

Revision of the aphids genus *Cryptosiphum* Buckton, 1879 (Homoptera, Aphidinae)

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Eight species were regarded to the genus *Cryptosiphum*: *C. artemisiae* Buck., 1879, *C. astrachanicae* Iv., 1960, *C. brevipilosum* Born., 1932, *C. caspicae* Bozh., 1957, *C. eurotiae* Mam., 1968, *C. innokentyi* Iv., 1970, *C. mordvilkoii* Iv., 1960, *C. sieversiana* Iv., 1958 (G. and M. Remaudiere, 1997). I haven't examined the type of *Cryptosiphum caspicae*, but by the morphological and ecological characters (Божко, 1963), it should be transferred to the genus *Xerobion* Nevsky (Kadyrbekov, 2001).

Apterous viviparous females have been described only by *Cryptosiphum eurotiae* (Мамонтова, 1968). It well differs from other species by the absence of the thick white film, short conic siphunculi with distinct flanges (pore-shaped by the other species), large rounded spiracles (haricot-shaped by the other ones), numerous hairs on the 8th tergite, host plant from Chenopodiaceae. I examined 2 specimens of alate viviparous females. They are type of dorsal sclerotization such as *Brachycaudus* Goot, 1913 (fig.3). There fore new genus *Scythaphis* is described for this species.

A systematic position of *Cryptosiphum* isn't cleared. Some authors (Eastop, 1979; Remaudiere, 1997; Ивановская, 1960, 1977; Шапошников, 1964) put it to the tribe Aphidini. Other specialists refer *Cryptosiphum* to the tribe Macrosiphini as related to the genera *Anuraphis* del Guercio, 1907 and *Dysaphis* Börner, 1931 (Börner, 1952; Stroyan, 1984). I have examined the type material of all the species (except *C. artemisiae*). Author expresses great gratitude to Dr's G. Remaudiere (France) and A. O. Stekolshchikov (St-Peterburg, Russia) for the kindly granted opportunity to examine the materials deposited in the National Museum of Natural History (Paris) and Zoological Institute (St.-Peterburg). I consider as C. Börner and H. L. G. Stroyan, that *Cryptosiphum* should be transferred to the tribe Macrosiphini. It well differs from the genera Aphidini by the absence of tubercles on the 1st and 7th, their frequent presence on the 3rd – 5th tergites (by the *C. brevipilosum* and *C. dracunculi* sp. n.) and life in the galls. Besides by *Cryptosiphum* distance between spiracles on the 2nd and 3rd tergites more than 2.2 of the distance between ones on the 1st and 2nd tergites (character of Macrosiphini)

The following abbreviations are used in the text: S. - southern, C. - central, N. - northern, W. - western, E. - eastern, mts.- mountains, des. – desert, r. - river, ran. - mass range, reg. – region, t. – town, a. s. l.- the height above the sea level, sur. – surroundings, ap. v. f. - apterous viviparous female, al. v. f. - alate viviparous female, b. - body, ant. - antennae, siph. - siphunculi, c. - cauda, u. r. s.- ultimate rostral segment, 2 s. h. t.-second segment of hind tarsus.

All dimensions are given in millimeters.

Scythaphis Kadyrbekov, gen. n.

Cryptosiphum eurotiae Mamontova, 1968, type species.

GENERIC DIAGNOSIS. Body is broad elliptical, yellow, bright, without white film. Cuticle is fine, smooth, not reticulated. Marginal tubercles are absent. Large, rounded spiracles are placed near from centre of small stigmal plates as in *Brachycaudus*. Distance between spiracles on the 2nd and 3rd sternites is more than 2.3 of the distance between ones on the 1st and 2nd sternites. Dorsal sclerotization is slightly developed in apterous females and well developed on the abdomen of alate form as *Brachycaudus* (*Thuleaphis*) (fig. 1a). Dorsal hairs are pointed, on the fronts equal, on the 3rd – 5th tergites are 1.3-1.6, on the 8th tergite 3.0-3.5 of the basal diameter of 3rd antennal segment. There are 11-16 hairs on 8th tergite. Antennae are short, six-segmented. Processus terminalis exceeds the base of 6th antennal segment in the apterous and alate females. Secondary rhinaria are developed in the number 5-7 on the 3rd antennal segment of alate viviparous females only. Siphunculi are short, conic with distinct flanges (fig. 1c). Cauda is slightly visible, broad rounded in the apterous and alate forms, with 4-6 hairs. Legs are short. On the 1st segment of tarsi are 3, 3, 2 hairs.

DIFFERENCIAL ANALYSIS. New genus belongs to subtribe Anuraphidina of the tribe Macrosiphini. It relates to *Brachycaudus* (*Thuleaphis*) and *Mariaella* Szel. by habitus. However *Scythaphis* differs from *Mariaella* by the absence of small marginal tubercles on the 3rd – 5th tergites, presence of the numerous hairs on 8th tergite (11-16 versus 6), presence of secondary rhinaria only on the 3rd antennal segment of alate females, other type of dorsal sclerotization of alate viviparous females, host plant from Chenopodiaceae (Tamaricaceae by the *Mariaella*). It may be distinguished from *Brachycaudus* (*Thuleaphis*) by the presence of slightly visible, broad rounded cauda of alate females, non-tuberculous, non-reticulated cuticle and numerous hairs on the 8th tergite (11-16 versus 6-8).

ETYMOLOGY. The name of new genus is derived from Latin word "scythus", i. e. the name of nomadic tribes were living on the territory from Black Sea to Tien-Shan mountains.

***Scythaphis eurotiae* (Mamontova, 1968) comb. n.**

Apterous viviparous female. Body is oval, 1.12-1.63. Cuticle is fine, smooth, not reticulated. Frons is slightly convex, without antennal tubercles. Frontal hairs are pointed (0.014-0.022) 1.0-1.2 of basal diameter of the 3rd antennal segment. Antennae are short, six-segmented, 0.20-0.26 of body length. Third segment is 1.4-1.8 of 4th, 0.56-0.76 of *processus terminalis* and 0.26-0.46 of 6th segment length. *Processus terminalis* is (1.25) 1.35-1.55 (1.6) of the base of 6th segment, with 3-4 apical hairs. Secondary rhinaria are absent. Hairs on 3rd segment (0.006-0.007) are 0.3-0.4 of its basal diameter. Clypeus semi-spherical normally developed. Rostrum exceeds behind middle coxae; its ultimate rostral segment blunted on the apex is 1.0-1.1 of the second segment of hind tarsus, 1.4-2.1 of the 3rd antennal segment, with 4 accessory hairs. There are 4 hairs on the penultimate segment. Siphunculi are very short, broad conic, with small distinct flanges, 0.55-0.63 of its maximal width (fig. 1c). Cauda is broad rounded, not distinct, with 4-6 hairs. Marginal tubercles are absent. Spiracles are large, rounded are situated on the small stigmal plates (fig. 1d). Dorsal hairs on 3-5 tergites (0.020-0.025) are 1.3-1.5 and on the 8th one (0.045-0.056) 3.0-3.5 of basal diameter of the 3rd antennal segment. There are 11-16 hairs on the 8th tergite (fig. 1e). Genital plate oval, with 2(3) hairs on disc and 10-14 ones along its posterior margin. On the anal plate there are numerous long hairs. Legs are very short, trochanteric hair of the middle legs (0.014-0.017) is 0.30-0.38 and long one on the external side of middle femora (0.008-0.011) is 0.20-0.25 of trochantro-femoral suture; first tarsal segments with 3:3:2 hairs.

