

# Notes on the genus *Oncopsis* Burmeister, 1838 (Homoptera, Auchenorrhyncha) with descriptions of new species from the Soviet Far East

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In the Soviet Far East the genus *Oncopsis* Burmeister, 1838 is represented by a great number of species many of which are apparently endemics. Because of the extensive individual variation it is often difficult to identify some of the species on external characters alone. The male genitalia, however, offer good specific characters.

The following is a description of one new subgenus and seven new species of leafhoppers of the genus which have been found in the Soviet Far East. A key of all wellknown Palaearctic species is also given. All species live on trees of the Betulaceae family.

The types of new species, as well as the rest of the material here treated are in the author's collection and in the collection of the Leningrad Zoological Research Institute.

## Subgenus *Sispocnis* nov.

Type of subgenus — *Bythoscopus juglans* Matsumura, 1912 (Figs. 1—8).

Differs principally from *Oncopsis s. str.* in the following characters: pygofer with strong spine on dorsal side; aedeagus with unpaired teeth on sides near the top and with two pairs of teeth on ventral side; appendage of anal tube with underdeveloped branches.

## Subgenus *Oncopsis s. str.*

The species of the subgenus *Oncopsis s. str.* are forming two groups. The representatives of the first group have an aedeagus with a saddle-concaved dorsal margin. Three Palaearctic [*O. flavicollis* (Linnaeus, 1758), *O. subangulata* (J. Sahlberg, 1871) and *O. carpini* (J. Sahlberg, 1871)] and all known Nearctic species [*O. sobrius* (Walker, 1851), *O. minor* (Fitch, 1851), *O. nigrinasi* (Fitch, 1851), *O. coloradensis* (Baker, 1898) and *O. variabilis* (Fitch, 1851)] belong to this group. The representatives of the second group

have a penis with a convex dorsal margin. The majority of Palaearctic species including all new ones belong to this group.

*Oncopsis (s. str.) adusta* sp. n. (Figs. 20—22)

Crown is black. Face is yellow with black band between ocelli. This band is connected with the black field on the crown by a middle black stripe. Pronotum is brownish-jet-black with a more pale posterior margin. Scutellum is black. Palecoloured specimens have yellow-brown pronotum with black spots on anterior margin. Forewings are black with transparent bordering of claval suture, with transparent costal margin and with more or less visible transparent band on subapical cells. Clavus black, apical cells dark, veins are bordered with black.

The male genital segment is very characteristic. Aedeagus as in *O. alni* (Shrank, 1801), i.e. with convex dorsal margin. Stilus gradually widening to apex. Appendage of anal segment with one strong unbranched process, turned to ventral side. No one of known species has such a process.

Length of the body 4.55—5.05 mm.

Holotype male: Kurile Islands, Shikotan, 23 VII 1965 (Krivolutskaya leg.).

Paratypes: Kurile Islands, Shikotan, 15 VII 1965, 2 specimens; Kunashir, 14 VIII 1965, 2 specimens; Kunashir, 26 VIII 1964, 2 specimens (Azarova leg.).

*Oncopsis (s. str.) caliginosa* sp. n. (Figs. 23—25)

General appearance and colour is like previous species. It is distinguished by larger size, pale basis of clavus, more wide and pale costal margin and more wide and pale bordering of claval suture.

It is well distinguished from previous and other well-known species by structure of anal tube appendage. Penis as in *O. alni* convex all the way along dorsal margin. Stilus with approximately parallel sides. Anal tube appendage with two branches — ventral and dorsal. Ventral branch is semicircularly bent dorsad; it is broadened or slightly bifurcated at the end. Dorsal branch of appendage is short, subparallel to apical part of the ventral one. *O. obstructa* Dlabola, 1963, has somewhat similar anal tube appendage, but it is of another general appearance and has a well-distinguishable stilus with dorsal part sharply broadened.

