

**NEW AND LITTLE KNOWN LEAFHOPPERS OF THE FAMILY
DELPHACIDAE (HOMOPTERA, AUCHENORRHYNCHA)
FROM SOUTHERN DISTRICTS OF THE USSR**

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The seven new leafhopper species of the family Delphacidae described below were established on examination of the author's collection from the Ukraine and the Caucasus (materials of the 1966-1967 Transcaucasian expedition of the Institute of Zoology, Ukrainian Academy of Science).

The types of the new species are in the collection of the Institute of Zoology, Ukrainian Academy of Sciences in Kiev; some paratypes are in the Zoological Institute, USSR Academy of Sciences in Leningrad.

Stromella notata Logvinenko, sp. n. (Figs. 1-4).

Whitish, with brown stripes along the body.

Male. Vertex slightly swollen anteriorly, its length down the middle practically one-fourth the width between the eyes, anterior margin broadly rounded. Carinae not prominent, light. A pair of round dark brown spots at posterior margin of vertex in pits between carinae. Three brown longitudinal stripes in front of vertex in interspaces between carinae; two of these stripes are continued onto the facial surface and, converging, carry over onto the anteclypeus. Lateral surface of face and antennae slightly yellowish, without dark markings. Pronotum and scutellum of same color as vertex, with two longitudinal brown stripes. Carinae light, not prominent. Tegulae yellowish, each with a dark semi-circular spot. Elytra abbreviated, semi-transparent, each with three longitudinal, practically parallel brown stripes on a light ground. Last five abdominal tergites not covered by elytra, light yellow with two brown longitudinal stripes extending along the middle and two similar stripes along the sides.

Styli elongate, long, slightly curved, with practically evenly truncated and outturned apices. Anal tube symmetrical, bearing two relatively short, thin, overlapping processes below. Aedeagus asymmetrical, shaft folded medially onto the ventral surface and slightly sideways. Recurved apical portion of shaft with finely dentate outer margin, gonopore subapical. Body length 2.7 mm.

This species is well distinguishable from the known European species *S. obliqua* (W. Wgn.) both by external characters (four longitudinal stripes on the body), and by the structure of the male genitalia: the characteristic features are the overlapping processes of the anal tube, the stylus without a process on the inner margin, and, in the structure of the aedeagus, the powerfully developed gonopore portion of the shaft, which is sharply recurved toward the base.

Female. Color and proportions of the body as in the male. Body length 2.9 mm.

1 ♂ (holotype), 1 ♀; Crimea, Chatyrdag, upland, mixed cereal grasses, in the lower level near the soil, 7 July 1964.

Ditropis pteridis (Spin.) (Figs. 5-9).

Male. Head, pronotum, legs and anal tube light yellow, otherwise pitch black, less frequently dark brown. Frontoclypeus parallel-sided, slightly narrowed on merging with vertex. Female unicolorous, brown.

Georgia: neighborhood of Zomleti near Khulo, on a fern *Pteridium* sp. beneath a mixed woodland canopy on a slope, 26 June 1966 (9 ♂♂, 23 ♀♀); Kobuleti district, village of Khino, 1 June 1966 (2 ♂♂, 1 ♀).

The species is known from Great Britain, Sweden, East and West Germany, Hungary, Czechoslovakia, Italy and Spain and the USSR (Transcaucasia).

Eurybregma sparsa Logvinenko, sp. n. (Figs. 10-14).

Externally very similar to *E. nigrolineata* Scott

Vertex broadly rounded anteriorly, light brown, with three round black spots in the depressions between the carinae. Frons unicolorous, brownish, its carinae smoothed and barely perceptible. Anteclypeus completely blackened, with



Figs. 1-4. *Stromella notata*, sp. n., ♂:

1) aedeagus from above, 2) aedeagus in side view, 3) anal tube from below, 4) stylus.