Color on slide: frons, 1st, 2nd, 5th and the base of 6th antennal segments, clypeus, rostrum, legs, genital and anal plates, siphunculi, cauda are brown. Dorsal sclerotization of the population from South Kazakhstan and West China is presented by dull transversal stripes on the 7th and 8th tergites. Intersegmental-pigmented patches frequently develop on the 3-5(6) tergites in the population from East Ukraine and West Kazakhstan. Natural coloration: body is yellowish, without film; eyes are reddish; head, darkened parts of body are brown.

Alate viviparous female (by 2 specimens). Body 1.13-1.17. Antennae are 0.49-0.53 of the body length. Third antennal segment is 2.0-2.4 of 4th, 1.25-1.40 of the *processus terminalis*, 0.8-1.0 of the 6th segment length, with 5-7 secondary rhinaria (fig. 1b). Ultimate rostral segment is 0.88-1.0 of the second segment of hind tarsus, 0.45-0.57 of the 3rd antennal segment. Cauda is slightly visible, broad rounded. Other characters as in the apterous female.

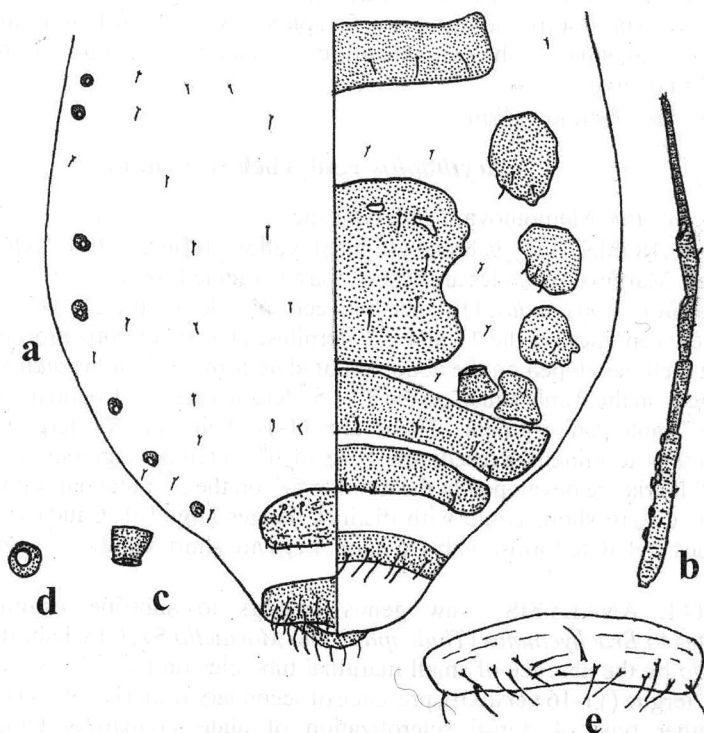


Fig. 1. Alate viviparous female of *Scythaphis eurotiae* (Mam.): a - abdominal tergites, b - 3rd-6th antennal segments, c - siphunculus, d - spiracle, e - 8th tergite.

Color on slide: head, antennae (except the base of 3rd antennal segment), thorax, clypeus, rostrum, legs (except of the middle of tibiae), siphunculi, cauda, genital and anal plates, dorsal sclerotization are brown. Dorsal sclerotization is presented in the median field of the 3rd – 5th tergites, broad transversal stripes on the 6-8th ones, large marginal patches on the 2nd-5th ones (fig. 1a).

Host plant. *Cerathoides (Eurotia, Krascheninnikovia) papposa* (Chenopodiaceae).

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Material examined. 22 ap. v. f., slide N214/191, SE Kazakhstan, E spur of Zailiyskiy Alatau ran., Kokpek pass, 5.08.1961, Savojskaya G. I.; 3 ap. v. f., slide N563, SE Kazakhstan, Toraygir ran., 30 km E Zhanatalap, 1000 m a. l. s., 10.06.1987, R. Kh. Kadyrbekov; 8 ap. v. f., slide N507, SE Kazakhstan, Ili valley, 24 km NW Nurly, 4.06.1987, R. Kh. Kadyrbekov; 5 ap. v. f., slide N1518, SE Kazakhstan, Alakol depression, 40 km E Koktuma, 10.08.1989, R. Kh. Kadyrbekov; 6 ap. v. f., slide N1656, SE Kazakhstan, S spur of Dzhungarskiy Alatau ran., Sholak mts., 13.05.1993, R. Kh. Kadyrbekov; 5 ap. v. f., slide N928, S Kazakhstan, W Tien-Shan, Karatau ran., 7 km NW Karatau t., 600 m a. l. s., 21.05.1988, R. Kh. Kadyrbekov; 6 ap. v. f., slide N1777, S Kazakhstan, left bank of Syr-Darya r., 20 km SW Bajga-Kum, 8.05.1990, R. Kh. Kadyrbekov; 1 ap. v. f., slide N1781, S Kazakhstan, left bank of Zhana-Darya r., 12.05.1990, R. Kh. Kadyrbekov; 12 ap. v. f., slide N1964, W Kazakhstan, 5 km SW Aksay t., Utva r., 10.09.1990, R. Kh. Kadyrbekov; 8 ap. v. f., 2 al. v. f., slide N2266, W China, Xinjiang-Uygur reg., 30 km N Cayzhahu, Gurbantungut des., 8.06.1993, R. Kh. Kadyrbekov.

Distribution. Steppe and desert zones of E Ukraine, W and S Kazakhstan, W China.

