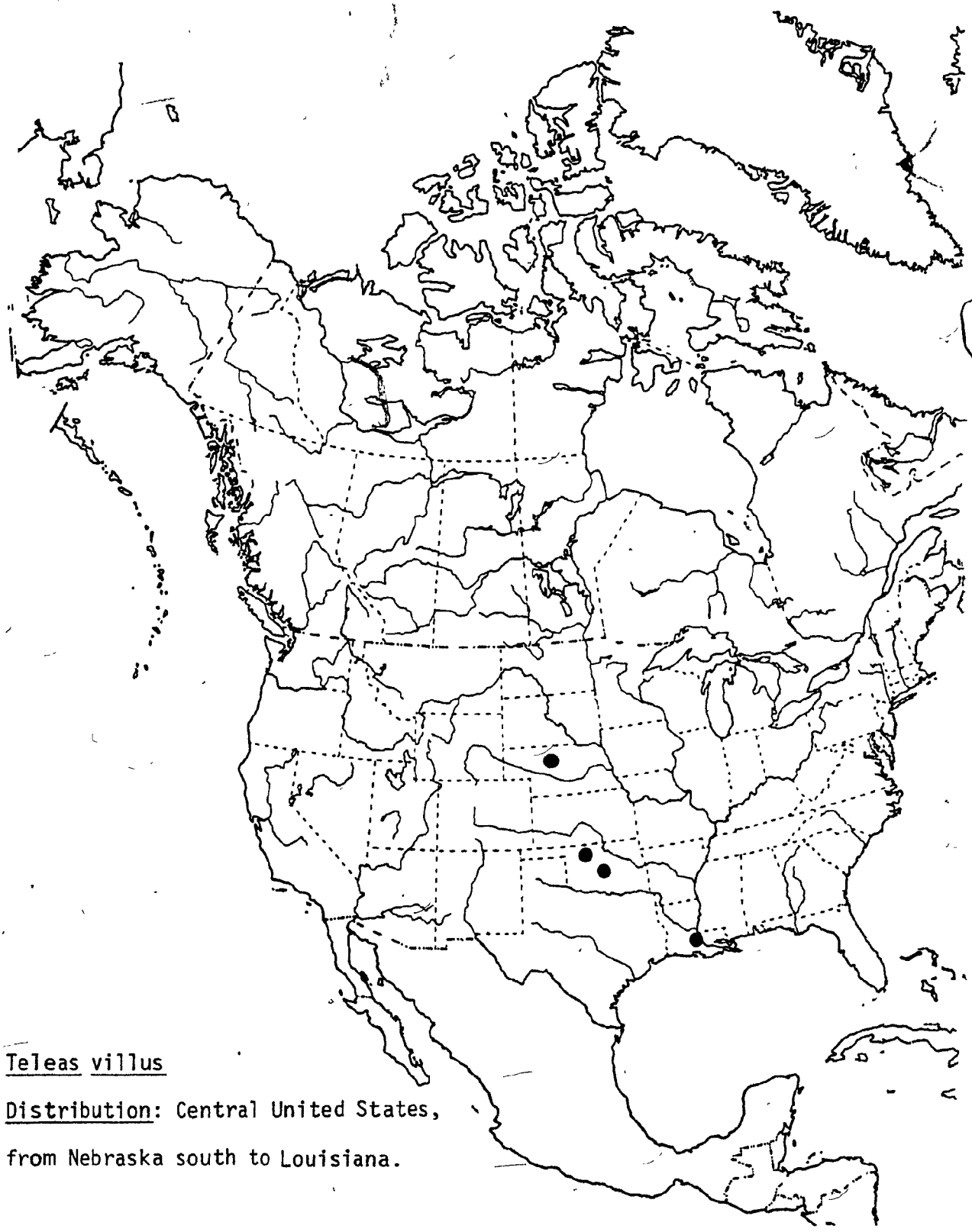
Variability: A3 to A12 vary from red brown to black, legs from orange to red brown, coxae from red brown to dark brown. Costate sculpturing of head usually weak, sometimes absent on cheeks, vertex and lower temples, middle tooth of mandible usually absent, sometimes represented by a slight bump. Metanotal spine varies from rounded (Figure 48) to acute (Figure 49); mesopleural depression may have several punctures in the predominantly smooth medial region. T3 sculpturing consistent; costae always restricted to the anteromedial region.

Material Examined

Holotype ♂, (MSU), USA, Oklahoma, Caddo Co., Hinton, 15.VI. 1960, W.T. VanVelzen. PARATYPES: 2♂♂, (CNC), USA, Oklahoma, Caddo Co., Hinton, 15.VI. 1960, R.L. Fischer. 1♂, (MSU), (same data as holotype). 1♂, (MSU), USA, Oklahoma, Woods Co., Waynoka, 11.VI. 1960, R.L. Fischer. 1♂, (MSU), USA, Nebraska, Mullen, 31.VII. 1953, R.R. Dresbach. 1♂, (GUC), USA, Louisiana, Jackson Co., Schoolhouse Springs, 14.IX.1973, (at light), C.L. Smith.