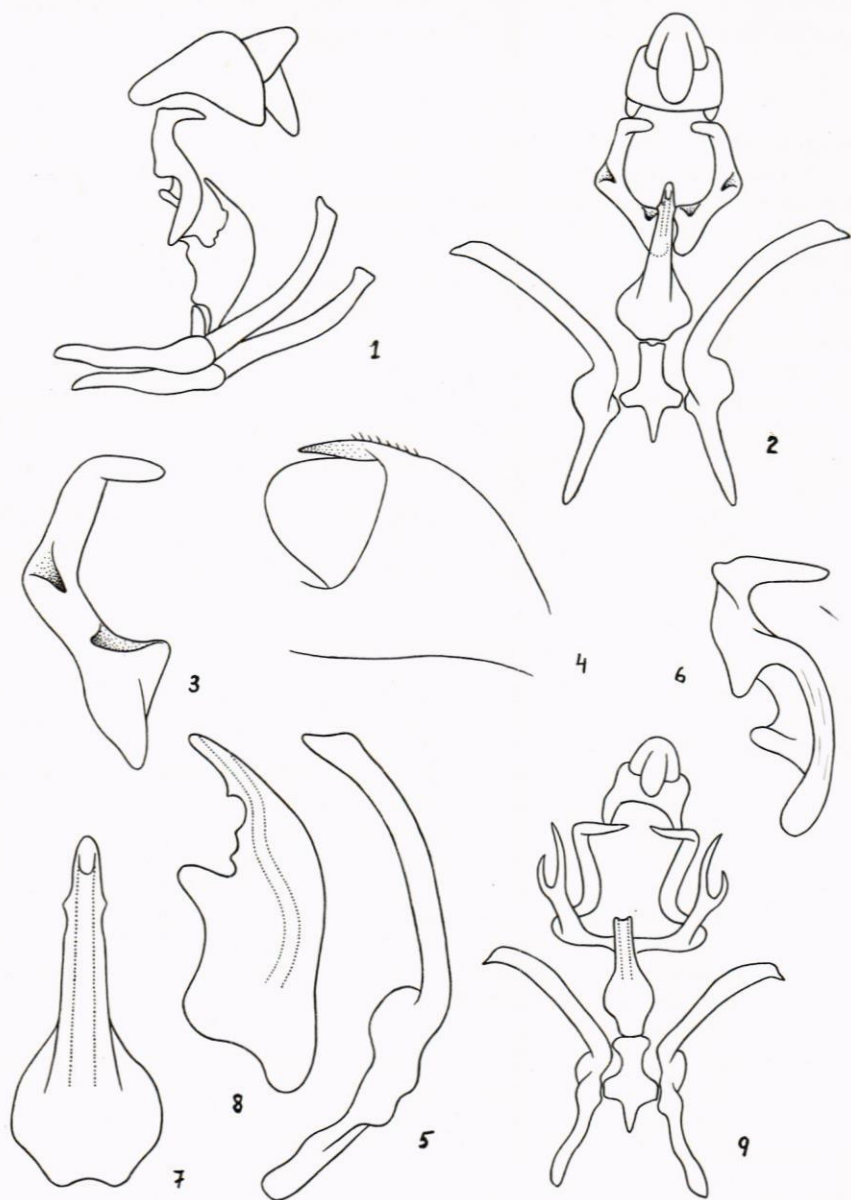
Length of the body 5—6 mm.

Holotype male: Kurile Islands, Shikotan, 13 VII 1965, leg. Krivolutskaya.

Paratypes: Kurile Islands, Shikotan, 3 VIII 1965, 6 specimens, 15 VIII 1965, 1 specimen; Kunashir, 29 VII 1961, 5 specimens (Krivolutskaya and Kupjanskaya leg.), 10 VII 1962, 1 specimen (Konovalova leg.); 24 VIII 1964, 1 specimen (Konovalova leg.) 23 VIII 1964, 1 specimen (Konovalova leg.); 31 VIII 1964, 1 specimen (Petrova leg.).