Cryptosiphum Buckton, 1879

C. artemisiae Buckton, 1879, type species

GENERIC DIAGNOSIS. Body is broad oval, small, with thick white film, without dorsal sclerites. Cuticle is fine, not reticulated. Marginal tubercles are constantly developed on the pro- and metathoraces, small flat ones are frequently developed on the 3rd – 5th tergites (by the *C. brevipilosum*, *C. dracunculii* sp. n.), are absent on the 1st and 7th tergites. Spiracles small, haricot-shaped are placed by the margin of the large stigmal plates. Stigmal plates of the 1st and 2nd sternites are sometimes knitted (*C. astrachanicae*, *C. innokentyi*). Distance between spiracles of the 2nd and 3rd sternites is more than 2.2 of the distance of ones on the 1st and 2nd sternites. Antennae are very short, five-, six-segmented. Processus terminalis is shorter, equal or slightly longer of the base of ultimate antennal segment. Secondary rhinaria are developed only in the alate viviparous females on the 3rd, 3rd-4th, or 3rd-5th antennal segments. Frons is slightly convex, without antennal tubercles. Clypeus semi-spherical not reaches the frontal margin. Rostrum is the differing length. Ultimate rostral segment is stiletto-shaped or blunted on the apex, with 4-6 accessory hairs. There are 2-8 hairs on the penultimate segment. Dorsal hairs are pointed. There are 3-6 hairs on the 8th tergite. Siphunculi are reduced, pore-shaped or absent (*C. sieversianae*, some specimens of *C. artemisiae*). Cauda is broad rounded, slightly visible in the apterous females and helmet-shaped in the alate ones, with 3-4 hairs. Legs are short, the 1st segment of tarsi has 3, 3, 2 hairs.

DIFFERENTIAL ANALYSIS. *Cryptosiphum* belongs to subtribe Anuraphidina of the tribe Macrosiphini, where it relates to *Anuraphis* del Guercio, 1907, *Dysaphis* Börner, 1931, *Mariaella* Szelegiewicz, 1961 by the form of spiracles. However it relates to *Brachycaudus* Goot, 1913 too, especially to the subgenus *Thuleaphis* Hille Ris Lambers by the form of cauda in apterous and alate viviparous females. *Cryptosiphum* may be distinguished from the all enumerated genera by the pore-shaped siphunculi, thick white film of the body, absence of the dorsal sclerites as apterous as alate viviparous females.

Genus includes 7 species together with 1 new living in the leaf galls on *Artemisia* spp. They live at the chiefly steppe and desert zones of Palaearctic.

Descriptions of 5 known and 1 new species are adduced below. Description of *C. artemisiae* Buck. can be looked in L. D. Stroyan (1984) and O. E. Heie (1986).

Cryptosiphum astrachanicae Ivanovskaja, 1960.

Apterous viviparous female. Body is broad oval, 1.0-1.09. Cuticle is fine, not reticulated. Frons is slightly convex, without antennal tubercles. Frontal hairs are pointed (0.017-0.020) 0.75-1.0 of maximal diameter of the 3rd antennal segment. Antennae are short, six-segmented, 0.21-0.34 of body length. Third segment is 1.8-2.3 (2.6) of 4th, 1.5-2.0 (2.2) of *processus terminalis*, (0.55) 0.65-0.77 of 6th segment length. *Processus terminalis* is 0.65-0.85 of the base of 6th segment, with 3 apical hairs. Hairs on 3rd segment (0.008-0.011) are 0.4-0.5 of its maximal diameter. Clypeus semi-spherical normally developed. Rostrum reaches the hind coxae; its ultimate rostral segment stiletto-shaped is 1.45-1.65 (1.7) of the

second segment of hind tarsus, 1.7-2.0 (2.2) of the 3rd antennal segment, with 4-6 accessory hairs. There are 4 hairs on the penultimate segment. Convex marginal tubercles are developed on the pro- and metathorax. Spiracles are small, haricot-shaped are situated on the large pigmented stigmal plates. Dorsal hairs on 3-5 tergites (0.022-0.028) are 0.8-1.2 and on the 8th one (0.028-0.035) 1.2-1.6 of maximal diameter of the 3rd antennal segment. There are 3-4 hairs on the 8th tergite. Pore-shaped siphunculi are developed not all specimens. Cauda is broad rounded, not distinct, with 3-4 hairs. Genital plate is oval, with 2-4 hairs on disc and 12-16 (19) ones along its posterior margin. Legs are very short, trochanteric hair of the middle legs and long one on the external side of middle femora (0.008-0.011) is 0.27-0.30 of trochantro-femoral suture; first tarsal segments with 3:3:2 hairs.

Alate viviparous female. Body 0.88-1.13. Antennae are 0.52-0.70 of the body length. Third antennal segment is 2.30-2.65 of 4th, (2.4) 2.6-3.5 (4.4) of the processus terminalis, (1.2) 1.3-1.6 (1.7) of the 6th one, with 7-15 secondary rhinaria. On the 4th segment are developed 0-2 secondary rhinaria. Ultimate rostral segment is 1.15-1.25 of the second segment of hind tarsus, 0.53-0.65 of the 3rd antennal segment. Dorsal hairs on the 3rd-5th tergites are 0.7-1.0, on the 8th tergite 0.8-1.2 and on the frons 0.60-0.70 of maximal diameter of the 3rd antennal segment. Cauda is helmet-shaped. Other characters as in the apterous female.

Host plant. *Artemisia* (*Seriphidium*) *lercheana* Web. (*astrachanica*), *A. (S.) sublessingiana*, *A. (S.) porrecta*, *A. (S.) halophila*, *A. (S.) cina*.

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Distribution. Russia (Volgograd reg., Hamsuty), W and S Kazakhstan.

Cryptosiphum brevipilosum Börner, 1932.

Apterous viviparous female Body is broad oval, 1.13-1.30. Cuticle is fine, not reticulated. Frons is slightly convex, without antennal tubercles (fig. 2a). Frontal hairs are pointed (0.017-0.022) 0.6-0.8 (0.9) of maximal diameter of the 3rd antennal segment. Antennae are short, six-segmented, 0.35-0.43 of body length. Third segment is 1.7-2.2 (2.5) of 4th, 1.44-2.0 (2.2) of *processus terminalis*, 0.75-1.0 (1.08) of 6th segment length. *Processus terminalis* is (0.9) 1.0-1.3 (1.43) of the base of 6th segment, with 3 apical hairs (fig. 2b). Hairs on 3rd segment (0.011-0.014) are 0.3-0.5 of its maximal diameter. Clypeus is semi-spherical, normally developed. Rostrum reaches the middle coxae; its ultimate rostral segment (fig. 2e) not stiletto-shaped is 1.2-1.5 of the second segment of hind tarsus, 0.92-1.1 of the 3rd antennal