Table 10. *Teleas villus* n. sp..

		Holotype Male	Maximum Male	Minimum Male
Total length		3.40	3.42	3.36
Head:	length	0.45	0.58	0.45
	width	1.01	1.06	1.01
	height	0.82	0.83	0.82
	dist. between eyes	0.60	0.61	0.56
	length of scape	0.56	0.56	0.54
	length of A3	0.27	0.30	0.27
	length of A4	0.24	0.25	0.23
	length of A10, Males	0.20	0.20	0.18
	width of A10, Males	0.07	0.09	0.07
	LOL	0.09	0.10	0.09
	POL	0.18	0.20	0.18
	OOL	0.17	0.17	0.15
	eye height	0.48	0.48	0.46
	eye length	0.32	0.32	0.31
Mesosoma:	length of metanotal spine	0.18	0.21	0.18
	width of mesoscutum	0.95	1.03	0.95
	length of hind femur	0.84	0.84	0.80
	width of hind femur	0.25	0.29	0.25
	length of submarginal vein	1.20	1.30	1.20
	length of marginal vein	0.53	0.53	0.50
	length of postmarginal vein	0	0	0
	length of stigmal vein	0.10	0.11	0.09
Metasoma:	Total length	1.74	1.86	1.74
	T1 length	0.34	0.34	0.34
	T2 length	0.34	0.34	0.32
	T3 length	0.65	0.66	0.61
	maximum width, T3 width	1.03	1.13	1.03
	T1 width	0.15	0.52	0.51
	T2 width	0.98	1.07	0.98



Teleas villus

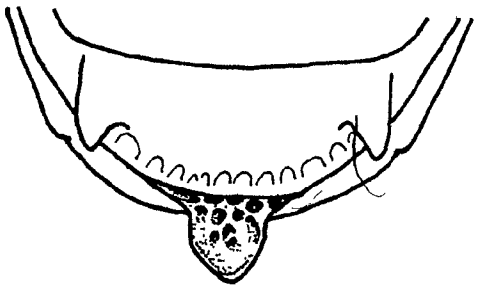
Distribution: Central United States, from Nebraska south to Louisiana.

Figure 48. Teleas villus, dorsal view of scutellum, metanotum and propodeum.

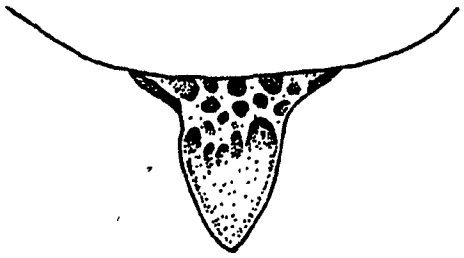
Figure 49. Teleas villus, dorsal view of metanotum.

Figure 50. Teleas villus, lateral view of mesopleuron and metapleuron.

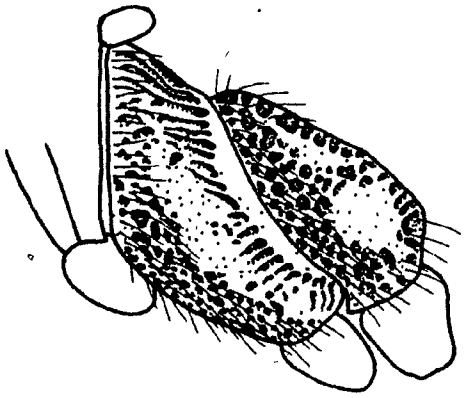
Figure 51. Teleas villus, dorsal view of metasoma.



