

A revision of the genus *Goniusa* Casey, 1906 (Coleoptera: Staphylinidae: Aleocharinae)

VLADIMIR I. GUSAROV

Division of Entomology, Natural History Museum, University of Kansas, Lawrence, KS 66045-7523, U.S.A.
and

Department of Entomology, St. Petersburg State University, Universitetskaya nab., 7/9, St. Petersburg 199034,
Russia.
vlad@ku.edu

Abstract

Nearctic genus *Goniusa* Casey, 1906 is redescribed and placed in the tribe Athetini Casey, 1910. *Goniusa obtusa* sensu Casey, 1906 (nec LeConte, 1866) is a misidentification. *Goniusa caseyi* Gusarov, **sp. n.** (from Massachusetts, New Hampshire, New York, New Jersey, District of Columbia, Texas and Manitoba) is described for *G. obtusa* auct., nec LeConte, 1866. *Goniusa caseyi* is fixed as the type species of *Goniusa* under provisions of the Article 70.3 of the Code. A key for identification of species of *Goniusa* is provided. *Euryusa obtusa* LeConte, 1866 is transferred to the genus *Lypoglossa* Fenyes, 1918.

Key words: Coleoptera, Staphylinidae, Aleocharinae, *Goniusa*, Nearctic, taxonomy, nomenclature, new species, identification key

Introduction

LeConte (1866) described *Euryusa obtusa* from Columbia, Pennsylvania.

Casey (1906) described the genus *Goniusa* to accommodate *Euryusa obtusa* and placed *Goniusa* in the tribe Bolitocharini Thomson, 1859.

Fenyes (1918, 1920) transferred *Goniusa* to the subtribe Athetina Casey, 1910 of the tribe Myrmedoniini Thomson, 1867 and considered it to be related to the genus *Notothecta* Thomson, 1858.

Kistner (1976) revised the genus *Goniusa*, provided a redescription of the genus and transferred it to the tribe Zyrini Bradley, 1930. He examined the holotype of *Euryusa obtusa*, described an additional species of *Goniusa* and its larva, and provided host records for both species of *Goniusa*.

Seevers (1978) considered *Goniusa* as the only representative of the "*Goniusa* group" in the tribe Athetini. In his revision of aleocharines (Seevers 1978) this group is meant to have the rank of subtribe, but the name for this subtribe was not formally proposed, probably because Seevers had not completed his revision before his death in 1965.

Ashe (Ashe in Newton *et al.* 2000) retained *Goniusa* in Athetini pending further study, because Seevers (1978) had not transferred *Goniusa* to Lomechusini.

My examination of the holotype of *Euryusa obtusa* demonstrated that it in fact belongs to the genus *Lypoglossa* Fenyes, 1918. The specimens from the Casey collection, identified by Casey as *Goniusa obtusa*, are different from the LeConte's holotype while being in agreement with the current usage of *G. obtusa*.

In this paper I describe a new species of *Goniusa* for *Goniusa obtusa* auct., nec LeConte, 1866, fix the type species of *Goniusa* and discuss the taxonomic position of the genus.

I follow the terminology accepted in taxonomy of Aleocharinae (Sawada 1970, 1972; Newton *et al.* 2000). A discussion of the terms applied to the parts of the internal sac of the aedeagus can be found in Gusarov (2002). To avoid the controversy on what side of the aedeagus should be called ventral (Gusarov 2002), I refer to the side of aedeagus bearing the basal orifice as parameral. The opposite side is referred to as abparameral. The spermathecal gland is shown on the drawings solely to illustrate the gland position in relation to other parts of spermatheca.

Depositories

CASC – California Academy of Sciences, San Francisco (Dr. D.H.Kavanaugh)

CNCI – Canadian National Collection, Ottawa (Mr. A.Davies)

DHKC – Collection of Dr. D.H.Kistner, Chico, California

FMNH – Field Museum of Natural History, Chicago (Dr. A.F.Newton)

KSEM – Snow Entomological Collection, University of Kansas (Dr. J.S.Ashe)

MCZ – Museum of Comparative Zoology, Harvard University (Dr. Ph.D.Perkins)

Goniusa Casey, 1906 (Figs. 1-56)

Goniusa Casey, 1906: 348 (in tribe Bolitocharini Thomson, 1859).

Goniusa: Casey 1911: 208 (in tribe Bolitocharini).

Goniusa: Fenyes, 1918: 19 (in subtribe Athetina Casey, 1910 of tribe Myrmedoniini Thomson, 1867).

Goniusa: Fenyes, 1920: 235.

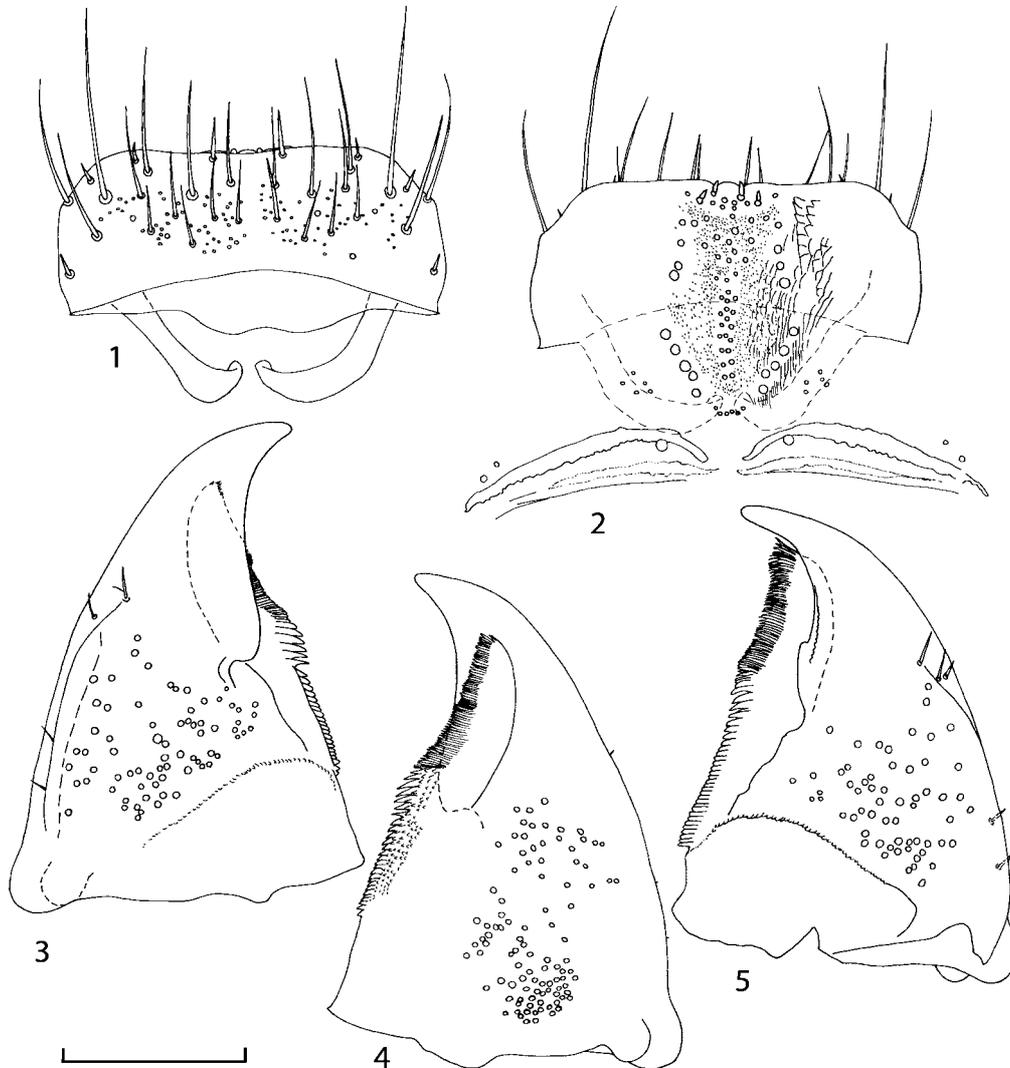
Goniusa: Bernhauer & Scheerpeltz, 1926: 597 (in subtribe Athetina).

Goniusa: Blackwelder, 1952: 174.

Goniusa: Kistner, 1976: 84 (in tribe Zyrini Bradley, 1930).

Goniusa: Seevers, 1978: 133 (in *Goniusa* group of tribe Athetini).

Goniusa: Ashe in Newton, Thayer, Ashe & Chandler, 2000: 371 (in tribe Athetini, not assigned to subtribe).



FIGURES 1-5. Mouthparts of *Goniusa caseyi* Gusarov, **sp. n.** (paratype from Aweme, Manitoba). 1 – labrum; 2 – epipharynx; 3 – left mandible, dorsal view; 4 – left mandible, ventral view; 5 – right mandible, dorsal view. Scale bar 0.1 mm.