strongly projecting light carinae. A large black spot on genae behind the subantennal carina. Pronotum whitish, with two brown, slightly blurred longitudinal stripes and darkened sides. Scutellum dark brown, with an orange-yellow stripe along the middle and two dark stripes each side of it. Median carina light, distinct. Elytra abbreviated, practically rectangularly truncated, slightly brownish. Costal margin white, three barely noticeable longitudinal stripes darker, brownish. In macropterous specimens the wing markings are more clearly expressed; fumose-brown bands extend across the entire wing, rounding its apex. Lower wings of the same shade as the upper wings, more delicate,

with dark veins. Abdomen brown, with two pairs of longitudinal stripes and without traces of light markings. Legs brownish, hind femora with dark longitudinal stripes. Anal tube with a pair of small processes directed apically forward. Styli similar to those of *E. nigrolineata* Scott. Aedeagus even, a little stout. Gonopore ventral, subapical, with a strong tooth on posterior margin and a similar tooth on dorsal surface of shaft on the level of the gonopore.

Female light brown, with indistinct darker markings.

Body length of male 2.7-2.9 mm, of female 3.1-3.5 mm, of fully winged specimen 5.3-5.5 mm.

The species described here is excellently distinguishable from the known members of the genus by the structure of the male genitalia, especially by the location of the teeth at the apex of the aedeagus.

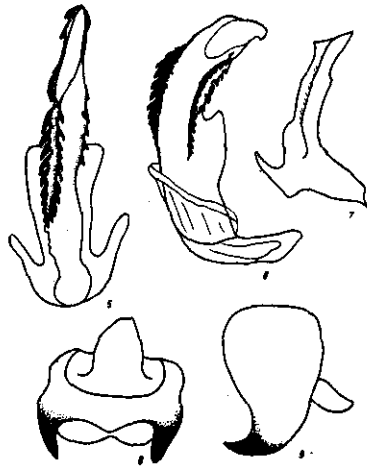
Nakhichevan ASSR, Bichanak Pass, open oak and crab apple woodland, various cereal grasses beneath the canopy, 24 May 1966, 2 ♂♂, 6 ♀♀, including the holotype, ♂; Azerbaijan: Shusha, slope and low lying land in the area of the pass, mixed grasses among shrubs, 18 May 1966, 2 ♂♂, 3 ♀♀; Kosmol'yan, Diabara Basin, water meadow along the river with sedges and cereal grasses, 11 May 1966, 4 ♂♂; Dagestan ASSR; Gubden, steppe meadow, 2 June 1963, 3 ♂♂, 12 ♀♀ (V. Solodovnikova).

Metropis tridentatus Logvinenko, sp. n. (Figs. 15-19).

A comparatively small member of the genus. Body terete, dark brown to black, legs yellow.

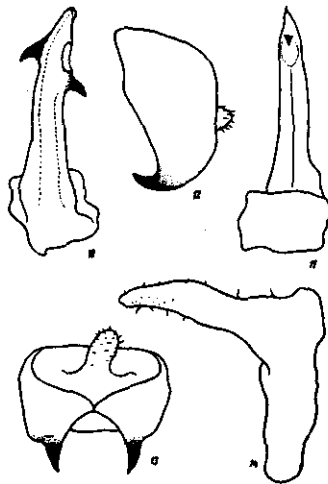
Male. Head brown, slightly lighter than abdomen and elytra. Vertex quadrangular, its length along the middle equal to the width between the eyes. Anterior margin broadly rounded, carinae not prominent, barely noticeable on the main part of the vertex. Frontoclypeus slightly swollen, unicolorous, its carinae completely smoothed; subantennal carina and longitudinal carinae of anteclypeus more distinct. Pronotum little more than half as long as vertex, dark brown, finely shagreened, its carinae not prominent. Scutellum transversely rugose, especially in posterior third. Elytra abbreviated, pitch black, shiny, practically rectangularly truncated behind. Abdomen unicolorous, black, legs yellow without dark spots.

Pygophore broad and oval; anal tube slightly lighter. Lower wall of anal tube membranous; its processes not



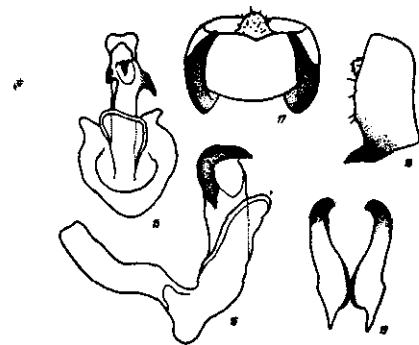
Figs. 5-9. *Ditropis pteridis* (Spin.), ♂:

5) aedeagus from above, 6) aedeagus in side view, 7) stylus, 8) anal tube from below, 9) anal tube in side view.



