Description of oviparous female of *Cinara nigritergi* Mamontova, 2002 (Hemiptera: Aphididae)

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A previously unknown oviparous female of *Cinara nigritergi* Mamontova, 2002 is described and illustrated. *Cinara nigritergi* is for the first time reported from Russia (Karelia) where it was found feeding on *Pinus sylvestris*.

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1. Introduction

Cinara nigra Mamontova-Solukha, 1964 was described from apterous and alate viviparous females collected on 30 May 1961 from the bark of branches of *Pinus sylvestris* L. in Starosillya (northern part of the Kiev Region, Ukraine). Later on, Mamontova (1972) transferred this species to the genus *Cinaria* Börner, 1939 which is now considered by most aphidologists as the junior synonym of *Cinara* (Curtis, 1835) (Eastop & Hille Ris Lambers 1976, Heie 1995, Remaudière & Remaudière 1997). Because of that, the name *Cinara nigra* Mamontova-Solukha, 1964 cannot be maintained, as it is preoccupied by *Cinara nigra* (Wilson, 1915). Mamontova (2002) proposed the replacement name *Cinara nigritergi* for *Cinara nigra* Mamontova-Solukha, 1964, nec Wilson, 1915.

Cinara nigritergi Mamontova, 2002 was found in the Volynsk Region of Ukraine (Mamontova 2002) and Czech Republic (Holman 2009; as *Cinara nigra* Mamontova-Solukha, 1964). Surprisingly, this species has been overlooked in a comprehensive review of aphids feeding on trees (Blackman & Eastop 1994, 2010).

Cinara nigritergi Mamontova, 2002 is similar to *Cinara pini* (Linnaeus, 1758) (Remaudière & Remaudière 1997, Mamontova 2002) but it can easily be distinguished by the presence of the solid sclerotized shield covered mesothorax–abdominal tergites VI. This character allowed identification of a previously unknown morph, oviparous female, of this species.

2. Oviparous female of *Cinara nigritergi* Mamontova, 2002 (Fig. 1, Table 1)

Material. Russia, Republic of Karelia, 10 km N Medvezh'egorsk (63.00197° N, 34.38205° E), 28.VIII.2009, on a branch of *Pinus sylvestris* L., M. Kozlov & V. Zverev leg. The slide is deposited in Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

Description. Oviparous female (two measurements refer to left and right sides of the sole specimen). Elongated oval, slightly egg-shaped, body length 1.9× width. Lifetime color unknown. Cleared specimen with brown head, light brown prothorax, brown large sclerotized shield covering mesothorax–abdominal tergite VI and fused with siphuncular cones (Fig. 1a), brown band on tergite VII, two sclerites on tergite VIII, sclerites on margines of tergites I–V, peritremes on all tho-