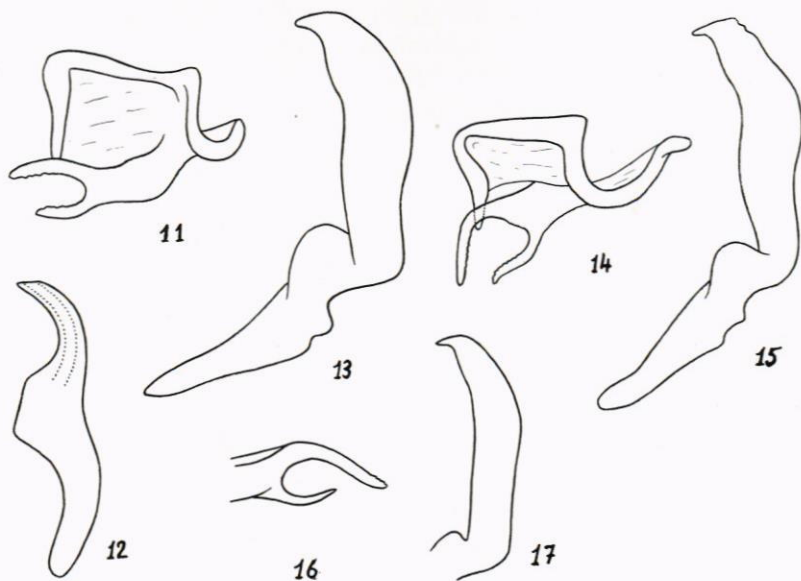
*Oncopsis (s. str.) discrepans* sp. n. (Figs. 28—29)

Crown is black. Face yellow with black band near cephalic margin and with black spots along frontoclypeal sides. The band and the spots may be merged, forming a black triangular area around frontal margin. Pronotum brown to black with lighter posterior margin. Scutellum brownish-black.



Figs. 1—9. 1—8 — *Oncopsis juglans*: 1 — anal tube appendage, penis and stiluses in lateral view, 2 — the same in posterior view, 3 — anal tube appendage in posterior view, 4 — pigofer, 5 — stilus, 6 — anal tube appendage in lateral view, 7 — penis in dorsal view, 8 — penis in lateral view; 9 — *O. tristis*, anal tube, penis and stiluses in lateral view.





Figs. 11—17. 11—13 — *Oncopsis subangulata*: 11 — anal tube appendage in lateral view, 12 — penis in lateral view, 13 — stilus; 14—15 — *O. flavicollis*: 14 — anal tube appendage in lateral view, 15 — stilus; 16—17 — *O. carpini*: 16 — anal tube appendage in lateral view, 17 — stilus. (Figs. 16—17 according to Ossiannilsson.)

Forewings semitransparent with dark-brown veins. There is a dark roundish spot on M-Cu cross-vein as in *O. tristis* (Zetterstedt, 1838). Apical cells are darkened.

It is similar to *O. tristis* (Zetterstedt, 1838) in appearance and structure of genitalia and may be distinguished chiefly by stilus. Stilus with parallel sides, not narrowed to the apex. Anal tube appendage with short basis of fork, which is considerably shorter than dorsal branch; the apex of ventral branch is directed against the middle part of dorsal one.

Length of body 4.5—4.9 mm.

Holotype male: Primorye Territory, Khasan district, Primorskaya station, 8 VII 1964 (Anufriev leg.).

Paratypes: Primorye Territory, Reservation »Kedrovaya Pad» (Cedar Valley), 25 VI 1964, 4 specimens, 20 VI 1964 3 specimens (Anufriev leg.); Khasan district, Primorskaya station, 8 VII 1964, 14 specimens (Anufriev leg.).