Figs. 10-14. *Eurybregma sparsa*, sp. n., ♂:

10) aedeagus in side view, 11) aedeagus from above, 12) anal tube in side view, 13) anal tube from below, 14) stylus.



Figs. 15-19. *Metropis tridentatus*, sp. n., ♂:

15) aedeagus from above, 16) aedeagus in side view, 17) anal tube from below, 18) anal tube in side view, 19) stylus.

interlocking, widely separated to the sides, their apices directed backward. Styli elongate, smoothly curved, resembling claws. Aedeagus slightly asymmetrical with straight shaft. Gonopore subapical, surrounded by three teeth on ventral surface, two of which lie to the sides of it, while the third is formed by the upper wall of the gonopore.

Body length of male 2.2-2.3 mm, of female 2.5-2.6 mm.

The new species differs from other members of the genus mainly in the structure of the male genitalia.

Azerbaydzhan: Lerik, Orand River Basin, forest clearing on a crest, sedges among shrubs, 9 May 1966, 4 ♂♂, 10 ♀♀, including the holotype.

Metropis incisus Logvinenko, sp. n. (Figs. 20-24).

Vertex finely shagreened, pitch black, antennae and legs dark brown.

Male. Vertex parallel-sided, slightly broader than long, its anterior margin broadly rounded and projecting forward. Carinae of vertex not prominent, darkened only in posterior half. Frons broad, slightly swollen, its carinae smoothed. Pronotum little more than half as long as vertex, its anterior and posterior margins practically straight, longitudinal carinae slender, costate. Scutellum finely transversely rugose on posterior half, its carinae well developed. Elytra abbreviated, compact, rectangularly truncated at rear, longitudinal carinae costate. Abdomen unicolorous, black.

Pygophore with a deep dorsal notch and three processes on lower wall: two lateral processes with their ends directed upward, and one median process directed backward. Anal tube high, slightly flattened laterally, with a pair of long forward-curved processes. Stylus with strongly developed central portion and slender elongated apex. Shaft of aedeagus asymmetrical, straight, its apex recurved to the right; a row of small denticles along lateral margin on the right, a single large tooth on left side. Gonopore subapical, located on ventral surface of shaft.

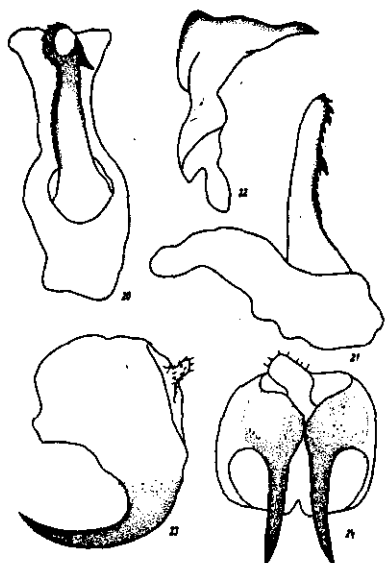


Fig. 20-24. *Metropis incisus*, sp. n., ♂:

20) aedeagus from above, 21) aedeagus in side view, 22) stylus, 23) anal tube in side view, 24) anal tube from below.

Female. Dark brown, anterior part of body slightly lighter, abdomen with dark longitudinal stripes along middle and along sides of sternites. Carinae of head, pronotum and scutellum more smoothed than in male.

Body length of male 2.4-2.7 mm, of female 3.0-3.2 mm.

M. incisus differs from the known species of the genus in the structure of the male genitalia.

Georgia: Khertvisi near Akhalkalaki, right bank of the Kura River, mixed cereal grasses, 27 May 1966, 10 ♂♂, 3 ♀♀, including the holotype.

Chloriona vasconica Rib. (Figs. 25-26).