Diagnosis. *Goniusa* can be distinguished from the other athetine genera by the combination of the following characters: body broad; antennal articles 5-10 slightly elongate (Fig. 14) or slightly transverse; in dry specimens gaps between antennal articles inconspicuous; ligula split apically (Fig. 6); labial palpus with setae α , β , γ and δ present; pronotum strongly transverse, 1.5-1.6 times as wide as long, with microsetae directed posteriorly

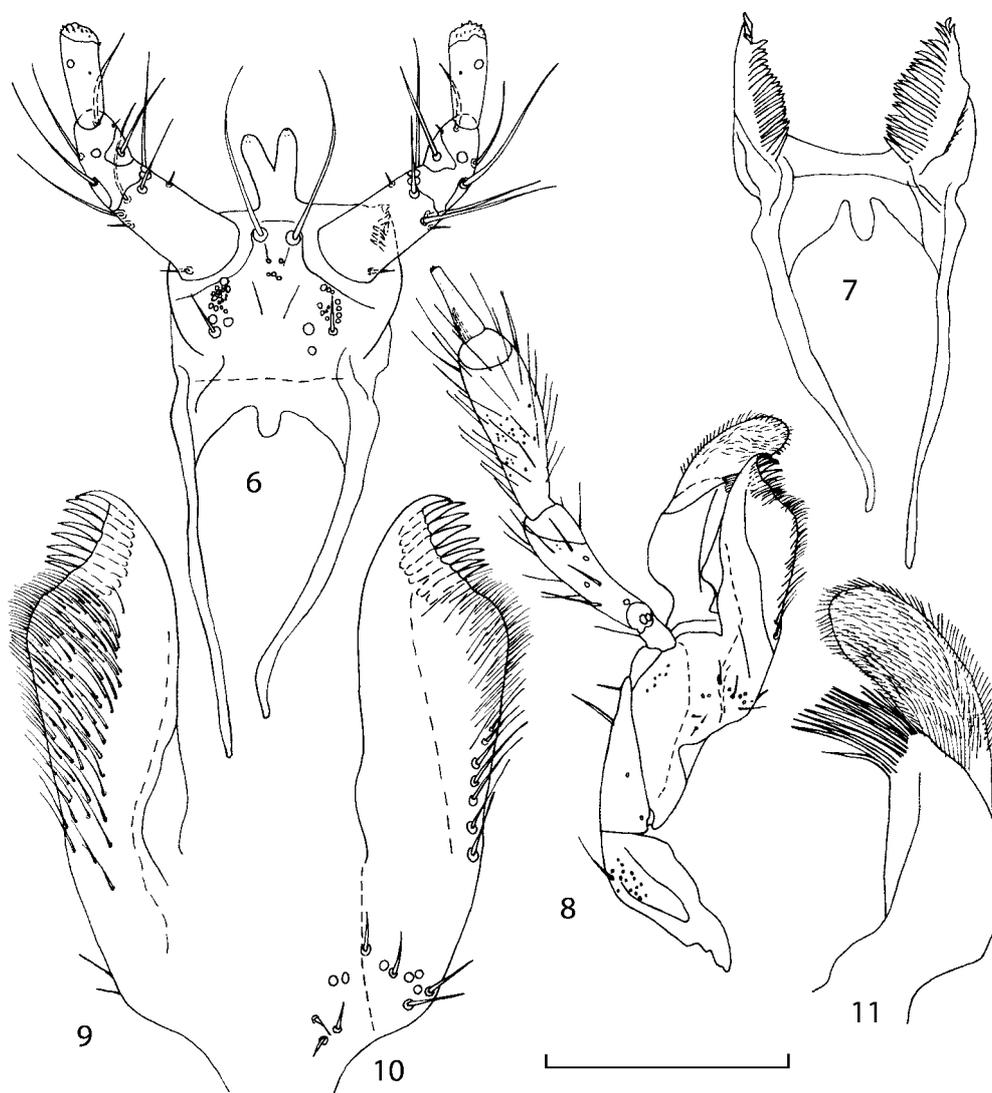
along the midline; in lateral portions of the disc microsetae directed posteriorly and obliquely laterally (Type V, Benick & Lohse 1974) (Fig. 12); pronotal macrosetae short; pronotal hypomera fully visible in lateral view; medial macroseta of mesotibia inconspicuous, shorter than tibial width; tarsal formula 4-5-5; metatarsal segment 1 slightly shorter than segment 2; one empodial seta; abdominal sterna with numerous semierect macrosetae, sternum 8 with 30-60 macrosetae (Figs. 21, 24); male pronotum with broad medial impression that is half as wide as pronotum, deeper in the posterior half, postero-lateral portions of the impression with less dense microsculpture, without punctation and pubescence; male sternum 8 with broad apical emargination, apical portion of the sternum membranous (Fig. 21); aedeagus with narrow but blunt apex (Figs. 25, 48); medial lamellae of internal sac absent (Figs. 30, 56); copulatory piece trough-shaped, with pointed apex (Figs. 30-34); proximal portion of spermatheca with 2-3 coils (Figs. 35-36).

Goniusa differs from *Notothecta* Thomson, 1858 in having abdominal sternum 8 with numerous (30-60) macrosetae (Figs. 21, 24), male pronotum with broad medial impression, male sternum 8 with broad apical emargination, and different shape of the aedeagus and spermatheca.

Goniusa can be distinguished from similar-looking genera of the tribe Lomechusini by having longer and narrower mesothoracic process (Figs. 13; 17-18); by shorter galea with its apical lobe only slightly projecting beyond the apex of lacinia (Figs. 8; 16, 19) and stronger setae on its internal margin (Figs. 11; 16).

Description. Length 3.2-4.2 mm, pronotal width 0.84-1.07 mm. Body broad, reddish brown to dark brown with darker head and brownish red appendages.

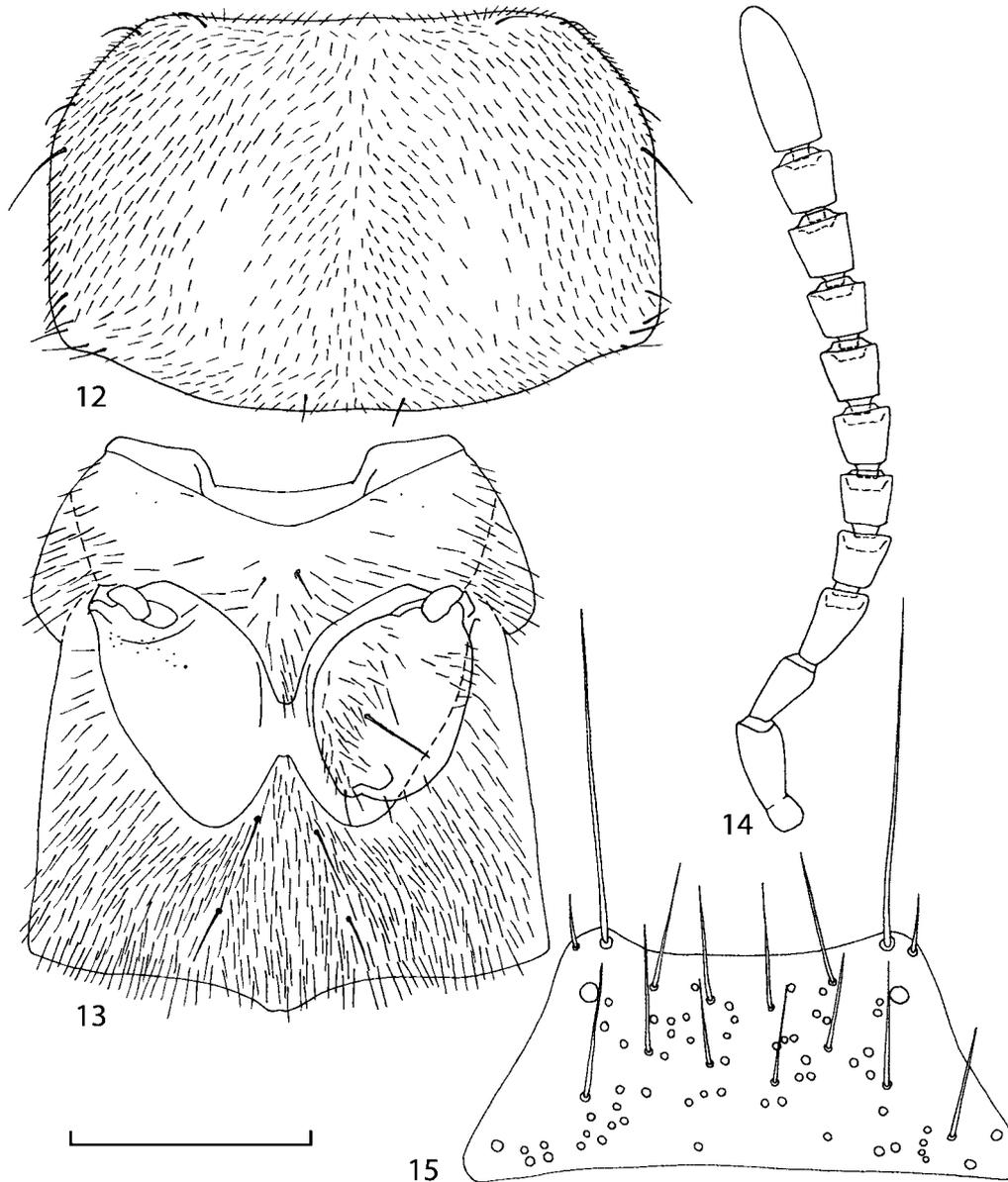
Head transverse; eyes large, temple length to eye length ratio 0.6-1.0; infraorbital carina very weak, complete, incomplete or absent altogether. Antennal article 2 as long as article 3, article 4 elongate, 5-10 slightly elongate or slightly transverse, apical article without coeloconic sensilla, longer than articles 9 and 10 combined (Fig. 14). In dry specimens gaps between antennal articles inconspicuous. Labrum (Fig. 1) transverse, with straight anterior margin. Adoral surface of labrum (epipharynx) as in Fig. 2. Mandibles (Figs. 3-5) broad, right mandible with small medial tooth; dorsal molar area with velvety patch consisting of very small denticles (poorly visible at 400x). Maxilla (Figs. 8-11) with galea projecting slightly beyond apex of lacinia; apical lobe of galea covered with numerous fine and short setae; internal margin of galea with long subapical setae (Fig. 11); apical 1/7 of lacinia with row of closely spaced spines, middle portion produced medially and covered with numerous setae (Figs. 9-10). Labium as in Figs. 6-7, 15; ligula split apically; medial area of prementum without pores but with 5 pseudopores, lateral areas with 2 pores, single setose pore and 12-16 pseudopores (Fig. 6). Hypopharyngeal lobes as in Fig. 7. Labial palpus with setae α , β , γ and δ present. Mentum (Fig. 15) with concave anterior margin.