*Oncopsis* (s. str.) *sulphurea* sp. n. (Figs. 30—31)

Large species with slender body and of peculiar yellow-green colour. Crown entirely yellow, sometimes with narrow band near cephalic margin. Pronotum greenish-yellow without blots. Scutellum lemon-yellow, sometimes with brownish lateral triangulars. Forewings yellow-green at basal half and brownish about proximal part. Subapical cells usually light, transparent, but apical cell brownish.

Belongs to the group of *O. alni*, since penis is convex all along dorsal

margin. It is like *O. tristis* in the structure of anal tube appendage, but is distinguished from it by size, coloration and stilus structure. Stilus with subparallel sides, not narrowed to apex.

Length of body 5.4—6 mm.

Holotype male: Kurile Islands, Shikotan, 3 VIII 1965.

Paratypes: Kurile Islands, Shikotan, 3 VIII 1965, 3 specimens; 23 VII 1965, 4 specimens.

*Oncopsis (s. str.) sardescens* sp. n. (Figs. 34—35)

It resembles *O. flavicollis* (Linnaeus, 1758) in appearances. Crown black. Forehead yellow with wide black band near cephalic margin, widening to sides. Pronotum grey. Scutellum from dirty-yellow to black.

It is similar to *O. planiscuta* (Thomson, 1870) by the structure of genitalia, but distinguished by more wide fork basis of anal tube appendage. On *Alnus maximowiczii*.

Length of body 4.2—4.8 mm.

Holotype male: Kurile Islands, Shikotan, 26 VII 1965.

Paratypes. Kurile Islands: Shikotan 27 VII 1964, 1 specimen (leg. Krivolutskaya); Simushir, 8—9 IX 1964, 15 specimens (Krivolutskaya leg.); Paramushir, 17 VIII 1964, 17 specimens (leg. Kupjanskaya); Magadan district, the Ola-river, 30 VII 1961, 2 specimens (leg. Kononov).

*Oncopsis (s. str.) sepulcralis* sp. n. (Figs. 36—37)

Principal coloration is black. Frontoclypeus black, sometimes with two cross-shaped yellow spots near cephalic margin and one roundish spot in the middle. Crown, pronotum and scutellum entirely black. Forewings black, sometimes with light semitransparent costal range.

It bears a slight resemblance to *O. alni* by the structure of genitalia. Anal tube appendage has dorsal branch similarly bent to dorsal side. However, the basis of appendage fork considerably shorter than in *O. alni*, and branches moved widely apart.

Length of body 4.5—4.8 mm.

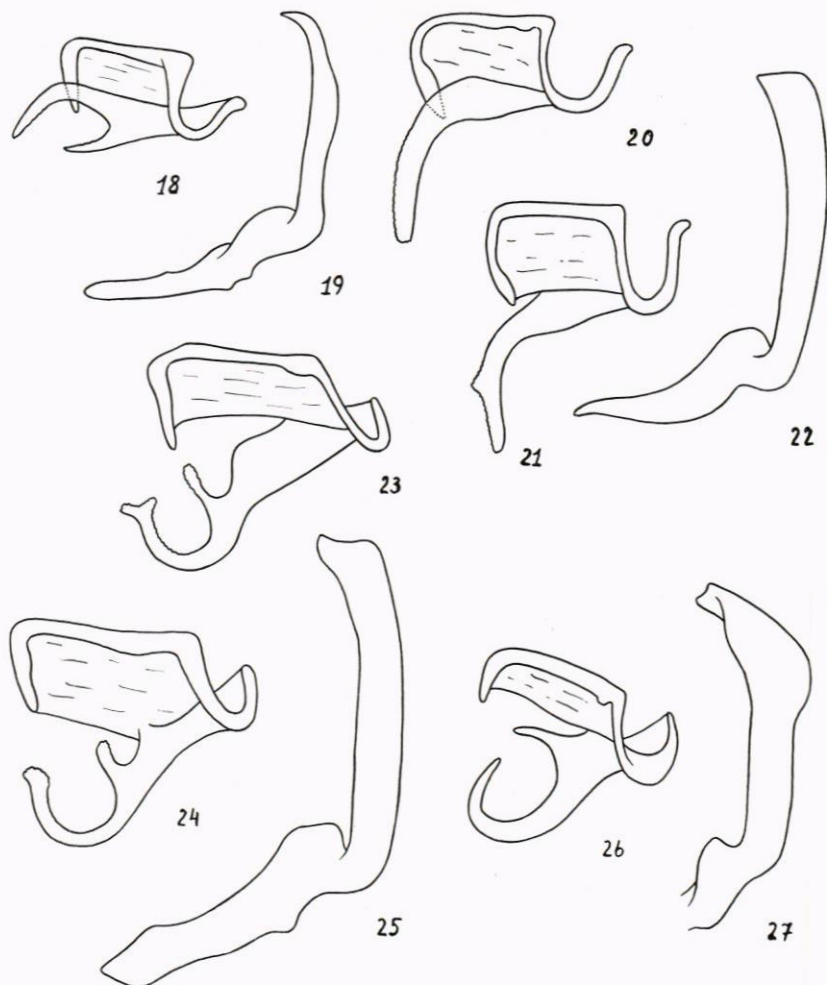
Holotype male: Kurile Islands, Shikotan, 11 VII 1965.