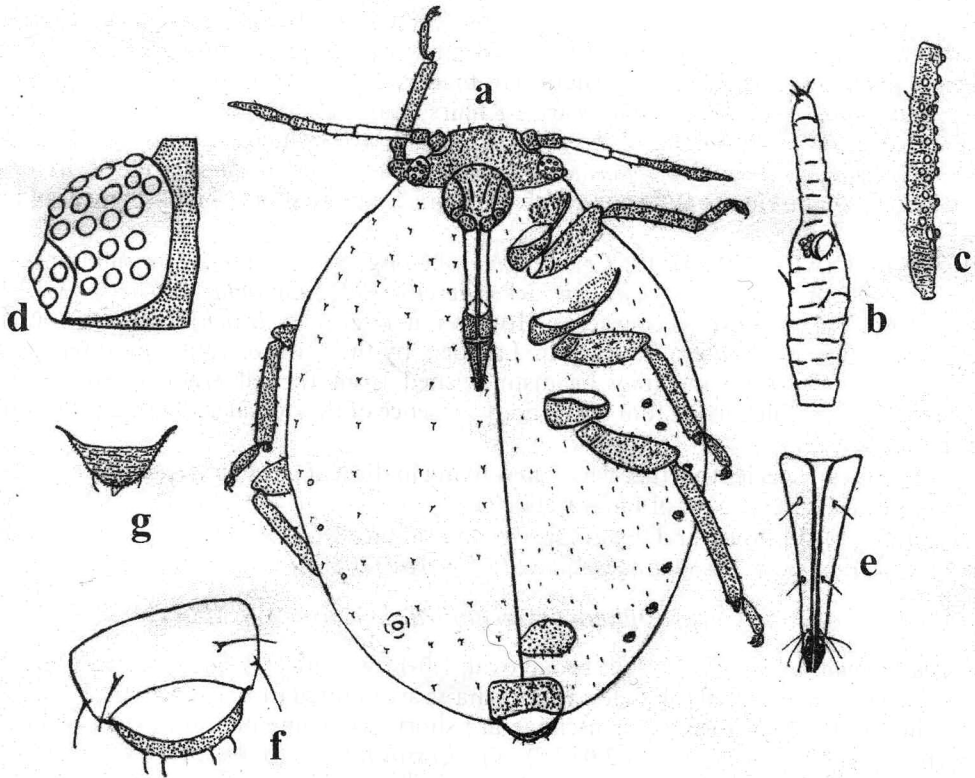


Fig. 2. *Cryptosiphum brevipilosum* Börn.: a—habitus of apterous female, b—apical antennal segment of apterous female, c—3rd antennal segment of alate female, d—oculus of apterous female, e—ultimate rostral segment, f—cauda of apterous female, g—cauda of alate female.

segment, with 4-6 accessory hairs. There are 4 hairs on the penultimate segment. Convex marginal tubercles are developed on the pro- and metathorax, besides on the 3rd-5th tergites small flat marginal ones are frequently situated. Spiracles are small, haricot-shaped are situated on the large stigmal plates. Dorsal hairs (0.028-0.039) are 1.0-1.5 of maximal diameter of the 3rd antennal segment. There are 3-4 hairs on the 8th tergite. Siphunculi are pore-shaped. Cauda is broad rounded, not distinct, with 4-5 hairs (fig. 2f). Genital plate is oval, with 2-3 hairs on disc and (8) 10-15 ones along its posterior margin. Legs are very short, trochanteric hair of the middle legs and long one on the external side of middle femora is 0.36-0.44 of trochantro-femoral suture; first tarsal segments with 3:3:2 hairs.

Color on slide: head, 1st, 2nd, 5th and 6th antennal segments, clypeus, 3rd and 4th segments of rostrum, legs (except the middle of tibiae), genital and anal plates, cauda are brown. Natural coloration: body is brownish, with thick white film; eyes are dark-reddish.

Alate viviparous female. Body is 1.09-1.15. Antennae are 0.60-0.65 of the body length. Third antennal segment is (0.95) 1.0-1.2 (1.3) of the 6th segment length, with (8) 11-17 (21) secondary rhinaria (fig. 2c). Processus terminalis is 1.4-1.65 (1.75) of the base of 6th segment. Ultimate rostral segment is 1.2-1.3 of the second segment of hind tarsus, 0.50-0.57 of the 3rd antennal segment. Dorsal hairs on the 3rd-5th tergites are 0.72-0.75, on the frons 0.45-0.65 and on the 3rd antennal segment 0.25-0.35 of its maximal diameter. Cauda is helmet-shaped (fig. 2g). Other characters as in the apterous female.

Color on slide: head, antennae (except the base of 3rd antennal segment), thorax, clypeus, 3rd and 4th segments of rostrum, legs (except of the middle of tibiae), cauda, genital and anal plates are brown.

Host plant. *Artemisia (Dracunculus) campestris*, *A. (D.) tomentella* (Asteraceae).

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Material examined. Paratype from the collection of National Museum of Natural History (Paris) and 12 ap. v. f., 7 al. v. f., slides N1864, 1882, S Kazakhstan, N Aral coast, 90 km SW Chelkar t. Bolshie Barsuki des., 6-8.06.1990, R. Kh. Kadyrbekov.

Distribution. Germany, Ukraine, S and W Kazakhstan.

Cryptosiphum dracunculum Kadyrbekov, sp. n.

Apterous viviparous female (by the 21 specimens). Body is broad oval, 1.15-1.48. Cuticle is fine, not reticulated. Frons is slightly convex, without antennal tubercles (fig. 3a). Frontal hairs are pointed (0.017-0.022) 0.60-0.85 (1.0) of maximal diameter of the 3rd antennal segment. Antennae are short, six-segmented, 0.24-0.32 of body length. Third segment is (1.7) 1.8-2.3 (2.6) of 4th, 0.92-1.23 (1.33) of *processus terminalis*, (0.46) 0.50-0.62 of 6th segment length. *Processus terminalis* is 0.85-1.0 of the base of 6th segment, with 3 apical hairs. Hairs on 3rd segment (0.006-0.008) are 0.2-0.4 of its maximal diameter. Clypeus semi-spherical normally developed. Rostrum reaches the middle coxae; its ultimate rostral segment (fig. 3b) not stiletto-shaped is 0.95-1.1 of the second segment of hind tarsus, 1.1-1.4 (1.5) of the 3rd antennal segment, with (4) 6 accessory hairs. There are 4 hairs on the penultimate segment. Convex marginal tubercles are developed on the pro- and metathorax, besides on the 3rd-5th tergites small flat marginal ones are frequently situated. Spiracles are small, haricot-shaped are situated on the large stigmal plates (fig. 3d). Dorsal hairs on 3-5 tergites (0.020-0.028) are 0.9-1.3 and on the 8th one (0.034-0.045) 1.50-1.75 of maximal diameter of the 3rd antennal segment. There are 4 hairs on the 8th tergite. Siphunculi are pore-shaped. Cauda is broad rounded, not distinct, with 3-4 hairs (fig. 3c). Genital plate is oval, with 2-3 hairs on disc and 6-8 (9) ones along its posterior margin (fig. 3e). Legs are very short, trochanteric hair of the middle legs (0.008) is 0.18-0.20 and long one on the external side of mid.femora (0.008-0.011) is 0.20-0.25 of trochantro-femoral suture; first tarsal segments with 3:3:2 hairs.