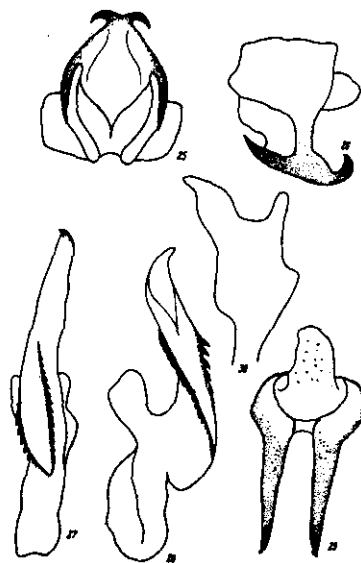
Anal tube of male with two pairs of teeth. Anterior teeth straight, longer than posterior teeth and steeply curved. Stylus situated at an acute angle, on a bend with T-shaped curved apex. Some specimens from the same series have styli with straight apices.

Extensive material of this species was collected in the Caucasus: the Karachayevo-Cherkes Autonomous Region, Teberda Reservation, Teberda River Valley, on reeds, 7 July 1965, 39 ♂♂, 27 ♀♀; same locality, Narzanov Valley, 9 July 1965, 32 ♂♂, 16 ♀♀.

Known from Great Britain, France and Sweden.

Sogatella suzezensis Mats. (Figs. 27-30).

Crimean Province: village of Zapovednoye, meadow along stream, 12 Sept. 1960, 1 ♂. Known from Israel and Egypt (UAR).



Figs. 25-30.

25-26) *Chloriona vasconica* Rib., ♂: 25) anal tube from below, 26) anal tube in side view, 27-30) *Sogatella suzezensis* Mats., ♂: 27) aedeagus from above, 28) aedeagus in side view, 29) anal tube below, 30) stylus.

Delphacodes venosus (Germ.) (Figs. 31-34).

The Ukraine, Ivano-Frankovo Province, Kosov district, village of Pisten', meadow, mixed cereal grasses and sedges, 13 July 1966, 1 ♂.

The species occurs in Central and Northern Europe, is known from Transcaucasia in the USSR and is here recorded for the European areas of the USSR for the first time.

Gravesteiniella boldi (Scott) (Figs. 35-37).

Donetsk Province: Slavyansk district, vicinity of Bogorodichnoye, chalk slope, 14 June 1962, 1 ♂.

The species occurs in Northern and Central Europe; the subspecies *G. b. tschicoica* Kusn. occurs in Transbaykalia.

Megadelphax sordidula Stal. (Figs. 38-41).

L'vovsk Province: Skole district, village of Nizhneye Sinevidnoye, forbs, 20 Aug. 1954, 14 ♂♂ (Z. Klyuchko).

Known from Sweden and, in the USSR, from the Baltic region and Sverdlovsk Province.

Ribautodelphax affinis Logvinenko, sp. n. (Figs. 42-46).

Body short, terete, brownish gray.

Male. Vertex practically square, vertical cell long, posterior pits not darkened. Carinae of head light, dirty yellow, interspaces between them brown with black fringe. First antennal segment little more than half as long as 2nd, narrowly darkened apically, flagellum reaching hind coxae. Pronotum and scutellum unicolorous, with whitish carinae and brown spots on their sides. Upper wings semi transparent,

abbreviated, nearly twice as long as wide, shorter than abdomen. Posterior margin of upper wings narrowly darkened, veins fine, of the ground color. Legs unicolorous, with darkening only on apices of spines and in places on narrow longitudinal stripes along the carinae. Abdomen brownish.

Genital segment more strongly colored, lower margin with deep notch and projecting denticles along sides. Anal tube with processes of the lower wall characteristic of the genus, right process extending directly downward and left process bent under to the right, forming an asymmetrical overlap. Stylus curved medially, outer rounded lobes strongly developed.

Aedeagus simple, of the type of *R. pungens* Rib., shaft curved at a right angle and with five small uniform teeth on the right side arranged in one line. Gonopore apical.

Female. Unicolorous, from brownish-yellow to brown, with only the interspaces between the carinae of the head darkened.