Paratypes: Kurile Islands, Shikotan, 12—13 VII 1965, 3 specimens.

*Oncopsis (s. str.) ochotensis* sp. n. (Figs. 42—43)

Comparatively small species, resembling *O. tristis* by habitus and coloration. Crown yellow with brownish-black band in posterior part. Band is slightly broadened on sides near eyes and in the middle. Frontoclypeus yellow with wide band, expanding to sides. Whole frontoclypeus, excluding cephalic margin, is dark in some specimens. Pronotum brownish-grey with black spots in the anterior third. Scutellum from brown with black side triangulars to entirely black. Forewings transparent with brownish veins.

It resembles *O. appendiculata* Wagner, 1944, by the structure of genitalia, but differs in absence of ventral branch of anal tube appendage (there is only a small projection in its place) and branch is more slightly curved.



Figs. 18—27. 18—19 — *Oncopsis tristis*: 18 — anal tube appendage in lateral view, 19 — stilus; 20—22 — *O. adusta* sp. n.: 20—21 — anal tube appendage in lateral view, 22 — stilus; 23—25 — *O. caliginosa* sp. n.: 23—24 — anal tube appendage in lateral view, 25 — stilus; 26—27 — *O. obstructa*: 26 — anal tube appendage in lateral view, 27 — stilus.

Length of body 4.2—4.8 mm.

Holotype and paratypes: Seashore of Okhotsk, Ajan, 2 IX 1936, 2 ♂♂, 4 ♀♀ (Snegirevsky leg.).

### Key to Palaearctic species of *Oncopsis*

- 1(2). Pigofer with strong spine on dorsal margin. Penis with unpaired teeth on sides near the top and with two pairs of teeth on ventral side. Appendage of anal tube with under-developed branches. Body pale yellow. Crown with two



black dots near anterior side. There are two oblique black spots on forehead. Forewings semitransparent with black patches. Japan, Southern part of the Soviet Primorye Territory. On *Juglans manchurica*. 5—6 mm. (Figs. 1—8.)

*Oncopsis (Sispocnis subgen. n.) juglans* (Matsumura, 1912)

2(1). Pigofer without spine on dorsal side. Aedeagus without teeth. Appendage of anal tube with one or two well-developed branches. (Figs. 9, 11—43.)

3(8). Dorsal side of penis saddle-concaved (fig. 12). Group of *O. (s. str.) flavicollis* (Linnaeus, 1758).