Color on slide: head, 1st, 2nd, 5th and 6th antennal segments, clypeus, 3rd and 4th segments of rostrum, legs (except the middle of tibiae), genital and anal plates, cauda are brown. Natural coloration: body is brownish, with thick white film; eyes are dark-reddish.

Dimension of holotype. B. 1.29; ant. 0.38: III 0.08, IV 0.04, V 0.05, VI 0.14 (0.07+0.07); u. r. s. 0.095; 2 s. h. t. 0.091.

Alate viviparous female (by 15 specimens). Body is 1.08-1.30. Antennae are 0.47-0.61 of the body length. Third antennal segment is (2.1) 2.2-2.7 of 4th, 1.7-2.2 (2.8) of the *processus terminalis*, 1.0-1.2 (1.4) of the 6th segment length, with 9-14 secondary rhinaria (fig. 3f). On the 4th segment by the 1 specimen with 1 side is developed 1 secondary rhinaria. Ultimate rostral segment is 0.88-1.0 of the second segment of hind tarsus, 0.43-0.53 of the 3rd antennal segment. Dorsal hairs on the 3rd-5th tergites are 0.6-0.8, on the 8th tergite 1.0-1.2 and on the frons 0.55-0.60 of maximal diameter of the 3rd antennal segment. Cauda is helmet-shaped (fig. 3g). Other characters as in the apterous female.

Color on slide: head, antennae (except the base of 3rd antennal segment), thorax, clypeus, 3rd and 4th segments of rostrum, legs (except of the middle of tibiae), cauda, genital and anal plates are brown. Dorsal sclerotization is presented by marginal patches on the 1st and 2nd tergites.

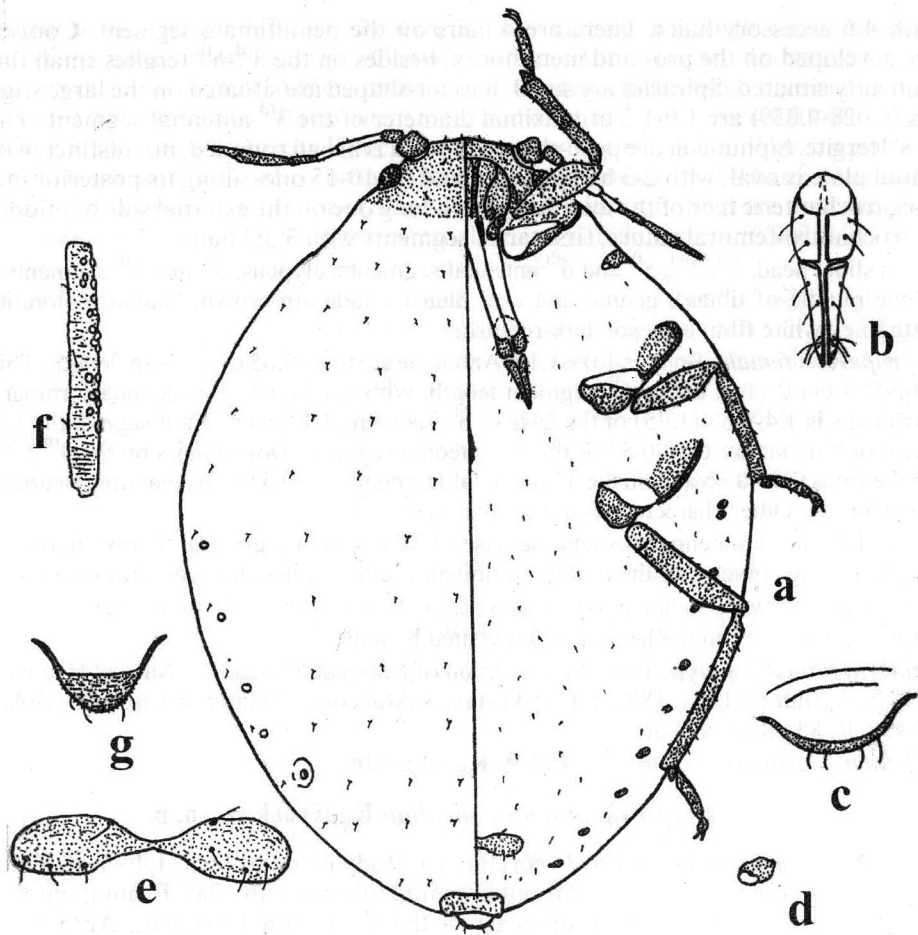


Fig. 3. *Cryptosiphum dracunculum*, sp. n.: a – habitus of apterous female, b – penultimate and ultimate rostral segment, c – cauda of apterous female, d – spiracle, e – genital plate, f – 3rd antennal segment of alate female, g – cauda of alate female.

Dimension of allotype: b. 1.09; ant. 0.66; III 0.20, IV 0.08-0.09, V 0.08, VI 0.20-0.21 (0.08-0.085+0.120-0.125); u. r. s. 0.091; 2 s. h. t. 0.104.

Host plant. *Artemisia (Dracunculus) dracunculus* L. (Asteraceae).

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Material examined. Holotype: 1 ap. v. f., slide N1847a (new series), S Kazakhstan, N Aral coast, 7 km W Akespe, 2.06.1990, R. Kh. Kadyrbekov; Paratypes: 3 ap. v. f. together with holotype; 6 ap. v. f., N1879, S Kazakhstan, N Aral coast, 38 km SW Chelkar t., 8.06.1990, R. Kh. Kadyrbekov; 4 ap. v. f., N1598 (old series), N Kazakhstan, Akmola reg., Elenovka sur., 3.07.1974, N. E. Smailova; 7 ap. v. f., 6 al. v. f., N2095-2096, Akmola reg., Kijaly sur., Chaglinka r., 10.07.1975, N. E. Smailova; 9 al. v. f., N2101, N. Kazakhstan, Akmola reg., Kokshetau t. sur., 13.07.1975, N. E. Smailova.

Taxonomical notes. New species differs from other ones by the less ratio of ultimate rostral segment to 2nd segment of hind tarsus (0.95-1.1 versus 1.2-1.7) and lesser number of the hairs along posterior margin of genital plate. It relates to *C. brevipilosum* by the frequent presence of the marginal tubercles on the 3rd-5th tergites, not stiletto-shaped ultimate rostral segment of rostrum and host plant from subgenus *Dracunculus*.