FIGURES 6-11. Mouthparts of *Goniusa caseyi* Gusarov, **sp. n.** (paratype from Aweme, Manitoba). 6 – prementum; 7 – hypopharynx; 8 – right maxilla, ventral view; 9 – right lacinia, dorsal view; 10 – right lacinia, ventral view; 11 – right galea, dorsal view. Scale bar 0.1 mm (6-7, 9-11), 0.2 mm (8).

Pronotum (Figs. 12, 37-41) strongly transverse, with microsetae directed posteriorly in midline; in lateral portions of disc microsetae directed posteriorly and obliquely laterally (Type V, Benick & Lohse 1974); macrosetae short; hypomera fully visible in lateral view. Meso- and metasternum as in Fig. 13, mesosternal process narrow, extending about $\frac{1}{2}$ length of mesocoxal cavities, metasternal process short, mesosternum and mesosternal

process not carinate medially; relative lengths of mesosternal process: isthmus: metasternal process in ratio of about 2:1:1; mesocoxal cavities margined posteriorly; mesocoxae narrowly separated. Medial macroseta of mesotibia inconspicuous, shorter than tibial width. Tarsal segmentation 4-5-5, metatarsal segment 1 slightly shorter than segment 2. One empodial seta, half as long as claws. Posterior margin of elytra slightly concave near postero-lateral angle. Wings fully developed.



FIGURES 12-15. Details of *Goniusa caseyi* Gusarov, **sp. n.** (paratype from Aweme, Manitoba). 12 – pronotum; 13 – meso- and metathorax, ventral view; 14 – right antenna; 15 – mentum. Scale bar 0.1 mm (15), 0.2 mm (12), 0.4 mm (13-14).

Abdominal terga 3-5 with moderate basal impressions. Tergum 7 1.1-1.2 times as long as tergum 6. Punctuation on terga 6-7 sparser than on terga 3-5. Tergum 7 with wide white palisade fringe. Abdominal sterna with numerous semierect macrosetae, sternum 8 with 30-60 macrosetae.

Male pronotum with broad medial impression that is half as wide as pronotum, deeper in posterior half, postero-lateral portions of the impression with less dense microsculpture, without punctuation and pubescence. Compared to female, male pronotum matte, with stronger microsculpture and weaker punctuation. Male sternum 8 with broad apical emargination, apical portion of the sternum membranous (Fig. 21); aedeagus with narrow but blunt apex (Figs. 25, 48); medial lamellae of internal sac absent (Figs. 30, 56); copulatory piece trough-shaped, with pointed apex (Figs. 30-34); proximal portion of spermatheca with 2-3 coils (Figs. 35-36).

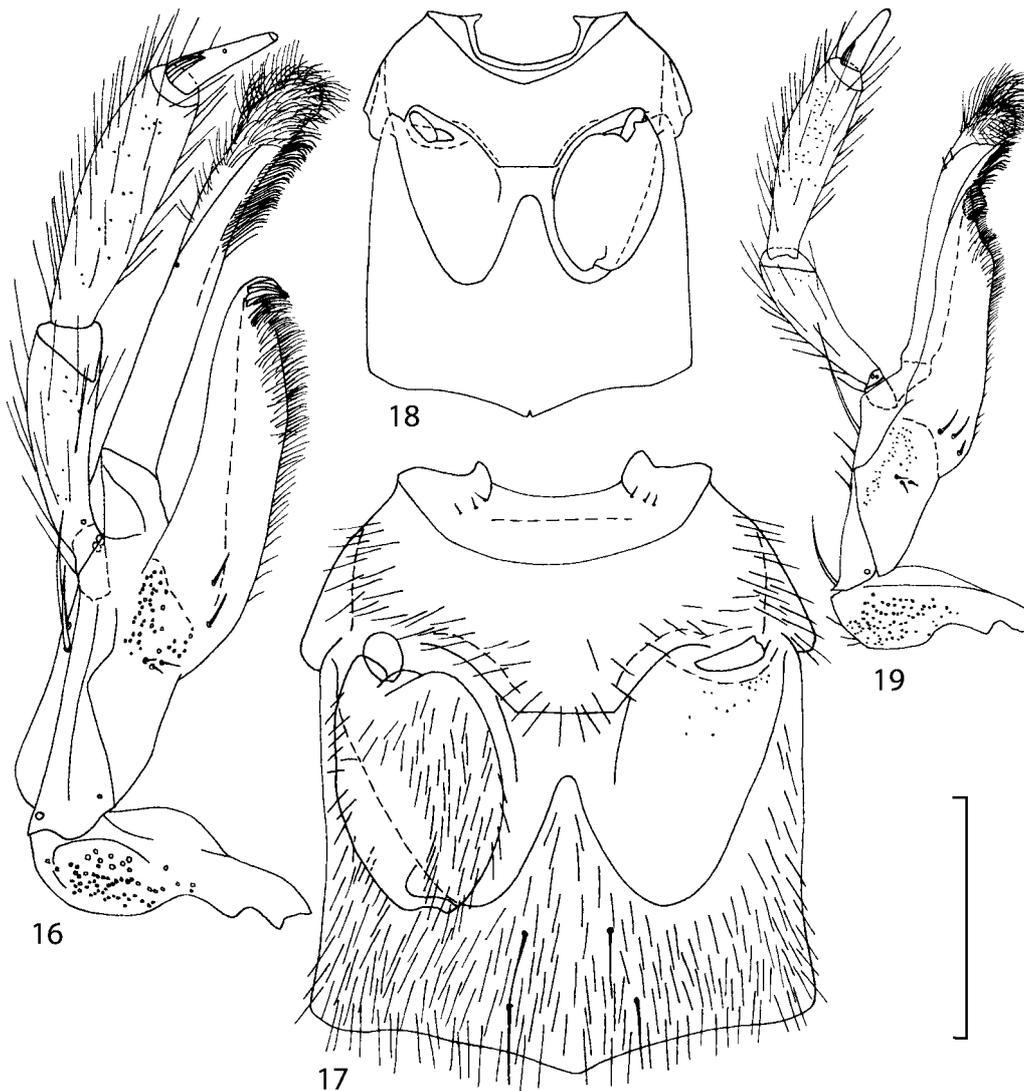
Type species. *Goniusa caseyi* Gusarov, **sp. n.**, by subsequent designation (see Discussion below), fixed under provisions of Article 70.3.

