

## To the knowledge of the North American larvae of Clytrinae (Coleoptera, Chrysomelidae)

Lev N. Medvedev

Institute of Ecology and Evolution, Russian Academy of Science (Moscow)

### Abstract

Medvedev L.N. 1998. To the knowledge of the North American larvae of Clytrinae (Coleoptera, Chrysomelidae). - Latv. Entomol., 36: 36-43.

Larvae of *Anomoea laticlavia*, *Coscinoptera dominicana* and *Saxinis omogera* are described and key for Holarctic genera are given.

**Key words:** Coleoptera, Chrysomelidae, Clytrinae, larva.

North American larvae of Clytrinae are extremely poorly known. Except last century data on *Coscinoptera dominicana*, which are not useful for taxonomic purposes, only the genus *Anomoea* is known (Lesage, Stiefel, 1996).

During my visit in the National Museum of Natural History in Washington I have received for study a large material of larvae, including 3 genera: *Anomoea*, *Coscinoptera* and *Saxinis*. Their description are given below. I am grateful to Dr. D.Furth for the opportunity to investigate this interesting material.

### *Anomoea laticlavia* Forster

Last instar larva. Body white, C-like curved, hind part of abdomen widened and curved downwards. Sclerites indistinct, bristles light coloured. Head hypognathous, elongate ovate, strongly sclerotized (fig. 1). Epicranial suture long, frontal sutures feebly arcuate and reach antennal insertion. Vertex with sparse polygonal sculpture and numerous simple bristles (usually not less than 40 on each side) and numerous short and spine-like chaetae, especially dense behind antennal bases. Frons broad, feebly convex, smooth, with sparse granules, bears 20-22 moderately long bristles, more or less serrate in apical part and not arranged in regular rows. Labrum with trapeziform middle protuberance. Antennae two-segmented (fig. 2). Eyes convex, 4 of them are placed above antennae, the rest two are situated laterally. Mandibles short, flattened, with 3 large apical teeth and sharp inner margin, on side margin with 2 long and 3-4 short bristles (fig. 4). Galea and lacinia with thickened bristles on innerside, maxillar palpi 4-segmented (fig. 3). Labial palpi 2-segmented.

Prothoracal sclerite transverse, rounded laterally, anterior margin with dense rough sculpture and a row of dense bristles, rest surface with a few bristles in middle and sparse bristles along hind margin (fig. 5). Meso- and metathorax with a row of 6 feebly developed and colourless sclerites, bearing long and short bristles. Abdominal sternites also with 6 almost indistinct sclerites, bearing each one bristle. Prothoracal and abdominal stigmatae rather large, ovate (fig. 6). Surface of body includes small light dots, poorly seen and absent on sclerites.

Legs long, tibiotarsus thin, with 4 long simple hairs on upperside and 2 pairs of stout bristles below (fig. 7). Larval case is built from excrements, thick, flattened dorsoventrally and with specific oblique ridges laterally (fig. 8), orifice obliquely cutten. Length 10 mm.

Material. USA, Kansas, Onuga, 6 April 1903, 1 larva of last instar and 1 larva before pupation.

Lesage and Stiefel (1996) erroneously compared this genus with *Chilotoma*, while in reality it is nearest to palaeartic *Tituboea* because of dense chaetotaxy of vertex and more or less identical chaetotaxy of frons and tibiotarsus, but differs well in numerous characters mentioned in a key below. Both genera are connected with ants' nests.