Cryptosiphum innokentyi Ivanovskaja, 1970.

Apterous viviparous female. Body is broad oval, 1.2-1.3. Cuticle is fine, not reticulated. Frons is slightly convex, without antennal tubercles (fig. 3a). Frontal hairs are pointed 1.0-1.15 of maximal diameter of the 3rd antennal segment. Antennae are short, five-, six-segmented, 0.28-0.32 of body length. Third segment is 1.8-2.0 of 4th, 1.0-1.2 of *processus terminalis* and 0.55-0.65 of 6th segment length. *Processus terminalis* is approximately equal to the base of 6th segment, with 3 apical hairs. Hairs on 3rd segment are 0.5 of its maximal diameter. Clypeus semi-spherical normally developed. Rostrum

not reaches the middle coxae; its ultimate rostral segment stiletto-shaped is 1.55-1.65 of the second segment of hind tarsus and approximately equal to the 3rd antennal segment, with 4 accessory hairs. There are 8 hairs on the penultimate segment. Marginal tubercles are not developed. Spiracles are small, haricot-shaped are situated on the large stigmal plates. Dorsal hairs are 1.2-1.4 of maximal diameter of the 3rd antennal segment. There are 4 hairs on the 8th tergite. Siphunculi are pore-shaped. Cauda is broad rounded, not distinct, with 4 hairs. Genital plate is oval, with 2 hairs on disc and 12 ones along its posterior margin. Legs are very short; first tarsal segments with 3:3:2 hairs.

Color on slide: head, 1st, 2nd and ultimate antennal segments, clypeus, 3rd and 4th segments of rostrum, legs (except the middle of tibiae), genital and anal plates are brown. Natural coloration: body is greenish, with thick white film; head and legs are brown, eyes are dark-reddish.

Host plant. *Artemisia (s. str.) frigida* Willd. (Asteraceae).

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Distribution. Russia (Siberia: Kuznetzkiy Alatau, Tuva).

Cryptosiphum mordvilko Ivanovskaja, 1960

Apterous viviparous female. Body is broad oval, 1.08-1.15. Cuticle is thinly reticulated. Frons is slightly convex, without antennal tubercles. Frontal hairs are pointed (0.017-0.022) 0.75-1.0 of maximal diameter of the 3rd antennal segment. Antennae are short, six-segmented, 0.24-0.25 of body length. Third segment is 1.53-1.77 of 4th, equal to 5th, 0.6-0.8 of *processus terminalis*, 0.42-0.46 of 6th segment length. *Processus terminalis* is 1.0-1.25 of the base of 6th segment, with 3-4 apical hairs. Hairs on 3rd segment (0.006) are 0.25 of its maximal diameter. Clypeus is semi-spherical, normally developed. Rostrum not reaches the middle coxae; its ultimate rostral segment blunted, not stiletto-shaped is 1.20-1.23 of the second segment of hind tarsus, 1.75-1.95 of the 3rd antennal segment, with 4 accessory hairs. There are 2 hairs on the penultimate segment. Convex marginal tubercles are developed on the pro- and metathorax. Spiracles are small, haricot-shaped are situated on the small stigmal plates. Dorsal hairs on 3-5 tergites are 0.5-0.75 and on the 8th one 0.75-1.1 of maximal diameter of the 3rd antennal segment. There are 3-4 hairs on the 8th tergite. Siphunculi are pore-shaped. Cauda is broad rounded, not distinct, with 4 hairs. Legs are very short, trochanteric hair of the middle legs and long one on the external side of middle femora (0.014-0.017) is 0,35-0.43 of trochantro-femoral suture; first tarsal segments with 3:3:2 hairs.

Color on slide: frons, 1st and 6th antennal segments, clypeus, 3rd and 4th segments of rostrum, coxae, trochanters, apices of tibiae, genital and anal plates, siphunculi, cauda are brown. Natural coloration: body is brownish, with thick white film; eyes are dark-reddish.

Host plant. *Artemisia* sp. (Asteraceae).

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Material examined. 2 ap. v. f., slide N1610, N Kazakhstan, Akmola reg., Urazaevka sur., 4.07.1974, N. E. Smailova.

Distribution. Russia (Ural ran.), N Kazakhstan.

Cryptosiphum sieversianae Ivanovskaja, 1958

Apterous viviparous female (by the type series). Body is broad elliptical, 1.36-1.41. Cuticle is fine, not reticulated. Frons is slightly convex, without antennal tubercles. Frontal hairs are pointed (0.017-0.022) 0.8-1.1 of maximal diameter of the 3rd antennal segment. Antennae are short, six-segmented, 0.24-0.26 of body length. Third segment is 1.8-2.0 of 4th, approximately equal to *processus terminalis*, 0.55-0.65 of 6th segment length. *Processus terminalis* is 1.05-1.20 of the base of 6th segment, with 3 apical hairs. Hairs on 3rd segment (0.011) are 0.5 of its maximal diameter. Clypeus is semi-spherical, normally developed. Rostrum reaches the middle coxae; its ultimate rostral segment stiletto-shaped is 1.55-1.65 of the second segment of hind tarsus, 2.0-2.2 of the 3rd antennal segment, with 4 accessory hairs. There are 4 hairs on the penultimate segment. Convex marginal tubercles are developed on the prothorax. Spiracles are small, haricot-shaped are situated on the large stigmal plates. Dorsal hairs are 1.4-1.6 of maximal diameter of the 3rd antennal segment. There are 5-6 hairs on the 8th tergite. Siphunculi are absent. Cauda is broad rounded, not distinct, with 4 hairs. Genital plate is oval, with 4-5 hairs on disc and 14-18 ones along its posterior margin. Legs are very short, trochanteric hair of the middle legs and long one on the external side of middle femora (0.011) is 0,30-0.35 of trochantro-femoral suture; first tarsal segments with 3:3:2 hairs.

Natural coloration: body is brownish, with thick white film; eyes are dark-reddish.

Alate viviparous female (by the type series and materials from Kazakhstan). Body is (0.91) 1.0-1.3. Antennae are 0.51-0.71 of the body length. Third antennal segment is 2.45-2.8 (2.9) of 4th, 1.75-2.1 (2.2) of the *processus terminalis*, 1.1-1.3 of the 6th segment length. *Processus terminalis* is (1.2) 1.35-1.63 of the base

of 6th segment. On the 3rd segment are developed 19-23, on the 4th one is 2-9 and on the 5th one is 3-8 of secondary rhinaria. Ultimate rostral segment is 1.40-1.45 of the second segment of hind tarsus, 0.48-0.54 of the 3rd antennal segment. Dorsal hairs on the 3rd-5th tergites are 0.60-0.85, on the 8th tergite 0.8-1.2 and on the frons 0.5-0.6 of maximal diameter of the 3rd antennal segment. Siphunculi are absent. Cauda is helmet-shaped. Other characters as in the apterous female.