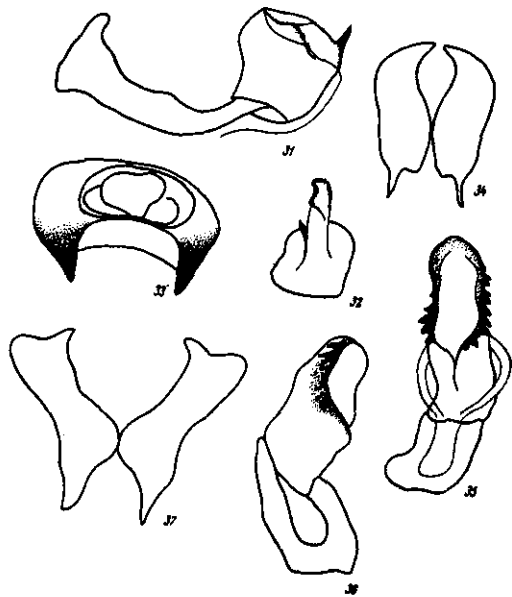
Body length of male 2.4 mm, of female 2.4-2.6 mm.

This species is distinguished from the closely related *R. pungens* Rib. by the deep rectangular notch on the genital segment with teeth along the sides, the broad anal tube, the powerfully developed apex of the stylus and its curved shape. The main difference in the structure of the aedeagus is in the number of teeth on the apex of the shaft, five as against three in *R. pungens* Rib.

Crimean Province: Crimean Reservation, Mount Roman-Kosh, depression with cereal grass vegetation, 30 June 1964, 1 ♂ holotype; Chatyrdag, upland, stony sink holes with sedges and mixed cereal grasses, 7 July 1964, 1 ♂; Georgia: vicinity of Chokhatauri, slope on which *Cynodon dactylon* Pers. predominated, 11 July 1967, 1 ♂.

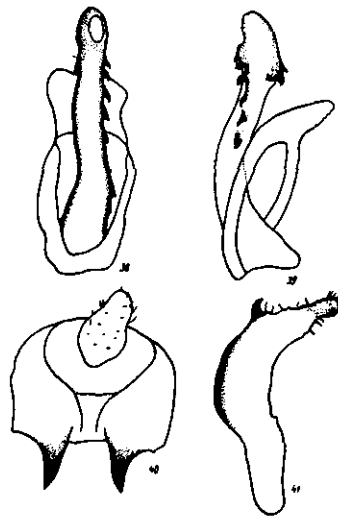
Ribautodelphax bicolor Logvinenko, sp. n. (Figs. 47-52).

Externally very similar to other members of the genus; bicoloration is characteristic of males, the anterior portion



Figs. 31-37.

31-34) *Delphacodes venosus* (Germ.), ♂: 31) aedeagus in side view, 32) aedeagus from above, 33) anal tube from below, 34) stylus, 35-37) *Gravesteiniella boldi* Scott., ♂: 35) aedeagus from above, 36) aedeagus in side view, 37) stylus.

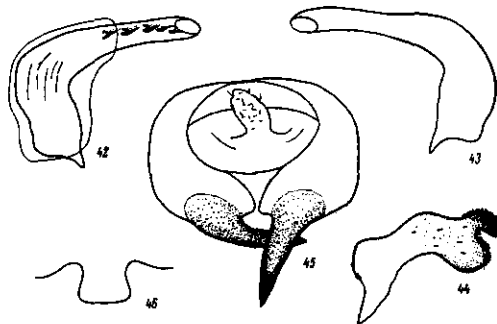


Figs. 38-41. *Megadelphax sordidula* Stal, ♂:

38) aedeagus from above, 39) aedeagus in side view, 40) anal tube from below, 41) stylus.

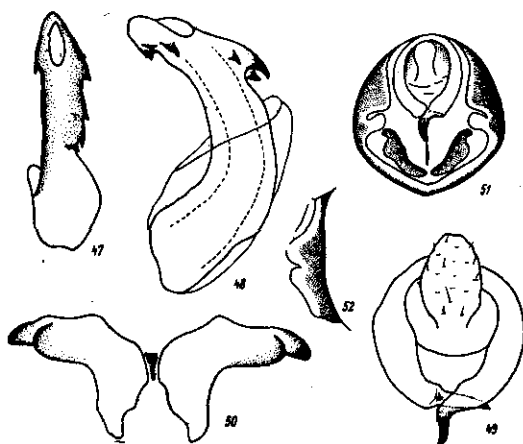
of the body being light brown with an indistinct whitish stripe along the middle, and the abdomen black, or sometimes dark brown, with rust-red spots.