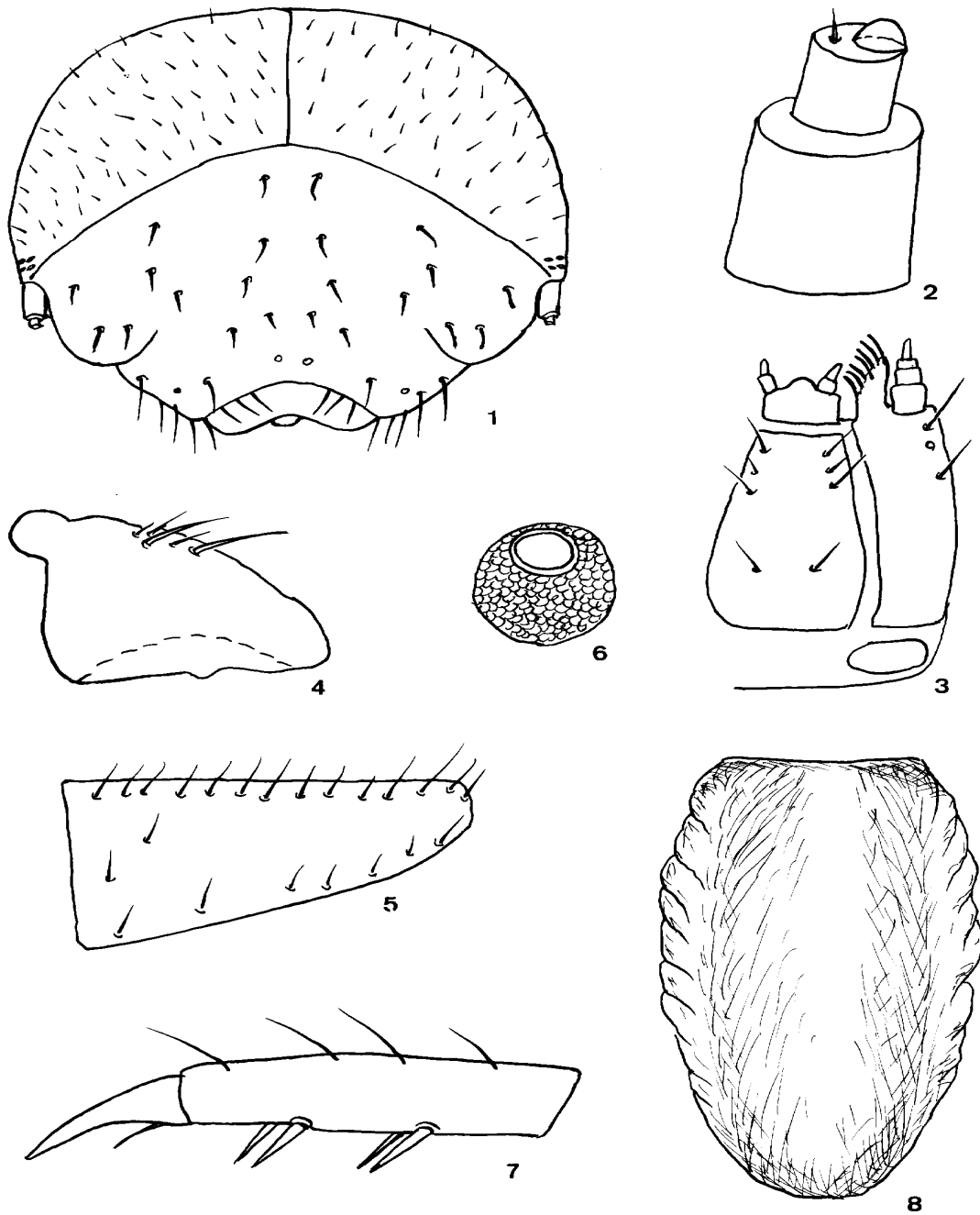
### ***Coscinoptera dominicana* Fabricius**

Last instar larva. Body white, C-like, with hind part of abdomen curved downwards and widened. All bristles light coloured, sclerites of body scarcely distinct. Head hypognathous, ovate, with numerous simple or clavate bristles (fig. 9). Epicranial suture long, frontal suture slightly arcuate, reach antennal insertions. Vertex in posterior part with sparse and rough, more or less comb-like rugosity and numerous bristles partly formed from sclerotized granules. Frons broad, feebly convex, with microsculpture in form of small granules arranged in lines and with numerous elevate bristles (fig. 14). Labrum with feeble and broad central protuberance on anterior margin (fig. 10). Antennae 2-segmented (fig. 11). Ocelli small, not very distinct, 4 of them above antennal insertion, rest 2 placed laterally. Mandibles triangular, flat, tridentate at apex, with acute inner margin and 2 simple long bristles laterally (fig. 12). Galea and lacinia with strong bristles (fig. 13), maxillar palpi 4-segmented, labial palpi 2-segmented.