Discussion. When proposing the new generic name *Goniusa*, Casey (1906) included in a single species, *Euryusa obtusa* LeConte, 1866, and this species would be the type of the genus by monotypy. However, my examination of the holotype of *Euryusa obtusa* (MCZ) and the specimens labeled as "*Goniusa obtusa*" in the Casey collection, as well as my analysis of characters mentioned by Casey (1906) demonstrated that Casey's concept of the species does not agree with that of LeConte (1866). In fact the holotype of *Euryusa obtusa* belongs to the genus known as *Lypoglossa* Fenyès, 1918 while Casey's specimens agree with current usage of the name "*Goniusa obtusa*". The status of *E. obtusa* LeConte (nec Casey) will be discussed in a separate paper on the genus *Lypoglossa*. Since the type species of the genus *Goniusa* Casey, 1906 was misidentified by Casey (1906) the provisions of the Article 70.3 apply to it and the type species needs to be fixed (ICZN, 1999). To best serve stability and universality of nomenclature I select to fix as the type species of *Goniusa* the taxonomic species actually involved in the misidentification (Article 70.3.2). The type species of the genus *Goniusa* Casey, 1906 is now fixed as *Goniusa caseyi* Gusarov, **sp. n.**, misidentified as *Euryusa obtusa* LeConte, 1866 in the original description by Casey (1906).

Fenyès (1918) placed *Goniusa* in the subtribe Athetina and noted the similarity between *Goniusa* and the myrmecophilous genus *Notothecta* Thomson, 1858 (Fenyès 1920). Kistner (1976) disagreed with Fenyès and argued that based on "the structure of the maxillae with their setigerous lacinia and galea" *Goniusa* should be placed in Zyrini Bradley, 1930 (spelled as Zyrasini), a junior synonym of Lomechusini Fleming, 1821 (Newton & Thayer 1992). However, in *Goniusa* the galea is relatively short and it is only slightly projecting beyond the apex of lacinia (Fig. 8) in comparison to the members of Lomechusini (e. g., *Drusilla* Leach in Samouelle, 1819 and *Zyras* Stephens, 1835; Figs. 16, 19). In *Goniusa* subapical setae of the internal margin of the galea are strong, and both galea and lacinia are very much like in other members of Athetini. Additionally, in *Goniusa* the

mesosternal process is narrow and long (Fig. 13) compared to the members of Lomechusini (Figs. 17-18). Presented arguments confirm the view of Fenyés (1918): *Goniusa* is not related to Lomechusini and is a member of Athetini.

Both known species of *Goniusa* are associated with the ants of the genus *Formica* and have been collected inside the ant nests.



FIGURES 16-19. Details of *Drusilla canaliculata* (Fabricius) (female from Kiev, Ukraine (16); male from 15 km N of Magadan, Russia (17)) and *Zyras humeralis* (Gravenhorst) (female from Briançon, France). 16, 19 – right maxilla, ventral view; 17 – meso- and metathorax, ventral view; 18 – meso- and metathorax, ventral view (setation not shown). Scale bar 0.2 mm (16), 0.4 mm (17, 19), 1.0 mm (18).

Key to species of *Goniusa*

- 1 Pronotum with subparallel lateral sides, reaching maximum width in front of the middle (Figs. 37-38). Antennal segments 5-10 slightly elongate. Body larger, length 3.2-4.2 mm, pronotal length 0.60-0.70 mm, pronotal width 0.94-1.07 mm. Apical process of median lobe long (Figs. 26-27, 29). Aedeagus: Figs. 25-34. Spermatheca: Figs. 35-36. Widespread in eastern North America, from Manitoba and New Hampshire in the north to Texas in the south (Fig. 57) 1. *G. caseyi* Gusarov, **sp. n.**
- Pronotum with lateral sides converging anteriorly, reaching maximum width behind the middle (Figs. 39-41). Antennal segments 5-10 slightly transverse. Body smaller, length 3.2-4.0 mm, pronotal length 0.51-0.66 mm, pronotal width 0.84-1.01 mm. Apical process of median lobe short (Figs. 49, 51). Aedeagus: Figs. 48-51, 55-56. Spermatheca: Figs. 52-54. Known from Washington, California, Colorado and Nebraska (Fig. 57) 2. *G. alperti* Kistner

1. *Goniusa caseyi* Gusarov, sp. n. (Figs. 1-15, 20-38)

Goniusa obtusa: Casey, 1906: 348 (nec LeConte, 1866: 373) (Misidentification).

Goniusa obtusa: Casey, 1911: 208 (Misidentification).

Goniusa obtusa: Fenyés, 1920: 236 (Misidentification).

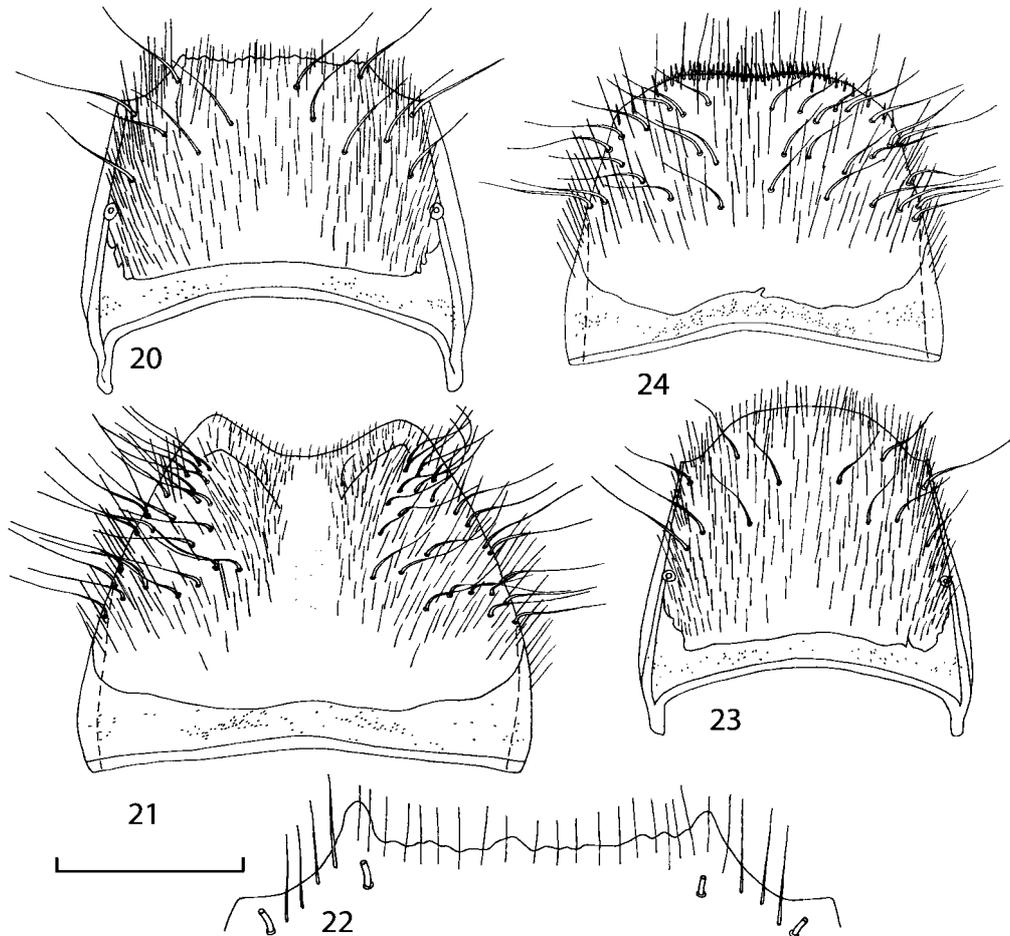
Goniusa obtusa: Bernhauer & Scheerpeltz, 1926: 597 (Misidentification).

Goniusa obtusa: Kistner, 1976: 87 (Misidentification).

Type material. Holotype: ♂, **UNITED STATES: Massachusetts:** Middlesex Co.: 4.5 mi. W Ashby, from nest of *Formica integra* (mounted with a specimen of *F. integra*) (A.Newton & M.Thayer), 18.iv.1976 (FMNH).