4(5). Branches of anal tube appendage are short, of approximately equal length, the distance between their ends is approximately equal to their length. Basis of fork is long, considerably longer than branches, broadened in the middle. On *Betula*- and *Alnus*-trees. 4.7—5.5 mm. (Figs. 11—13.)

*Oncopsis (s. str.) subangulata* (J. Sahlberg, 1871)

5(4). Branches of anal tube appendage are long, basis of fork is short, shorter or equal to length of branches.

6(7). Scutellum dark with pale yellow spots on sides. Forewings of males semitransparent with contrasting black-brownish veins. Part of forehead between ocelli and thyridias is nearly always black. On birch, hazel-nut, alder and lime. 4.45—5.4 mm. (Figs. 14—15.)

*Oncopsis (s. str.) flavicollis* (Linnaeus, 1758)

7(6). Scutellum light, at least on top. Forewings concolorous pale-brownish. Part between ocelli and thyridias is never black. On hornbeam. 4—5.2 mm. (Figs. 16—17.)

8(3). Dorsal side of penis is convex along its whole length, or only slightly concaved. Group of *Oncopsisalni* (Schrank, 1801).

9(10). Stilus narrow, gradually narrowed from the middle to the apex. Top bent to outside and sharpened. Forewings semitransparent with brown veins; more or less rounded spot on M-Cu cross vein, apical cells and spot between the ends of claval veins are darkened.

*Oncopsis (s. str.) tristis* (Zetterstedt, 1838)

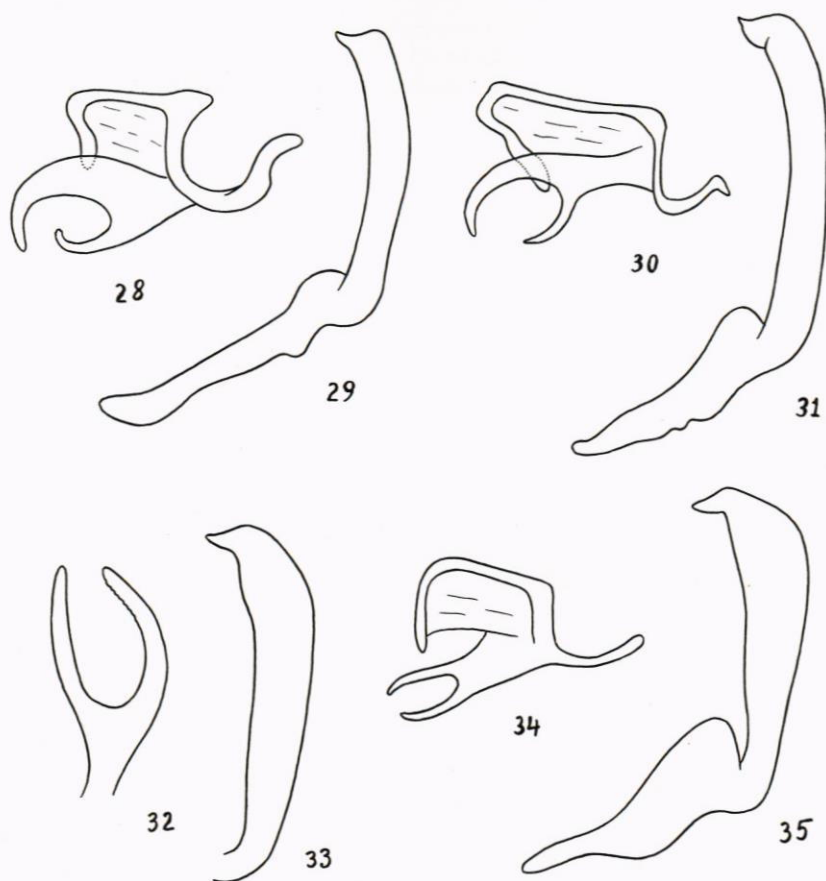
10(9). Stilus of another form.