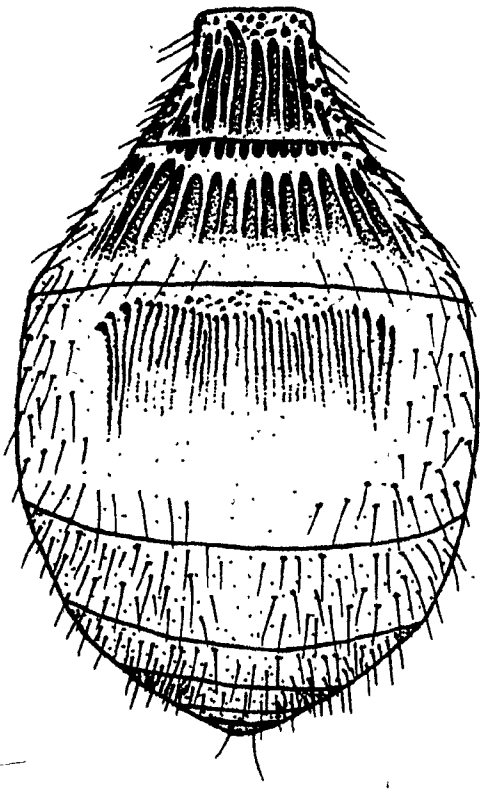
48



49



50



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CONCLUSIONS

The Nearctic members of the genus Teleas (subfam. Teleasinae) are revised. Eight species are recognized of which six are new to science: T. crassifemur ♂ , T. neptuni ♀♂ , T. niger ♂ , T. punctifrons ♀♂ , T. terricola ♀ , and T. villus ♂ . The two previously described Nearctic species which are retained in the genus Teleas, viz. T. lineaticeps Ashmead and T. pallidipes Ashmead, are redescribed, and females for these species are described for the first time. All other Nearctic species listed by Muesebeck (1979) under Teleas are transferred to the genus Trimorus Foerster (subfam. Teleasinae) (all new combinations): Trimorus americanus (Ashmead), T. coxalis (Ashmead), T. harringtoni nom. nov. (= Teleas canadensis Harrington nec Acolus canadensis Ashmead), and T. mandibularis (Ashmead).

A key to the females and males of Nearctic Teleas and a key to Nearctic genera of Teleasinae are presented. Little of the biology of Nearctic Teleas is known. They are, however, assumed to be parasitic on the eggs of carabid beetles.

REFERENCES

Ashmead, W.H. 1887. Studies on North American Proctotrupidae, with descriptions of new species from Florida (Part 1). Entomologica am. 3: 117-119.

_____. 1893. A monograph of the North American Proctotrypidae. Bull. U.S. natn. Mus. 45. 472 pp.

Eady, R.D. 1968. Some illustrations of microsculpture in the Hymenoptera. Proc. R. ent. Soc. Lond. (A). 43(4-6): 66-72.

Fabritius, K. 1964. Teleas szaboi n.sp. eine neue Proctotrupoidenart aus Romanien. Reichenbachia 3(2): 69-73.

Harris, R.A. 1979. A glossary of surface sculpturing. Occ. Pap. Ent. no. 28. 31 pp.

Kieffer, J.J. 1926. Scelionidae. Das Tierreich. 48. Gruyter, Berlin und Leipzig. 885 pp.

Koslov, M.A. 1965. On the Teleasinae and Telenominae (Hymenoptera, Scelionidae) of the USSR. Ent. Obozr. 44(3): 616-621.

Latreille, P.A. 1805. Histoire naturelle, général et particulière des Crustacés et des Insectes. etc. 13. 432 pp. Dufart, Paris.

_____. 1809. Genera crustaceorum et insectorum. 4. 397 pp. A. Koenig, Parisiis et Argentorati.

Masner, L. 1979. Pleural morphology in scelionid wasps (Hymenoptera:Scelionidae) - an aid to higher classification. Can. Ent. 111: 1079-1087.

_____. 1980. Key to the Holoarctic genera of Scelioninae, with descriptions of new genera and species. (Hymenoptera:Proctotrupoidea). Mem. ent. Soc. Can. 113. 54 pp.

Masner, L. and C.F.W. Muesebeck. 1968. The types of Proctotrupoidea (Hymenoptera) in the United States National Museum. Bull. U.S. natn. Mus. 270. 143 pp.

Muesebeck, C.F.W. 1979. In Krombein et al., Catalog of Hymenoptera in America north of Mexico. 1. 1198 pp.

Szabo, J.B. 1956. Beiträge zur Kenntnis der gattung Teleas Latr. (Hymenoptera, Scelionidae). Annls hist.-nat. Mus. natn. hung. (n.s.). 7: 153-165.

_____. 1960. Ökologische und ethologische Untersuchungen an Teleas-Arten (Hym. Proct.). Folia ent. hung. (n.s.). 13: 197-205.

_____. 1966a. Ökologische, ethologische und systematische Untersuchungen an palaarktischen Teleasinen (Hym., Scelionidae). Folia ent. hung. (n.s.). 19: 9-108.

_____. 1966b. New Proctotrupoid genera and species from the Neogaea (Hymenoptera: Proctotrupoidea). First report on South American Scelionidae and Platygasteridae. Acta zool. hung. 12: 161-179.

_____. 1973. Über die Mongolische proctotrupoiden-fauna (Hymenoptera). Acta zool. hung. 19: 171-179.

Telenga, N.A. 1959. New egg parasite of Zabrus tenebrioides and other Carabidae, Teleas caraboides sp. nov. (Scelionidae, Hymenoptera). Dokl. Akad. Nauk URSR. 2: 214-216.