Paratypes: **UNITED STATES: Massachusetts:** ♀, (no additional locality data) (KSEM); Middlesex Co.: 4♂♂, 4♀♀, same data as the holotype (6 specimens mounted with specimens of *F. integra*) (FMNH, SPSU); 3♂♂, ditto but 24.vii.1976 (mounted with specimens of *F. integra*); ♀ (mounted with a *Formica* specimen), 4.5 mi. W Ashby, from ant nest under rocks (A.F.Newton), 6.v.1971; ♀, Westford, from *Formica* nest under rocks (mounted with a *Formica* specimen) (A.Newton), 27.v.1973; ♂, Dracut (all - FMNH); ♂, Framingham (C.A.Frost); ♀, ditto but 5.v.1912 (mounted with a *Formica* specimen); ♂, Sherborn, in nest of *Formica rufa* (C.A.Frost), 30.iv.1916; ♀, Sherborn, under stones (mounted with a *Formica* specimen) (C.A.Frost), 4.v.1915 (all - CASC); Norfolk Co.: 2♂♂ (mounted with a *Formica* specimen), Blue Hills (W.M.Mann), 12.v.1912 (FMNH); **New Hampshire:** Grafton Co.: ♂, Rumney (mounted with a *Formica* specimen) (Darlington), 24.iv.1925 (CNCD); **New York:** Tompkins Co.: ♀, Ithaca, 1.viii.1884 (FMNH); **New Jersey:** Mercer Co.: ♀, Princeton (mounted with a *Formica* specimen), 11.v.1941 (FMNH); **District of Columbia:** 2♂♂ (no additional locality data) (CASC, KSEM); ♂ (no additional locality data) (Wickham); ♂, Washington (CASC); 4♂♂, 3♀♀ (3♂♂, 2♀♀

mounted with *Formica* specimens), Washington, iv (FMNH; KSEM; NMNH (Casey collection)); **Texas:** 2♂♂, 3♀♀, (no locality data) (one female mounted with a *Formica* specimen) (FMNH, SPSU); **CANADA: Manitoba:** 2♂♂, ♀, Aweme (N.Criddle), 17.v.1919 (CASC, CNCI); ♀, Aweme, from *Formica* nest (N.Criddle), 2.v.1916 (CASC); ♀, Aweme, from ant nest (N.Criddle), 3.v.1916 (CNCI); ♂, Aweme (N.Criddle) (NMNH (Casey collection)); ♀, Stonewall (J.B.Wallis), 23.iv.1970 (CNCI).

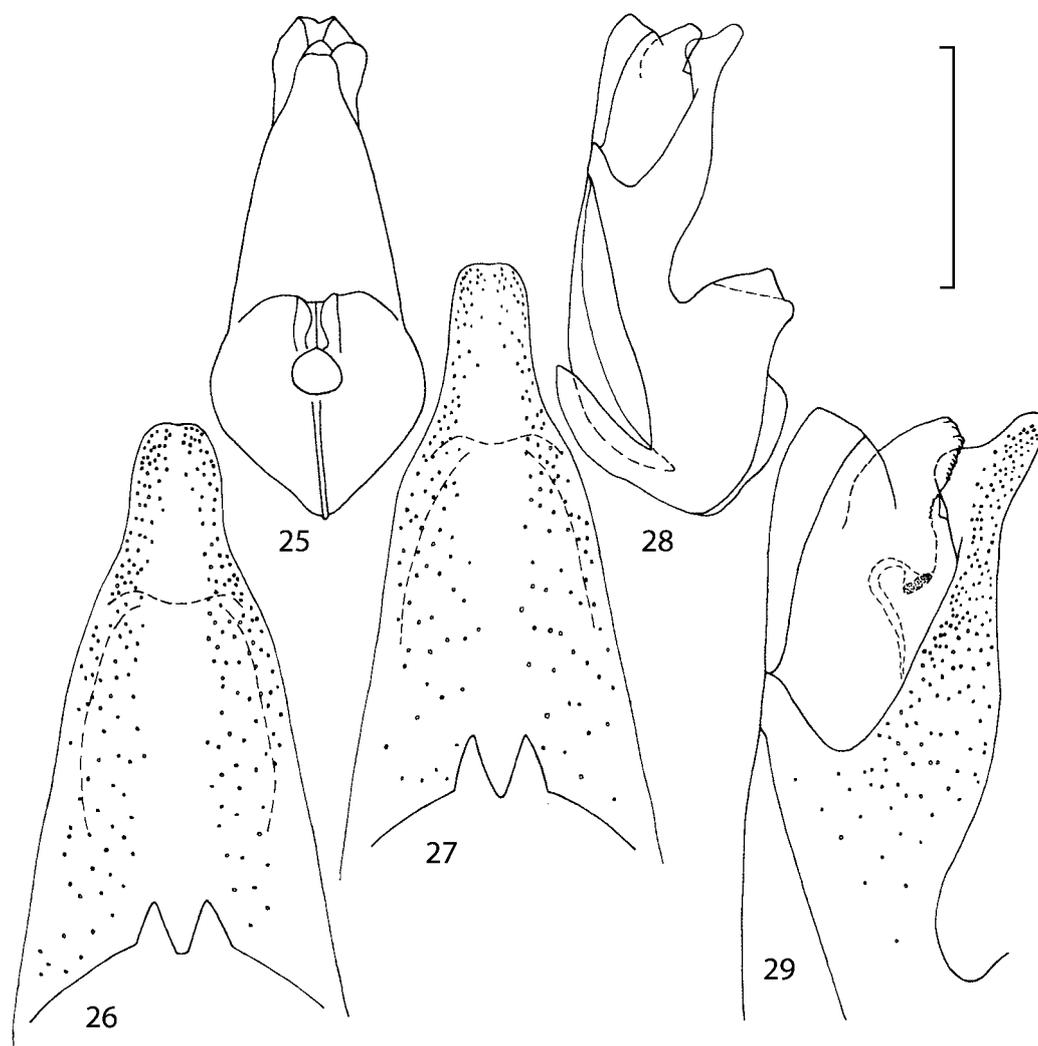


FIGURES 20-24. Abdominal segment 8 of *Goniusa caseyi* Gusarov, **sp. n.** (paratypes from Washington, D.C. (20-21); Aweme, Manitoba (22); and Stonewall, Manitoba (23-24)). 20 – male tergum 8; 21 – male sternum 8; 22 – apex of male tergum 8; 23 – female tergum 8; 24 – female sternum 8. Scale bar 0.4 mm (20-21, 23-24), 0.2 mm (22).

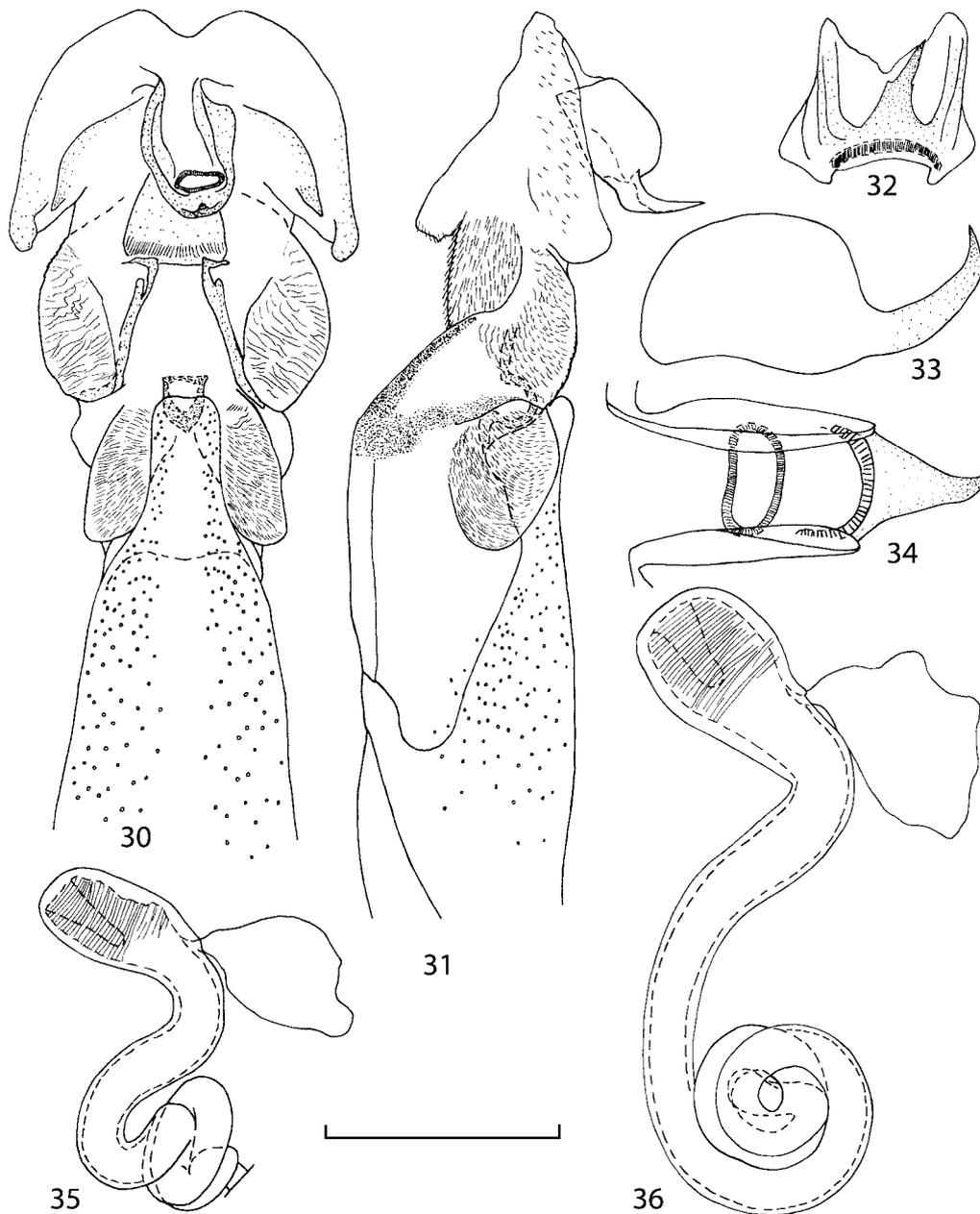
Diagnosis. *Goniusa caseyi* can be distinguished from *G. alperti* by having pronotum with subparallel lateral sides, reaching maximum width in front of the middle (Figs. 37-38); antennal segments 5-10 slightly elongate; larger body and longer apical process of the median lobe of aedeagus (Figs. 26-27, 29).