11(12). Anal tube appendage with one strong branch bent towards ventral side; sometimes this branch has a little projection on posterior side. Forewings with black pattern. Costal margin and band along claval suture are light, semitransparent. Kurile Islands. 4.55—5.05 mm. (Figs. 20—22.)

*Oncopsis (s. str.) adusta* sp. n.

12(11). Anal tube appendage with two branches — ventral and dorsal, or with one dorsally bent branch.

13(16). Anal tube appendage with two branches; ventral branch is semicircularly bent towards dorsal side, longer than dorsal one. (Figs. 23—24, 26.)



Figs. 28—35. 28—29 — *Oncopsis discrepans* sp. n.: 28 — anal tube appendage in lateral view, 29 — stilus; 30—31 — *O. sulphurea* sp. n.: 30 — anal tube appendage in lateral view, 31 — stilus; 32—33 — *O. planiscuta*: 32 — anal tube appendage, 33 — stilus; 34—35 — *O. sardescens* sp. n.: 34 — anal tube appendage in lateral view, 35 — stilus. (Figs. 32—33 according to Ossiannilsson.)

14(15). Stilus is sharply broadened in distal part. General appearance as in *O. flavicollis*. Middle Asia (Turkestan). On *Betula turkestanica*.<sup>1</sup> 4—4.3 mm. (Figs. 26—27.)

*Oncopsis* (*s. str.*) *obstructa* Diabola, 1963

15(14). Stilus with approximately parallel sides. Semicircularly curved ventral branch of anal tube appendage is sometimes bifurcated. Forewings black with pale semitransparent basis of clavus, with light band along claval suture and with transparent costal margin. Kurile Islands. 5—6 mm. (Figs. 23—25.)

*Oncopsis* (*s. str.*) *caliginosa* sp. n.

<sup>1</sup> Information about the food specialization of this species was kindly given by Mr. A. F. Emeljanov (Zoological Research Institute, Leningrad).



16(13). Anal tube appendage with one or two branches; in the second case ventral branch is not longer than dorsal one. (Figs. 28, 30, 32, 34, 36, 38, 40, 42.)

17(24). Anal tube appendage with two branches. Dorsal branch is bent ventrad. (Figs. 28, 30, 32, 34.)

18(21). Dorsal branch of anal tube appendage is longer than ventral one. (Figs. 28, 30.)

19(20). The top of ventral branch of anal tube appendage is directed towards middle part of dorsal branch. Coloration as in *O. flavicollis*. The Soviet Primorye Territory. On *Alnus japonica*. 4.5—4.9 mm. (Figs. 28—29.)

*Oncopsis (s. str.) discrepans* sp. n.

20(19). The top of ventral branch of anal tube appendage is directed towards the end of dorsal branch. Body and forewings yellow-green. Kurile Islands. 5.4—6 mm. (Figs. 30—31.)

*Oncopsis (s. str.) sulphurea* sp. n.

21(18). Dorsal and ventral branches of anal tube appendage are of equal length. (Figs. 32, 34.)

22(23). Basis of fork of anal tube appendage is narrow. On *Alnus incana*. 4—5 mm. (Figs. 32—33.)

*Oncopsis (s. str.) planiscuta* (Thomson, 1870)

23(22). Basis of fork of anal tube appendage is wide. Kurile Islands, Okhotsk Seashore. On alder. 4.2—4.8 mm. (Figs. 34—35.)

*Oncopsis (s. str.) sardescens* sp. n.

24(17). Anal tube appendage with one or two branches. Dorsal branch is bent towards dorsal side. (Figs. 36, 38, 40, 42.)

25(30). Anal tube appendage with two branches.

26(29). Dorsal branch of anal tube appendage is directed backward, not recurved.

27(28). Branches of anal tube appendage are widely moved apart. Body is black, forewings with exception of costal margins are black; costal margin semi-transparent. Kurile Islands. 4.5—4.8 mm. (Figs. 36—37.)