Sclerite of prothorax narrow, rounded on sides, feebly rugose, with evenly distributed, numerous long and short bristles and pores (fig. 15). Meso- and metathorax with a row of 6 feeble sclerites, each bearing 4-5 long and short bristles. Abdominal sclerites also with a row of 6 very indistinct sclerites, tergal sclerites with 1 simple bristle each. Prothoracal and abdominal stigmatae badly seen, with small stigmal plates. Microsculpture of soft parts of body represented with poorly developed granulation (which however absent on sclerites). Legs long, tibiotarsus thin, upperside with 3 thin bristles, underneath with 2 spine-like and 2 simple bristles (fig. 16). Length of body 8 mm.

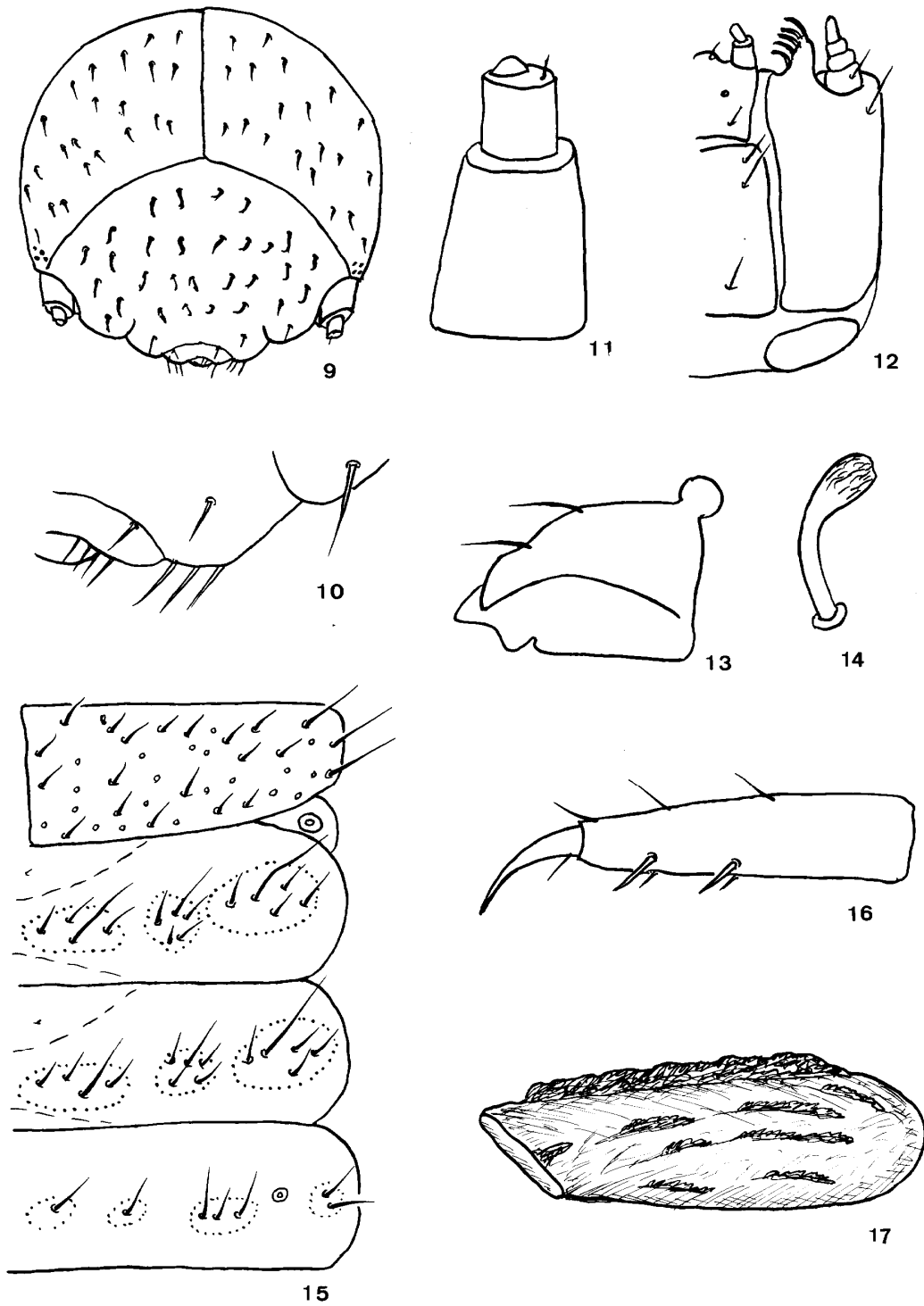
Larval case (fig. 17) thin with obliquely cutten orifice; upperside with median ridge, each side with 7-8 short longitudinal ridges. Length 9 mm.