Description. Length 3.2-4.2 mm. Head darker than the rest of the body, brownish black to brown; pronotum, elytra and abdomen light brown to reddish brown; elytra and abdominal segments 3-5 often lighter than pronotum and abdominal segments 5-7; legs, antennae and mouthparts brownish red.

In females head surface glossy, with weak isodiametric microsculpture, with strong punctation, distance between punctures equals 1/2-1 times their diameter. In males head surface matte, with strong isodiametric microsculpture, with weak, sparse and poorly visible punctation. Temple length to eye length ratio 0.6-1.0. Antennal articles 4-10 slightly elongate (Fig. 14).

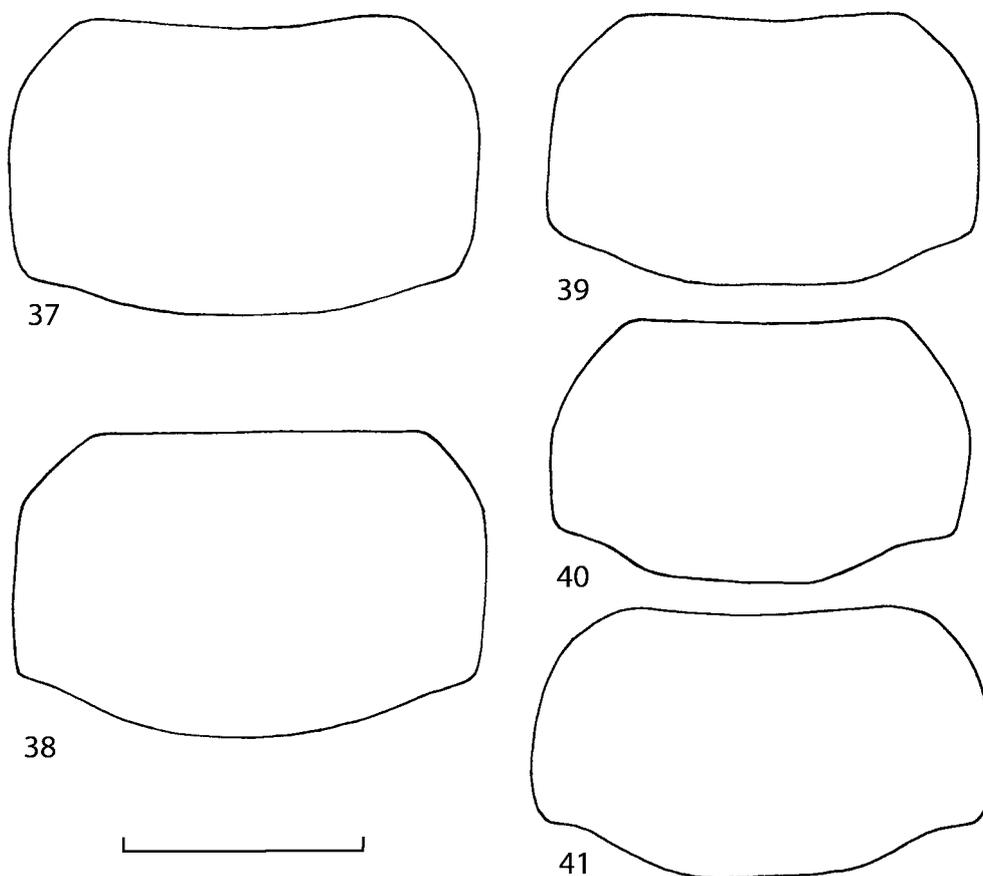


FIGURES 25-29. Median lobe of aedeagus of *Goniusa caseyi* Gusarov, **sp. n.** (paratypes from Washington, D.C. (25-26, 28-29); and Sherborn, Massachusetts (27)). 25 – median lobe, parameral view; 26-27 – apex of median lobe, parameral view; 28 – median lobe, lateral view; 29 – apex of median lobe, lateral view. Scale bar 0.4 mm (25, 28), 0.2 mm (26-27, 29).



FIGURES 30-36. Genitalia of *Goniusa caseyi* Gusarov, **sp. n.** (paratypes from Aweme, Manitoba (30-31); Texas (32-34); Sherborn, Massachusetts (35); and Stonewall, Manitoba (36)). 30 – everted internal sac of aedeagus, parameral view; 31 – everted internal sac of aedeagus, lateral view; 32 – copulatory piece, apical view; 33 – copulatory piece, lateral view; 34 – copulatory piece, abparameral view; 35-36 – spermatheca. Scale bar 0.1 mm (32-34), 0.2 mm (30-31, 35-36).

Pronotum strongly transverse, with subparallel lateral sides, reaching maximum width in front of the middle (Figs. 37-38), 1.6 times as wide as head, width 0.94-1.07 mm, length 0.60-0.70 mm, width to length ratio 1.5; in females surface glossy, with weak isodiametric microsculpture; punctation finer than on head, distance between punctures equal to their diameter; in males surface matte, with strong isodiametric microsculpture; and fine and poorly visible punctation. Elytra slightly wider (1.01-1.21 mm) and longer (0.69-0.79 mm; measured from humeral angle) than pronotum (pronotal length to elytral length ratio 0.9), 1.5 times wider than long, surface glossy, with fine and weak isodiametric microsculpture, and with fine and slightly asperate punctation, distance between punctures equal to their diameter.



FIGURES 37-41. Pronotum of *Goniusa caseyi* Gusarov, **sp. n.** (paratypes from Aweme, Manitoba (37); and Stonewall, Manitoba (38)) and *G. alperii* Kistner (holotype (39); female from San Bernardino Mts., California (40), paratype from 10 mi. E of Coville, Washington (41)). 37, 39 – male pronotum; 38, 40-41 – female pronotum. Scale bar 0.5 mm.

Abdominal terga glossy, with fine and often poorly visible transverse microsculpture, with fine punctation, distance between punctures equals 1-2 times their diameter on terga 3-5 and 3-6 times on terga 6-7. Apical margin of tergum 7 with white palisade fringe.

In males head with broad medial impression; pronotum with broad medial impression that is half as wide as pronotum, deeper in posterior half, postero-lateral portions of the impression with less dense microsculpture, without punctation and pubescence. Sternum 8 with wide apical emargination (Fig. 21). Posterior margin of male tergum 8 crenulate (Figs. 20, 22).

Aedeagus as in Figs. 25-34.

Spermatheca as in Figs. 35-36.

Distribution. Known from Manitoba, New Hampshire, Massachusetts, New York, New Jersey, District of Columbia and Texas (Fig. 57).

Natural History. *Goniusa caseyi* is associated with ants of the genus *Formica* (e.g., *Formica integra* (identified by Dr. E.O.Wilson: Kistner, 1976)).

2. *Goniusa alperti* Kistner, 1976 (Figs. 39-56)

Goniusa montana Fenyés, *in litteris* (manuscript name).

Goniusa alperti Kistner, 1976: 89.

Type material. Holotype of *G. alperti*: ♂, UNITED STATES: Washington: Whatcom Co.: Blaine, ant nest (G.Alpert), 10.v.1971 (DHKC).