*Oncopsis (s. str.) sepulcralis* sp. n.

28(27). Branches of appendage are not widely moved apart. Forewings semi-transparent. Kurile Islands. 4.5—4.8 mm. (Figs. 36—37.)  
claval veins. On alder. 5—6.15 mm. (Figs. 38—39.)

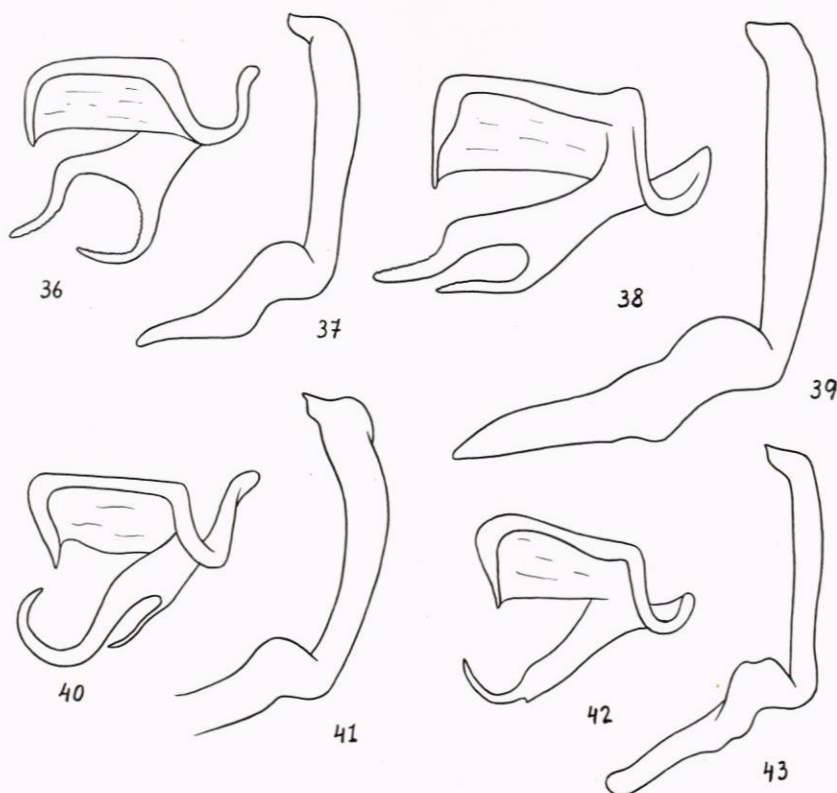
*Oncopsis (s. str.) alni* (Schrank, 1801)

29(26). Dorsal branch of anal tube appendage is semicircularly recurved. West Europe. 4.15—4.70 mm. (Figs. 40—41.)

*Oncopsis (s. str.) appendiculata* Wagner, 1944

30(25). Anal tube appendage with one branch. There is a small projection on its ventral surface; the projection is homologous to ventral branch. Okhotsk Seashore. 4.2—4.8 mm. (Figs. 42—43.)

*Oncopsis (s. str.) ochotensis* sp. n.



Figs. 36—43. 36—37 — *Oncopsis sepulcralis* sp. n.: 36 — anal tube appendage, 37 — stilus; 38—39 — *O. alni*: 38 — anal tube appendage, 39 — stilus; 40—41 — *O. appendiculata*: 40 — anal tube appendage, 41 — stilus; 42—43 — *O. ochotensis* sp. n.: 42 — anal tube appendage, 43 — stilus. (Figs. 40—41 according to Ribaut.)

In conclusion I express my sincere thanks to Mrs. Krivolutskaya (Institute of Biology and Pedology, Vladivostok), who kindly collected Kurile Homoptera for me, and to Mr. Emeljanov (Zoological Research Institute, Leningrad) who helped me in getting the Turkestan and European specimens of the genus.

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