Male. Vertex rectangular, its length greater than its width, vertical pits not darkened. Longitudinal carinae of head yellowish white, cell and interspaces between carinae dark to black, brownish and more darkly bordered on facial surface. Face in side view and antennal pits unicolorous, brownish ochreous. Pronotum half as long as vertex, light brown, carinae whitish. Sides of pronotum darker, with indistinct spots. Upper wings semi-transparent, unicolorous. In short-winged specimens the length of the upper wings barely exceeds their width, the apex is broadly rounded and the crossveins are not developed. In fully-winged specimens the upper wings extend considerably beyond the apex of the abdomen and are more transparent, the costal margin and the veins are brown in the apical half. Lower wings hyaline-transparent, with brownish veins. Abdomen short, laterally compressed. Tergites brown to black with longitudinal rust spots on sides.



Figs. 42-46. *Ribautodelphax affinis*, sp. n.:

42) aedeagus from the right, 43) aedeagus from the left, 44) stylus, 45) anal tube of male, 46) posterior margin of female genital segment.



Figs. 47-52. *Ribautodelphax bicolor*, sp. n., ♂:

47) aedeagus from above, 48) aedeagus in side view, 49) anal tube, 50) stylus, 51) genital segment from the rear, 52) genital segment in side view.

Genital segment rounded posteriorly, black with yellowish white border of outer margin. Processes of anal tube asymmetrical; right process curved with apex downward, left bent in beneath it. Styli slender, lamellate, bent in the middle, relatively short, broad, with moderately developed outer disks, inner margin undulatingly curved. Aedeagus uniformly curved onto dorsal surface, half enclosed in tunicate sheath. Apex of shaft with large lateral teeth located at the margin of the gonopore on the left and along the margin beyond its middle on the right. Gonopore small, subapical, on dorsal surface of shaft.

Body length 1.7-1.9 mm.

Female ochraceous to brown, bicolored effect weakened because the abdomen is light brown with a row of more or less dark spots along the tergites.

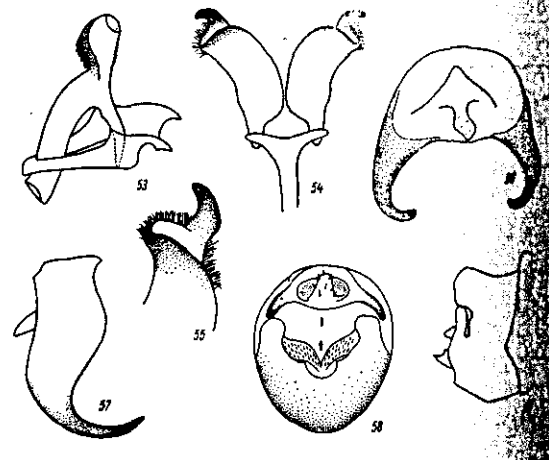
Body length 2.4-2.6 mm.

In the structure of the genitalia this species occupies an intermediate position. The anal tube resembles that of *R. angulosa* (Rib.), while the structure of the stylus and penis approximate the species to *R. vicina* Lnv., known only from Siberia.

Crimean Province: Chatyrdag, upland, mixed cereal grasses, 4 July 1963, 2 ♂, 1 ♀ (including the holotype, ♂, Crimean reservation, Krasnyy kamen', 29 June 1964, 3 ♂, 3 ♀; Alushta district, village of General'skoye, 25 June 1964, 1 ♂; Babugan-Yayla, 5 June 1954, 2 ♂ (S. Medvedev) Chernigov Province: Semenovka, 15 June 1961, 8 ♂, 2 ♀.