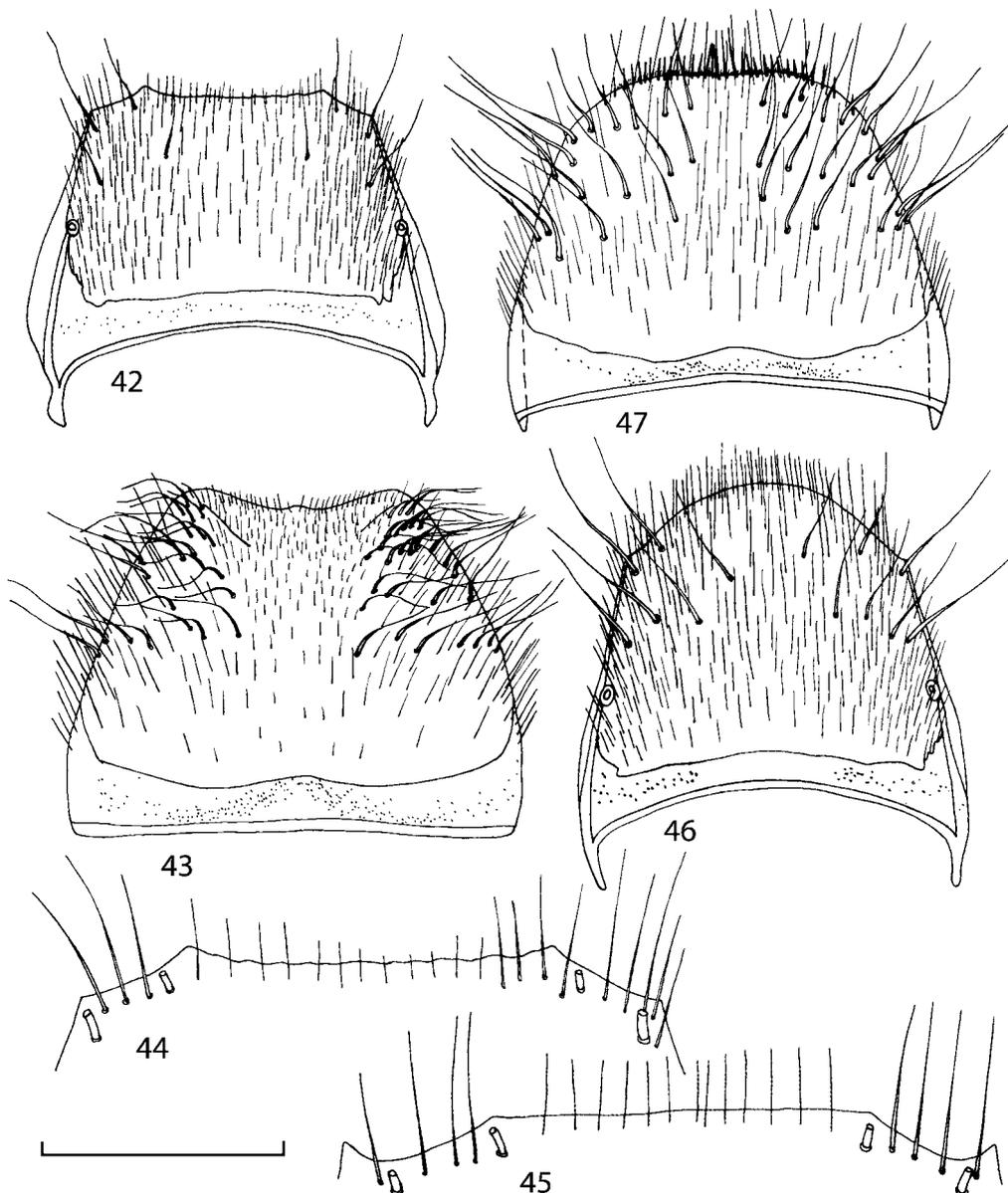
Paratypes of *G. alperti*: UNITED STATES: Washington: Clallam Co.: ♀, 10 mi. E Coville, ant nest (G.Alpert), 11.iv.1971; Whatcom Co.: ♀, Bellingham, ant nest (G.Alpert), 11.v.1971 (all - DHKC).

Additional material. UNITED STATES: California: San Bernardino Co.: 2♂♂, ♀, San Bernardino Mts., 2 mi. NW Fawnskin, host: *Formica haemorrhoidalis* (B. & E.MacKay) (all - DHKC); Placer Co.: ♀, Tahoe City; Colorado: Ouray Co.: ♀, Ouray, 9000' (mounted with a *Formica* specimen) (Wickham), vii (all - CASC); Grand Co.: ♀, 16 km NW Granby, Arapaho National Forest, Hwy. 125, 40°12'N 106°03'W, 2600m, *Formica* nest (mounted with a *Formica* specimen) (V.I.Gusarov), 23.viii.2000 (KSEM); Nebraska: Cuming Co.: ♂, ♀, West Point (FMNH).

Diagnosis. *Goniusa alperti* can be distinguished from *G. caseyi* by having pronotum with lateral sides converging anteriorly, reaching maximum width behind the middle (Figs. 39-41); antennal segments 5-10 slightly transverse; smaller body and short apical process of median lobe (Figs. 49, 51).

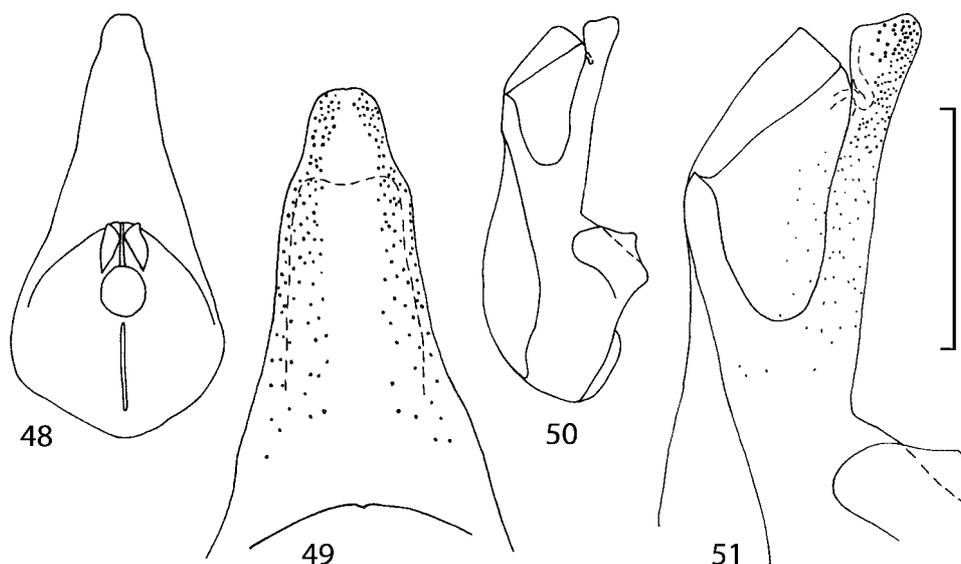
Description. Length 3.2-4.0 mm. Head brownish black, pronotum and abdomen dark brown, often with lighter segments 3-4, elytra reddish brown, legs and antennae brownish red, mouthparts yellow to brownish red.

In females head surface glossy, with weak isodiametric microsculpture, with fine punctation, distance between punctures equals 2 times their diameter. In males head surface matte, with strong isodiametric microsculpture, with weak, sparse and poorly visible punctation. Temple length to eye length ratio 0.6-0.9. Antennal article 4 slightly elongate, articles 5-10 slightly transverse.



FIGURES 42-47. Abdominal segment 8 of *Goniusa alperti* Kistner (holotype (42-44); male from San Bernardino Mts., California (45); female from 16 km NW of Granby, Colorado (46-47)). 42 – male tergum 8; 43 – male sternum 8; 44-45 – apex of male tergum 8; 46 – female tergum 8; 47 – female sternum 8. Scale bar 0.4 mm (42-43, 46-47), 0.2 mm (44-45).

Pronotum strongly transverse, 1.6 times as wide as head, width 0.84-1.01 mm, length 0.51-0.66 mm, width to length ratio 1.6; in females surface glossy, with weak isodiametric microsculpture; punctation as fine as on head, slightly asperate, distance between punctures equal to 2 times their diameter; in males surface matte, with strong isodiametric microsculpture, with fine and poorly visible punctation. Elytra slightly wider (0.99-1.17 mm) and longer (0.64-0.79 mm, measured from humeral angle) than pronotum (pronotal length to elytral length ratio 0.8), 1.5 times as wide as long, surface glossy, with weak isodiametric microsculpture and punctation as on pronotum.



FIGURES 48-51. Median lobe of aedeagus of *Goniusa alperti* Kistner (male from West Point, Nebraska). 48 – median lobe, parameral view; 49 – apex of median lobe, parameral view; 50 – median lobe, lateral view; 51 – apex of median lobe, lateral view. Scale bar 0.4 mm (48, 50), 0.2 mm (49, 51).

Abdominal terga glossy, with fine and often poorly visible transverse microsculpture, with fine punctation, distance between punctures equals 1-2 times their diameter on terga 3-5 and 3-6 times on terga 6-7. Apical margin of tergum 7 with white palisade fringe.