Material: USA, Kansas, Onuga, May 1903, 3 larvae of last instar.



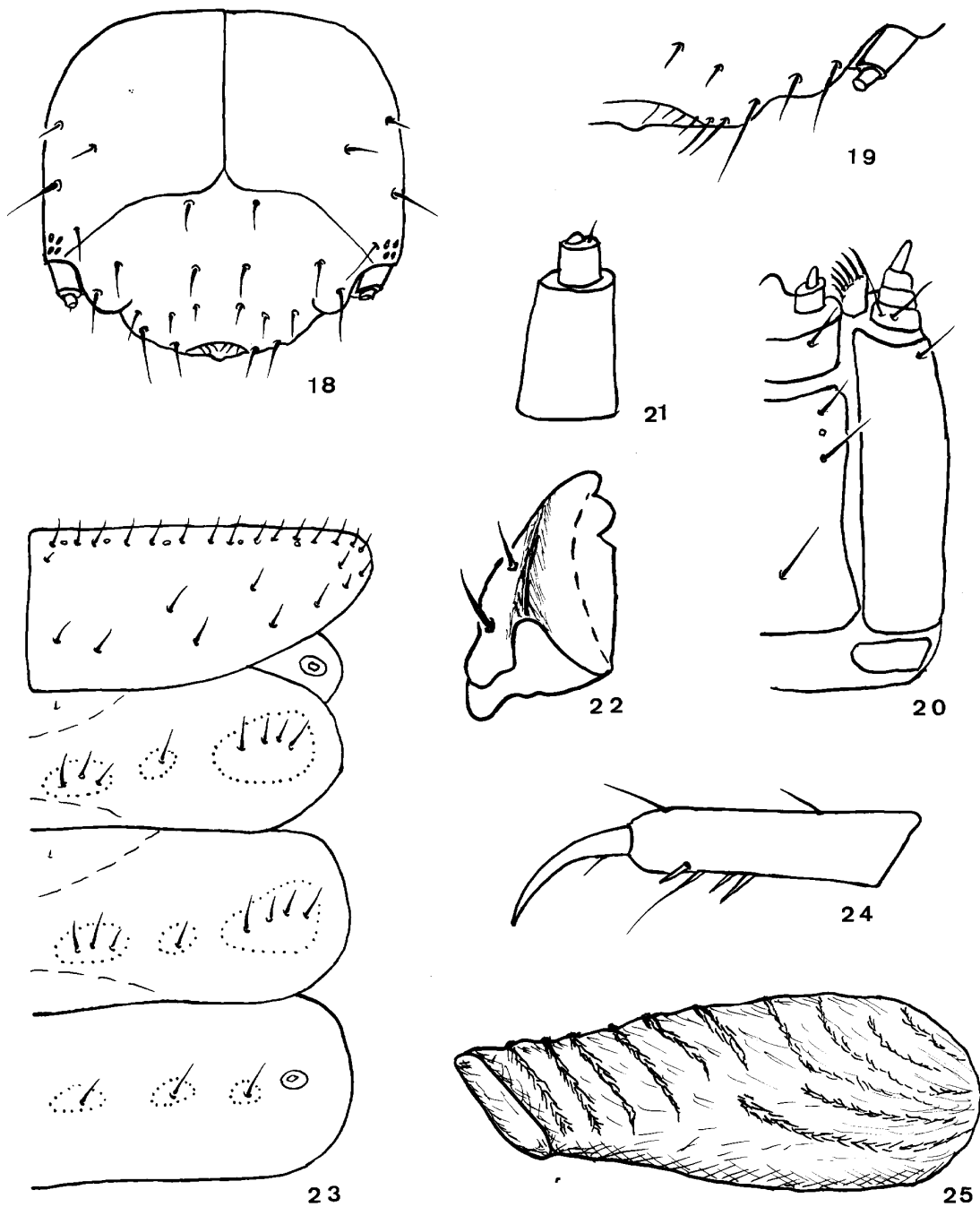
Figures 1-8. Morphology of *Anomoea laticlavata*:

1 - head capsule, 2 - antenna, 3 - maxilla and labrum, 4 - mandible, 5 - prothorax, right side, 6 - stigma, 7 - tibiotarsus, 8 - larval case.



Figures 9-17. Morphology of *Coscinoptera dominicana*:

9 - head capsule, 10 - clypeus and labrum, left side, 11 - antenna, 13 - maxilla and labrum, 12 - mandible, 14 - clavate bristle, 15 - thorax and 1st abdominal tergite, 16 - tibiotarsus, 17 - larval case.



Figures 18-25. Morphology of *Saxinis omogera*:

18 - head capsule, 19 - clypeus and labrum, left side, 21 - antenna, 20 - maxilla and labrum, 22 - mandible, 23 - thorax and 1st abdominal tergite, 24 - tibiotarsus, 25 - larval case.

***Saxinis omogera* Lacordaire**

Last instar larva. Body white, C-like, with hind part of abdomen widened and curved downward, sclerites indistinct, all chaetae light coloured. Head hypognathous, elongate ovate (fig. 18), epicranial suture long, frontal sutures divaricate under obtuse angle, slightly arcuate, reach antennal insertions. Vertex with comb-like sculpture and with 3 simple bristles in the lateral part. Frons broad, feebly convex, smooth, with fine puncture-like granulation, arranged in irregular lines and with 8 bristles, more or less serrate in apical half and forming 3 transverse rows (2, 4, 2). Just near antennal insertion there is a pectinate ridge. Clypeus and abdomen without granulate sculpture, with simple and serrate bristles, labrum with very feeble central protuberance on anterior margin (fig. 19). Antennae 2-segmented (fig. 21), their bases are surrounded with chitinised elevation. Eyes divided in usual two groups (4 and 2), dark and convex. Mandibles triangular, flattened on upperside, bidentate at apex, with acute cutting margin (fig. 22). Galea and lacinia with a brush of thick and curved bristles, maxillar palpi 4-segmented, labial palpi 2-segmented (fig. 20).

Prothoracal sclerite narrow, transverse, with rounded lateral margins, surface with microsculpture of dense white granules and with a row of long and short bristles and pores along anterior margin (fig. 23); rest surface with a few bristles. Meso- and metathorax with a row of 6 poorly delimited, feebly convex sclerites, bearing simple bristles: (inner tergal sclerite with 3, outer tergal with 1, epipleurae with 4 bristles). Abdominal segments with scarcely visible sclerites, each with 1 thin and simple bristle. Microsculpture of body (except sclerites) practically same as in *Anomoea*. Prothoracal and abdominal stigmatae with well developed ovate stigmal plates. Legs long, tibiotarsus thin, underneath with 4 bristles: 3 comparatively short and thick, spine-like; 1 thin and long (fig. 24). Length of body 8 mm.