Color on slide: head, antennae (except the base of 3rd antennal segment), thorax, clypeus, rostrum, coxae, trochanters, femora (except the bases), bases and apices of tibiae, tarsi, cauda, genital and anal plates are brown. Dorsal sclerotization is absent.

Host plant. *Artemisia* (*s. str.*) *sieversiana* Willd. (Asteraceae).

Bionomy. Aphids suck in the leaf galls, not visited by ants.

Material examined. Type series and 6 al. v. f., slide N 2210, E Kazakhstan, Zaisan depression, Kara-Bulak sur., 8-9.07.1961, Archangelskaja.

Distribution. E Kazakhstan, Russia (Kulunda.).

Key for the species definition of the genus *Cryptosiphum*

1(4). Rostrum slightly exceeds fore coxae.

2(3). Ultimate rostral segment is 1.20-1.25 of the second segment of hind tarsus and 1.74-1.95 of the 3rd antennal segment. On penultimate rostral segment are 2 hairs. Aphids live on the *Artemisia* sp. Russia (Ural ran.), N Kazakhstan.....*C. mordvilkoii* Iv.

3(2). Ultimate rostral segment is 1.55-1.65 of the second segment of hind tarsus and approximately equal to 3rd antennal segment. On penultimate rostral segment are 8 hairs. Aphids live on *Artemisia* (*s. str.*) *frigida*. Russia (W and E Siberia).....*C. immokentyi* Iv.

4(1). Rostrum reaches at least to the middle coxae.

5(10). Ultimate rostral segment is stiletto-shaped. Marginal tubercles are absent on the 3rd-5th tergites. Aphids not live on the plants of subgenus *Dracunculus* from *Artemisia*.

6(7). Third antennal segment is 0.85-1.0 of the 6th one. Ultimate rostral segment is 1.1-1.5 of the 3rd antennal segment. Ventral hairs are numerous and long. Aphids live on *Artemisia* (*s. str.*) *absinthium*, *A. (s. str.) vulgaris*. Palaearctic.....*C. artemisiae* Buck.

7(6). Third antennal segment is 0.55-0.75 of the 6th one. Ultimate rostral segment is 1.7-2.2 of the 3rd antennal segment. Ventral hairs are not numerous and shorter.

8(9). Third antennal segment is 1.5-2.0 of processus terminalis. Processus terminalis is 0.65-0.85 of the base of 6th segment. Siphunculi are developed, in norm, in the apterous and alate females. Secondary rhinaria are developed on the 3rd and, rarely, on the 4th segments by the alate females. Aphids live on *Artemisia* (*Seriphidium*) spp.*C. astrachanicae* Iv.

9(8). Third antennal segment is 1.0-1.1 of processus terminalis. Processus terminalis is 1.0-1.2 of the base of 6th segment. Siphunculi are absent in the apterous and alate females. Secondary rhinaria are constantly developed on the 3rd-5th antennal segments. Aphids live on *Artemisia* (*s. str.*) *sieversiana*. E Kazakhstan, Russia (W Siberia).....*C. sieversianae* Iv.

10(5). Ultimate rostral segment not stiletto-shaped (fig. 2b, 3b). Marginal tubercles are developed frequently on the 3rd-5th tergites. Aphids live on *Artemisia* (*Dracunculus*) spp.

11(12). Ultimate rostral segment is 1.25-1.50 of the second segment of hind tarsus. Third antennal segment is 0.75-1.0 of 6th one and 1.45-2.0 of processus terminalis. On the posterior margin of genital plate are (8) 10-15 hairs. Aphids live on *Artemisia campestris*, *A. tomentella*. Germany, Ukraine, W and S Kazakhstan.....*C. brevipilosum* Born.

12(11). Ultimate rostral segment is 0.95-1.1 of the second segment of hind tarsus. Third antennal segment is (0.46) 0.50-0.62 of the 6th one and 0.92-1.23 (1.33) of processus terminalis. On the posterior margin of genital plate are 6-8 (9) hairs. Aphids live on *Artemisia dracunculus*. Kazakhstan.....*C. dracunculum*, sp. n.

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Резюме.

Кадырбеков Р. Х. Ревизия тлей рода *Cryptosiphum* Buckton, 1879 (Homoptera, Aphididae).

Изучены типовые серии и дополнительные материалы по видам рода *Cryptosiphum*. Для *Cryptosiphum eurotiae* описан новый род *Scythaphis* gen. n. В работе приводятся уточненные описания видов *Cryptosiphum*, исключая *C. artemisiae* Buck., описание которого можно посмотреть в работах Л. Стройна (1984) и О. Хайе (1986). Описан *C. dracunculi*, sp. n.

***Scythaphis* Kadyrbekov, gen. n.**

Cryptosiphum eurotiae Mamontova, 1968, типовой вид.

Тело широко-эллипсоидное, блестящее, желтое, без воскового опыления. Шпиц у бескрылых и крылатых превосходит основание 6-го членика. Вторичные ринарии в количестве 5-7, развиты на 3-м членике только у крылатых самок. Дыхальца относительно крупные округлые, как у *Brachycaudus*. Расстояние между дыхальцами на 2-м и 3-м стернитах более чем в 2.2 раза превосходит расстояние между дыхальцами на 1-м и 2-м стернитах. На 8-м тергите 11-16 волосков. Краевые бугорки отсутствуют. Трубочки короткие, конические с четкими ободками. Хвостик у бескрылых и крылатых самок одинаковый, широко закругленный, с 4-6 волосками. Дорсальная склеротизация у крылатых живородящих самок представлена большим срединным склеротизированным полем на 3-5 тергитах, сплошными полосами на 6-8-м тергитах, маргинальными пятнами на 2-5 тергитах. На первом членике лапок 3, 3, 2 волоска.

Отношение к близким родам. Новый род принадлежит к подтрибе Anuraphidina трибы Macrosiphini, где габитуально ближе всего к *Brachycaudus* (особенно его подроду *Thuleaphis*) и *Mariaella*. *Scythaphis* отличается от *Mariaella* отсутствием краевых бугорков на 3-5-м тергитах, наличием гораздо большего числа волосков на 8-м тергите (11-16 против 6), не фасолевидными дыхальцами, наличием вторичных ринарий только на 3-м членике усиков крылатых самок и иным типом дорсальной склеротизации у этой морфы. С *Brachycaudus* (*Thuleaphis*), его сближает наличие у бескрылых самок широко закругленного хвостика, сходная склеротизация брюшка у крылатых самок и наличие вторичных ринарий только на 3-м членике усиков у этой морфы. Основные отличия: наличие нечеткого, широко закругленного хвостика также и у крылатых самок, не ячеистая и не бугристая кутикула, большее число волосков на 8-м тергите (11-16 против 6-8).