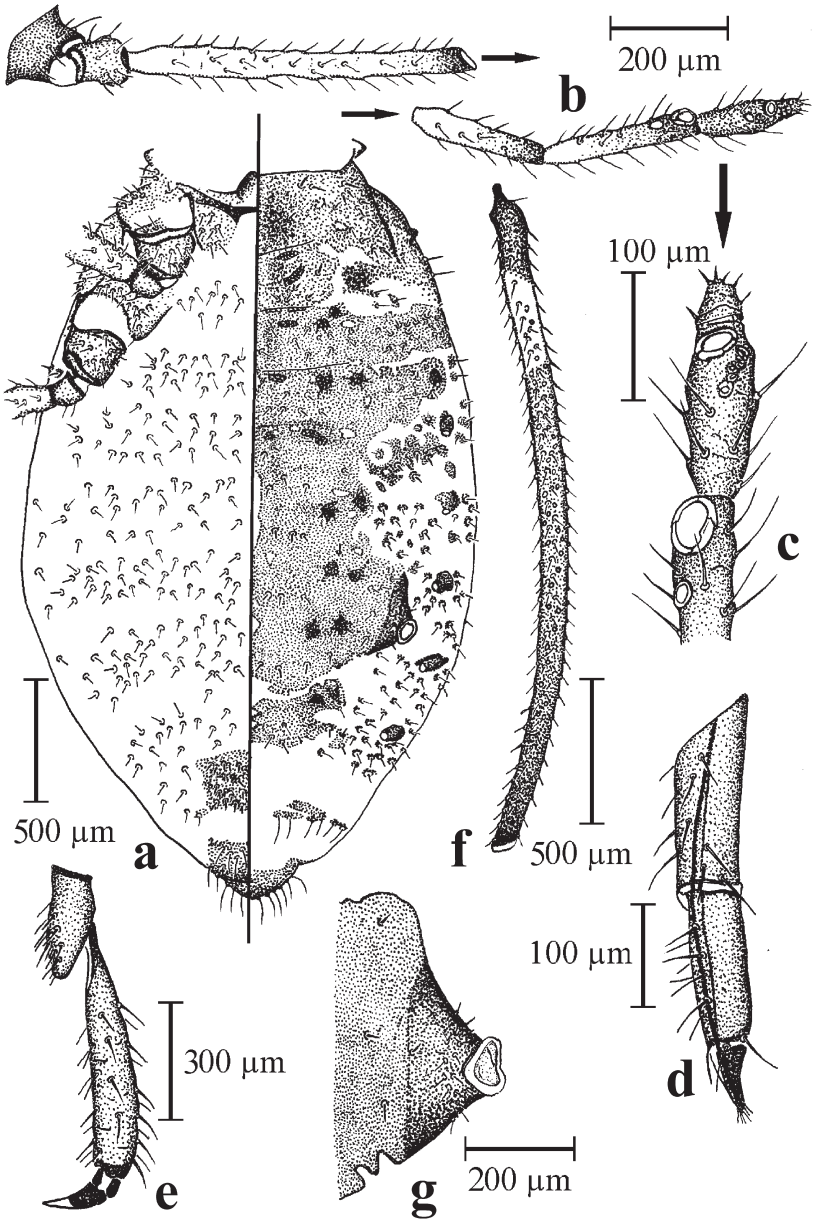

Fig. 1. *Cinara nigritergi*, oviparous female. – a. Mesothorax, metathorax and abdomen. – b. Antennae. – c. 5th – 6th antennal segments. – d. Ultimate segment of rostrum. – e. Hind tarsus. – f. Hind tibia. – g. Siphunculus.

racic and abdominal segments, subgenital and anal plate; sclerotized shield on abdominal tergites II–V with small longitudinal transparent 'windows' along central line of body. Antennae (Figs. 1b–c) pale with dark brown 1st segment, light brown 2nd segment, brown apices of 3rd and 4th segments, brown distal half of 5th segment, and brown 6th segment. Legs with brown coxae and light brown trochanter; fore and mid legs with light brown femorae (except for bases), with knees and bases of tibia dark and distal half of tibia brown, hind femorae with basal half pale and distal half dark brown without sharp transition between, hind tibia brown with dark brown knees and bases and with pale section below the dark apices; all tarsi brown. Surface of head and prothorax smooth, of meso-, metathorax and abdominal tergites I–VII with a very distinct fine crackled pattern, of tergite VIII with fine crackled pattern and long rows of small pointed spinules;

Table 1. Biometric data for oviparous female of *Cinara nigritergi* Mamontova, 2002 (absolute values in micrometres; two measurements refer to left and right sides of the specimen).

Character	Size (μm)
Length of the body	3,594
Length of antennae	1,416–1,436
Hind femora length	1,381–1,406
Hind tibia length	2,223–2,254
Head width across the compound eyes	650
Length of 3rd antennal segment	561–569
Length of 4th antennal segment	233–240
Length of 5th antennal segment	253–266
Length of base of 6th antennal segment	126–132
Length of processus terminalis	41–46
Length of IV segment of rostrum	169
Length of V segment of rostrum	76
Basal length of 1st segment of hind tarsus	41–45
Dorsal length of 1st segment of hind tarsus	61–63
Intersegmental length of 1st segment of hind tarsus	59–63
Ventral length of 1st segment of hind tarsus	114–124
Length of 2nd segment of hind tarsus	257–258
Diameter of siphuncular cone	417–432
Diameter of siphuncular pore	76–78