Larval case thin, more or less cylindrical with obliquely cutten orifice; on upperside and laterally with feeble transverse and oblique ridges (fig. 25). Length 10 mm.

Material: USA, Colorado, Glenwood, 4 larvae of last instar.

These 3 genera belong to two tribes: *Anomoea* is a representative of tribe Clytrini, distributed mostly in Old World, while two other genera belong to New World tribe Megalostomini. Larvae of both these tribes are very alike, and to the moment I can indicate only one difference between them: in Clytrinae tibiotarsus has 4 thick, spine-like bristles beneath, while in Megalostomini underside of tibiotarsus has also 4 bristles, but only 2 or 3 of them are thick and 1 or 2 are thin and long.

**A key to Holarctic genera**

To the moment only a key to Palearctic genera exists (Ogloblin, Medvedev, 1971). I have adopted this key to Holarctic fauna, not dividing a few Palaeartic genera, if it is unnecessary for including Nearctic genera.

1 (10) Vertex with numerous secondary bristles

2 (3) Tibiotarsus with 6-9 thick bristles underneath. Larval case with dense hairs.

Labidostomis

3 (2) Tibiotarsus with 4 bristles beneath.

4 (5) Frons with 14 clavate bristles in 3 transverse rows (6, 6, 2). Meso- and metathorax without distinct sclerites, with dense bristles. Larval case very thin.

Antipa

5 (4) Frons with more than 20 bristles. Meso- and metathorax with more or less distinct sclerites and sparse bristles. Larval case thick.

6 (7) Prothorax and frons very densely pubescent, all bristles simple. Larval case without any distinct ridges.

Chilotoma

7 (6) Prothorax and frons not very densely pubescent, bristles of frons clavate or more or less serrate. Larval case with ridges.

8 (9) Tibiotarsus with 4 thick bristles underneath. Frons with 20-22 feebly serrate bristles. Prothorax with bristles mostly along anterior margin.

Anomoea

9 (8) Tibiotarsus with 2 thick and 2 thin bristles underneath. Frons with about 30 clavate bristles. Prothorax with bristles and pores evenly distributed on all surface.

Coscinoptera

10 (1) Vertex with 6-10 primary bristles.

11 (16) Vertex with 1-2 pairs of bristles along epicranial suture. Tibiotarsus with 4 thick bristles underneath.

12 (13) Vertex with 2 bristles along epicranial suture.

Smaragdina, Coptocephala

13 (12) Vertex with 1 pair of bristles along epicranial suture.

14 (15) Anterior margin of labrum bimarginate, with more or less distinct median protuberance. Vertex at least with 3 pairs of clavate bristles, epicranial suture comparatively short. Larval case with very distinct sculpture (longitudinal or transverse ridges).

Clytra, Lachnaia

15 (14) Anterior margin of labrum feebly arcuate, without median protuberance. Vertex with two pairs of clavate bristles, epicranial suture long. Larval case without any special sculpture.

Macrolenes

16 (11) Vertex without bristles along epicranial suture, with 3 simple bristles laterally. Tibiotarsus with 3 thick and 1 thin bristles underneath. Larval case with feeble transverse and oblique ridges.

Saxinis

## Kopsavilkums

Aprakstīti lapgraužu (Coleoptera, Chrysomelidae, Clytrinae) sugu *Anomoea laticlavia*, *Coscinoptera dominicana* un *Saxinis omogera* kāpuri un sniegta Holarktiskas kāpuru ģinžu noteikšanas tabula.

## References

- Ogloblin D., Medvedev L. 1971. Larvae of the leaf beetles (Coleoptera, Chrysomelidae) of the European part of the USSR. Nauka, Leningrad: 1-123.
- Le Sage L., Stiefel V. L. 1996. Biology and immature stages of the North American Clytrines *Nomoea laticlavia* (Forster) and *A. flavokansiensis* Moldenke. - Chrysomelidae Biology, vol. 3, SPB Acad. Publishing: 217-238.

Received: December 2, 1997.