Ribautodelphax notabilis Logvinenko, sp. n. (Figs. 53-59)

Male. Black with brown-yellow markings. Vertex practically square, yellowish, interspaces between carinae black. Frons elongate, parallel-sided, slightly tapering apically, black or dark brown, carinae light in apical third. Tempora and genae dark brown with irregular yellowish spots. First antennal segment long (3/4 length of 2nd), black, smooth. 2nd geniculate, slightly lighter, with short light pubescence. Pronotum light, with brownish darkening behind the eyes and two black spots between the lateral carinae. Scutellum black, its posterior margin and apex yellowish, carinae shiny,

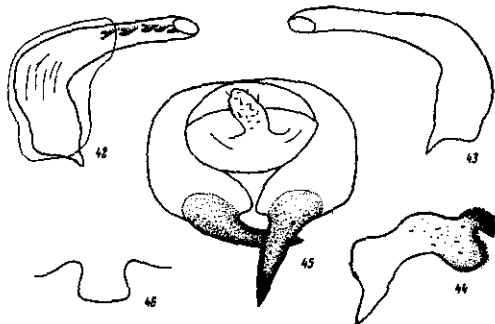


Figs. 53-59. *Ribautodelphax notabilis*, sp. n., ♂:

53) aedeagus in side view, 54) styli, 55) apex of stylus, 56) anal tube from the rear, 57) anal tube in side view, 58) genital segment from the rear, 59) genital segment in side view.

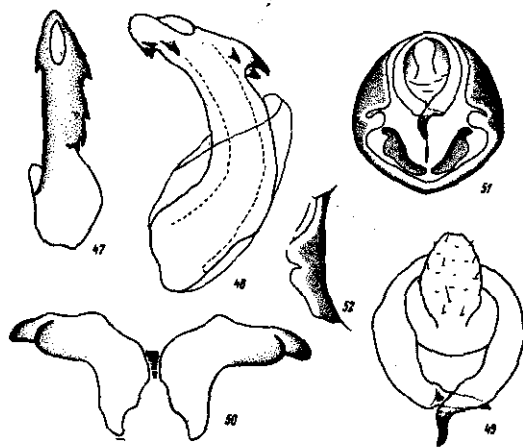
of the body being light brown with an indistinct whitish stripe along the middle, and the abdomen black, or sometimes dark brown, with rust-red spots.

Male. Vertex rectangular, its length greater than its width, vertical pits not darkened. Longitudinal carinae of head yellowish white, cell and interspaces between carinae dark to black, brownish and more darkly bordered on facial surface. Face in side view and antennal pits unicolorous, brownish ochreous. Pronotum half as long as vertex, light brown, carinae whitish. Sides of pronotum darker, with indistinct spots. Upper wings semi-transparent, unicolorous. In short-winged specimens the length of the upper wings barely exceeds their width, the apex is broadly rounded and the crossveins are not developed. In fully-winged specimens the upper wings extend considerably beyond the apex of the abdomen and are more transparent, the costal margin and the veins are brown in the apical half. Lower wings hyaline-transparent, with brownish veins. Abdomen short, laterally compressed. Tergites brown to black with longitudinal rust spots on sides.



Figs. 42-46. *Ribautodelphax affinis*, sp. n.:

42) aedeagus from the right, 43) aedeagus from the left, 44) stylus, 45) anal tube of male, 46) posterior margin of female genital segment.



Figs. 47-52. *Ribautodelphax bicolor*, sp. n., ♂:

47) aedeagus from above, 48) aedeagus in side view, 49) anal tube, 50) stylus, 51) genital segment from the rear, 52) genital segment in side view.

Genital segment rounded posteriorly, black with yellowish-white border of outer margin. Processes of anal tube asymmetrical; right process curved with apex downward, left bent in beneath it. Styli slender, lamellate, bent in the middle, relatively short, broad, with moderately developed outer disks, inner margin undulatingly curved. Aedeagus uniformly curved onto dorsal surface, half enclosed in tunicate sheath. Apex of shaft with large lateral teeth located at the margin of the gonopore on the left and along the margin beyond its middle on the right. Gonopore small, subapical, on dorsal surface of shaft.

Body length 1.7-1.9 mm.

Female ochraceous to brown, bicolored effect weakened because the abdomen is light brown with a row of more or less dark spots along the tergites.