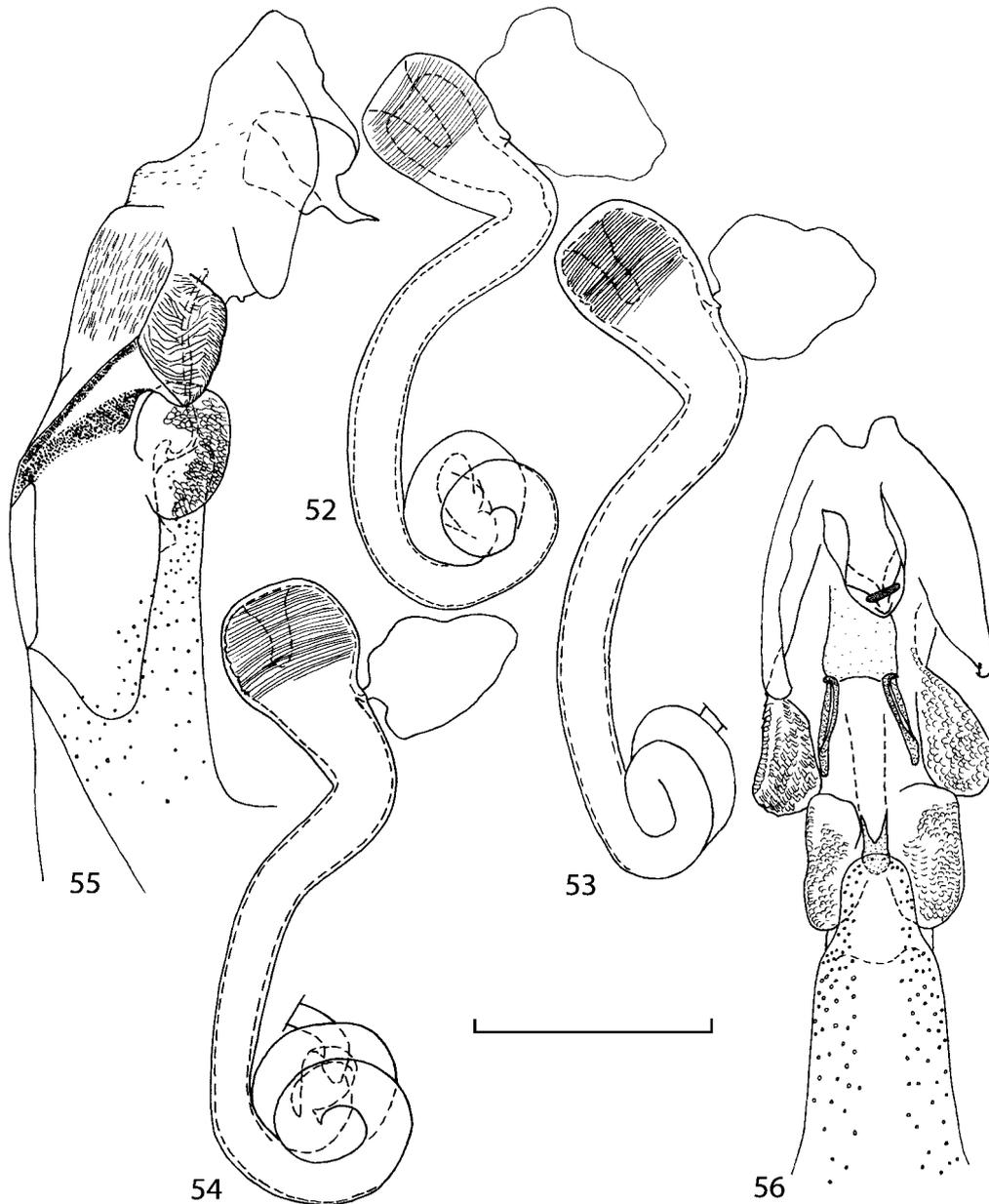
In males head with broad medial impression; pronotum with broad median impression that is half as wide as pronotum, deeper in posterior half, postero-lateral portions of the impression with less dense microsculpture, without punctation and pubescence. Male sternum 8 with wide apical emargination (Fig. 43). Male tergum 8 with slightly crenulate or straight posterior margin (Figs. 42, 44-45).

Aedeagus as in Figs. 48-51, 55-56.

Spermatheca as in Figs. 52-54.

Distribution. Known from Washington, California, Colorado and Nebraska (Fig. 57).

Natural History. *Goniusa alperti* is associated with ants of the genus *Formica* (e.g., *Formica obscuripes* (identified by Dr. D.R.Smith: Kistner, 1976) and *F. haemorrhoidalis* (label data)).



FIGURES 52-56. Genitalia of *Goniusa alperti* Kistner (paratype from 10 mi. E of Coville, Washington (52); female from Tahoe City, California (53); female from 16 km NW of Granby, Colorado (54); holotype (55-56)). 52-54 – spermatheca; 55 – everted internal sac of aedeagus, lateral view; 56 – everted internal sac of aedeagus, parameral view. Scale bar 0.2 mm.

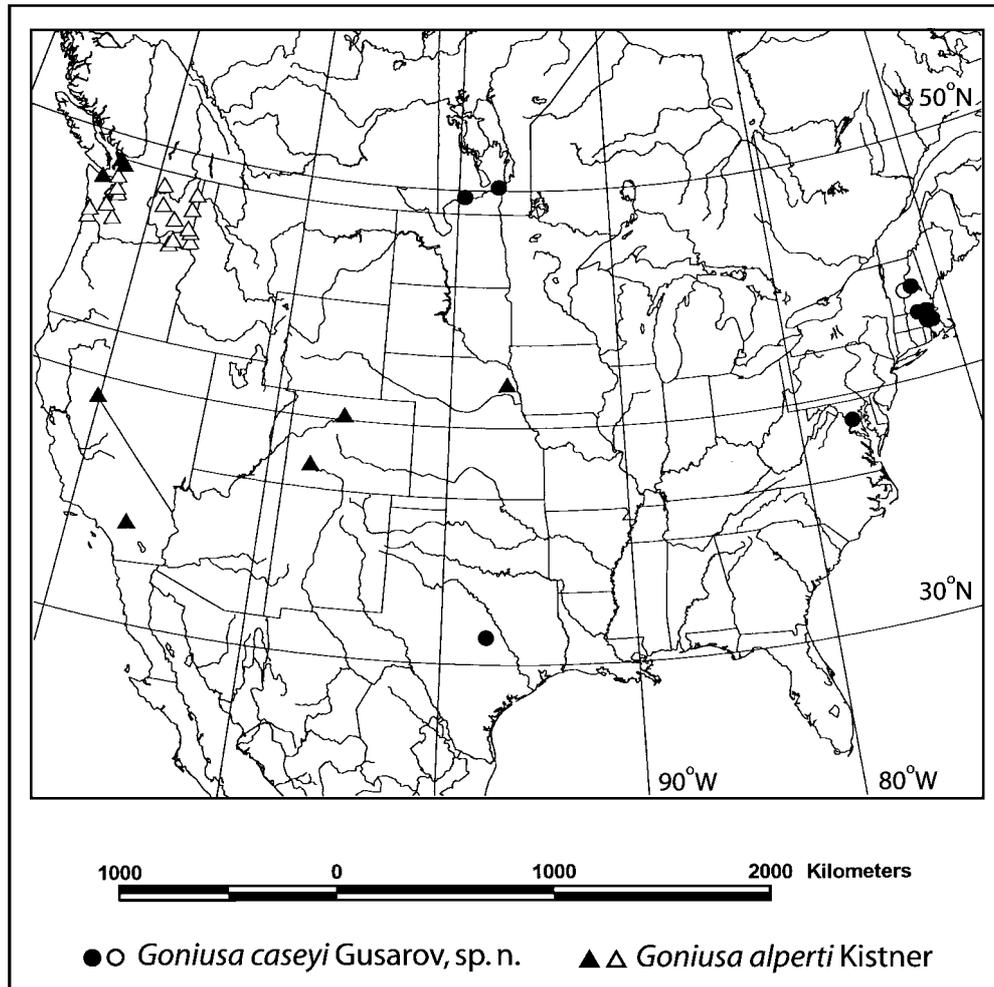


FIGURE 57. Geographical distribution of *Goniusa caseyi* Gusarov, sp. n. and *G. alperti* Kistner. Black circles and triangles indicate the localities of examined specimens. Open circles and triangles indicate the localities of additional specimens listed by Kistner (1976) but not examined by me. The exact locality of the Texas specimens of *Goniusa caseyi* is unknown.

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dria.ucsb.edu:8827/gazetteer/) was used to find coordinates for some localities. This work was supported by National Science Foundation PEET grants DEB-9521755 and DEB-9978110 to Steve Ashe and by the Russian Federal program "Russian Universities – Fundamental Sciences" (project 07.01.056).

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