***Cryptosiphum* Buckton, 1879**

C. artemisiae Buckton, 1879 типовой вид.

Тело широко овальное, маленькое, с густым белым восковым налетом, без дорсальной склеротизации. Вторичные ринарии развиты только у крылатых живородящих самок на 3-м, 3-4-м, 3-5-м члениках усиков. Кутикула тонкая не ячеистая. Краевые бугорки регулярно развиты на передне- и заднегруди, у 2-х видов часто также на 3-5 тергитах. Дыхальца небольшие фасолевидные расположены у края стигмальных пластинок. Стигмальные пластинки 1-го и 2-го стернитов иногда срастаются (*C. astrachanicae*, *C. innokentyi*). Расстояние между дыхальцами 2-го и 3-го стернитов более чем в 2.2 раза превосходит расстояние между дыхальцами 1-го и 2-го стернитов. Хоботок стилетовидный или просто удлинненный, с 4-6 аксессуарными волосками. Трубочки отсутствуют или сильно редуцированные, поровидные. Хвостик, едва намеченный,

широко закругленный у бескрылых и шлемовидный у крылатых самок, с 3-4 волосками. На 1-м членике лапок 3, 3, 2 волоска.

Отношение к близким родам. Систематическое положение рода *Cryptosiphum* до сих пор не выяснено. Одни авторы ставят его в подтрибу Aphidina (Ивановская, 1960, 1977; Шапошников, 1964; Eastop, 1979; Rемаудиере, 1997), другие (Borner, 1952; Stroyan, 1984) относят его в подтрибу Anuraphidina. Мы, изучив типы большинства видов, также относим *Cryptosiphum* к подтрибе Anuraphidina на основании расстояния между дыхальцами, отсутствия краевых бугорков на 1-м и 7-м тергитах и наличия их на 3-5 тергитах у некоторых видов, а также галлового образа жизни. Внутри подтрибы Anuraphidina *Cryptosiphum* наиболее близок к *Dysaphis*, *Anuraphis*, *Mariaella* по форме дыхалец. С *Brachycaudus*, особенно с его подродом *Thuleaphis*, его сближает форма хвостика у бескрылых и крылатых самок. *Cryptosiphum* легко отличить от всех перечисленных родов по густому восковому опушению тела, отсутствию дорсальной склеротизации не только у бескрылых, но и у крылатых самок и по редукции трубочек.

Cryptosiphum dracunculum Kadyrbekov, sp. n.

Новый вид легко отличить от всех известных видов по низкой пропорции последнего членика хоботка ко 2-му членику задней лапки (0.95-1.1 против 1.2 и выше) и по меньшему числу волосков на заднем крае генитальной пластинки. *C. dracunculi* наиболее близок к *C. brevipilosum*, у которого тоже в норме есть краевые бугорки на 3-5-м тергитах, сходный по форме последний членик хоботка, и который также обитает на полынях подрода *Dracunculus*.

Таблица для определения видов рода *Cryptosiphum* Buck.

- 1(4). Хоботок чуть заходит за передние тазики.
 2(3). Последний членик хоботка в 1.2-1.25 раза длиннее 2-го членика задней лапки и в 1.74-1.95 раза превосходит 3-й членик усиков. На предпоследнем членике хоботка 2 волоска. Тли живут на *Artemisia* sp. Россия (Уральский хребет), Северный Казахстан.....*C. mordvilko* Iv.
 3(2). Последний членик хоботка в 1.55-1.65 раза длиннее 2-го членика задней лапки и примерно равен 3-му членику усиков. На предпоследнем членике хоботка 8 волосков. Тли живут на *Artemisia* (*s. str.*) *frigida*. Россия (Западная и восточная Сибирь).....*C. innokentyi* Iv.
 4(1). Хоботок, по крайней мере, доходит до средних тазиков.
 5(10). Последний членик хоботка стилетовидный. Краевые бугорки на 3-5-м тергитах отсутствуют. Не на полынях подрода *Dracunculus*.
 6(7). Третий членик усиков 0.85-1.0 шестого членика. Последний членик хоботка в 1.1-1.5 раза длиннее 3-го членика усиков. Вентральные волоски многочисленные и длинные. Тли живут на *Artemisia* (*s. str.*) *absinthium*, *A. (s. str.) vulgaris*. Вся Палеарктика.....*C. artemisiae* Buck.
 7(6). Третий членик усиков 0.55-0.75 шестого членика. Последний членик хоботка в 1.7-2.2 раза длиннее 3-го членика усиков. Вентральные волоски немногочисленные и гораздо короче.
 8(9). Третий членик усиков в 1.5-2.0 раза длиннее шпика. Шпик 0.65-0.85 длины основания 6-го членика. Трубочки в норме выражены. Вторичные ринарии развиты на 3-м и, редко, 4-м членике усиков крылатых самок. Тли живут на *Artemisia (Seriphidium)* spp. Россия (Нижнее Поволжье), Западный и Южный Казахстан.....*C. astrachanicae* Iv.
 9(8). Третий членик усиков 1.0-1.1 длины шпика. Шпик 1.0-1.2 длины основания 6-го членика. Трубочки у бескрылых и крылатых самок не развиты. У крылатых вторичные ринарии постоянно присутствуют на 3-5 члениках усиков. Тли живут на *Artemisia (s. str.) sieversiana*. Россия (Западная Сибирь), Восточный Казахстан.....*C. sieversiana* Iv.
 10(5). Последний членик хоботка не стилетовидный. Краевые бугорки на 3-5-м тергитах, в норме, развиты. Тли живут на полынях подрода *Dracunculus*.
 11(12). Последний членик хоботка в 1.20-1.55 раза длиннее 2-го членика задней лапки. Третий членик усиков 0.75-1.0 длины 6-го членика и в 1.45-2.0 раза превосходит шпик. По заднему краю генитальной пластинки (8) 10-15 волосков. Тли живут на *Artemisia campestris*, *A. tomentella*. Германия, Украина, Западный и Южный Казахстан.....*C. brevipilosum* Born.
 12(11). Последний членик хоботка 0.95-1.1 длины 2-го членика задней лапки. Третий членик усиков (0.46) 0.50-0.62 длины 6-го членика и 0.92-1.23 (1.33) длины шпика. По заднему краю генитальной пластинки 6-8 (9) волосков. Тли живут на *Artemisia dracunculus*. Казахстан.....*C. dracunculum*, sp. n.