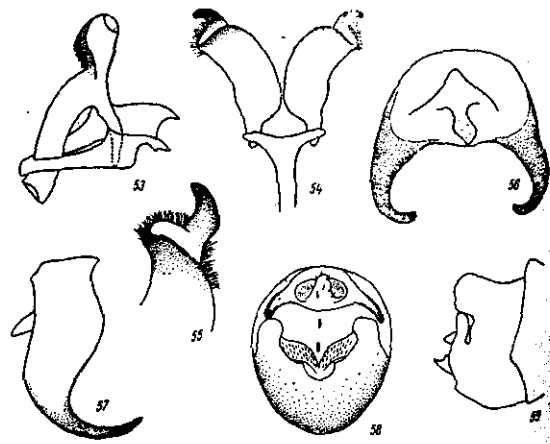
Body length 2.4-2.6 mm.

In the structure of the genitalia this species occupies an intermediate position. The anal tube resembles that of *R. angulosa* (Rib.), while the structure of the stylus and penis approximate the species to *R. vicina* Lnv., known only from Siberia.

Crimean Province: Chatyrdag, upland, mixed cereal grasses, 4 July 1963, 2 ♂♂, 1 ♀ (including the holotype, ♂); Crimean reservation, Krasnyy kamen', 29 June 1964, 3 ♂♂, 3 ♀♀; Alushta district, village of General'skoye, 25 June 1964, 1 ♂; Babugan-Yayla, 5 June 1954, 2 ♂♂ (S. Medvedev); Chernigov Province: Semenovka, 15 June 1961, 8 ♂♂, 2 ♀♀.

Ribautodelphax notabilis Logvinenko, sp. n. (Figs. 53-59).

Male. Black with brown-yellow markings. Vertex practically square, yellowish, interspaces between carinae black. Frons elongate, parallel-sided, slightly tapering apically, black or dark brown, carinae light in apical third. Tempora and genae dark brown with irregular yellowish spots. First antennal segment long (3/4 length of 2nd), black, smooth; 2nd geniculate, slightly lighter, with short light pubescence. Pronotum light, with brownish darkening behind the eyes and two black spots between the lateral carinae. Scutellum black, its posterior margin and apex yellowish, carinae shiny,



Figs. 53-59. *Ribautodelphax notabilis*, sp. n., ♂:

53) aedeagus in side view, 54) styli, 55) apex of stylus, 56) anal tube from the rear, 57) anal tube in side view, 58) genital segment from the rear, 59) genital segment in side view.

practically parallel. Upper wings nearly twice as long as abdomen, transparent, with brownish veins. Legs brownish yellow, with yellow stripes along carinae. Abdomen black with light brown edging along posterior margins of sternites.

Genital segment black, its posterior margin with a deep oblique notch from the side bordered in white. Anal tube dorsoventrally flattened, its lateral walls drawn out into comparatively thin hamate processes with their apices extending forward. Styli curved with their convexity posteriorly, fairly broad, practically parallel, outer lamellate formations weakly developed. Apex of stylus terminating in the hook characteristic of members of the genus Ribautodelphax. Structure of aedeagus different from that of other species of the genus: laterally flattened shaft with a constriction in apical third of dorsal surface from which a double toothed comb extends toward the apex. Corresponding to the constriction there is on the ventral surface a long process (half as long as the shaft) extending toward the base. Gonopore apical.

Body length 4.0-4.1 mm.

Female. Integuments considerably lighter than in the male, dark ochraceous. Frons brownish between carinae;

tempora dark brown; 1st antennal segment and base of 2nd segment black, remainder brown. Scutellum orange, lateral angles brownish. Upper wings as in male. Abdomen brown above, yellowish below, with ovipositor a deeper yellow. Legs light yellow.

Body 4.2-4.4 mm.

This species is excellently distinguished from other species of the genus by the shape of the aedeagus and it occupies a somewhat isolated position in the genus.

Crimean Province: Alushta, southern slope of Mount Demerdzhi, 26 June 1963, 3 ♂♂, 4 ♀♀ (including the holotype, ♂).

SUMMARY

The paper contains descriptions of seven new leafhopper species of the family Delphacidae: Stromella notata, sp. n., Eurybregma sparsa, sp. n., Metropsis tridentatus, sp. n., M. incisus, sp. n., Ribautodelphax affinis, sp. n., R. bicolor, sp. n., R. notabilis, sp. n., and information on the distribution of some rare and little-known members of the family from the Ukraine and the Caucasus.