surface of ventral side of thorax rough, of ventral side of abdomen rough or smooth with long rows of small smooted out spinules sometimes forming strongly stretched cells. Dorsal setae on thorax and abdomen pointed or blunt, relatively short; longest dorsal seta on abdominal tergite III 25 μm long, 0.71–0.74× articular diameter of 3rd antennal segment; marginal and ventral setae long, finely pointed, longest marginal and ventral setae on abdominal tergite III 76 and 78 μm long, 2.14–2.22 and 2.21–2.30× articular diameter of 3rd antennal segment, respectively; dorsal setae situated on sclerotized shield; marginal setae on thorax situated on large marginal sclerites fused with sclerotized shield, marginal setae on abdomen situated on scleroites which are noticeably longer than the basal diameter of a seta; abdominal segment III with 12 dorsal and 33–37 marginal setae, tergite V with 7 setae between siphunculi; tergite VIII with 15 setae, 124 μm long, 3.50–3.63× articular diameter of 3rd antennal segment. Antennae 6-segmented, 1st–5th antennal segments weakly wrinkled, almost smooth, base of 6th segment with sparse scales, processus terminalis with large strong scales. Setae on antennae pointed or slightly blunt; 1st antennal segment with 10–11 setae, longest seta 43 μm long; 2nd antennal segment with 8 setae, longest seta 38–41 μm long; 3rd antennal segment with 44–48 setae, longest seta 51–61 μm long, 1.43–1.78× articular diameter of 3rd antennal segment; base of 6th antennal segment with 10–13 setae, longest seta 1.60–1.82× articular diameter of basal part of the segment; processus terminalis with 3–4 subapical setae. Primary rhinarium on 6th antennal segment with a ring of small sclerites; 3rd and 4th antennal segments without secondary rhinaria, 5th segment with one relatively large secondary rhinarium (internal diameter 20–23 μm). Rostrum relatively long, reaching to abdominal segment II; apical segments of rostrum (Fig. 1d) slender, pointed, IV segment with 8 finely pointed accessory setae. Mesosternal tubercle present. Legs (Fig 1e–f) long, hind femora and hind tibiae 0.38–0.39 and 0.62–0.63× body length, respectively. Hind tibia very weakly thickened, with 231–273 hardly visible circular pheromone plates ("pseudosensoria"). Femora with two types of setae: relatively short, thick setae with pointed or slightly blunt apices situated on sclerotized distal halves of femora, and relatively long, thin and finely pointed setae situated on non-sclerotized proximal halves of femora; ventral seta on hind trochanter 0.84× basal diameter of hind femur; setae on tibia thick, with pointed or slightly blunt apices, longest seta on hind tibia 76 μm long, 0.69–0.72× the mid-diameter of hind tibia and 2.14–2.22× articular diameter of 3rd antennal segment. Siphuncular sclerites (cones) (Fig. 1g) with 39–51 finely pointed setae; part of these setae forms two rows near siphuncular pore, while other setae are scattered at the base of the cone; siphuncular pore with distinct bent outwards flange. Subgenital plate inverted trapezieform, with 122 long, finely pointed setae. Anal plate with long and finely pointed setae.

Distribution. Ukraine: Kiev Region (Starosillya), Volynsk Region; Czech Republic (exact locality unknown); Russia: Republic of Karelia (near Medvezh'egorsk).

Biology. The species is holocyclic and monoecious on *Pinus sylvestris* L. (Ukraine, Russia) and *P. uncinata* Miller (Czech Republic).

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References

Blackman, R. L. & Eastop, V. F. 1994: Aphids on the World's Trees. An Identification and Information Guide. — CAB International, Wallingford, Oxon. 987 pp.

Blackman, R. L. & Eastop, V. F. 2010: Aphids on the World's Trees. An Identification and Information Guide. — In: Blackman, R. L. & Eastop, V. F. (eds.), Aphids On Worlds Plants. [www document]. URL http://www.aphidsonworldsplants.info/AWT%20front%20pag1.htm. (Site visited on 27 April, 2011)

Eastop, V. F. & Hille Ris Lambers D. 1976: Survey of the world's aphids. — Dr. W. Junk b.v. Publ., The Hague. 573 p.

Heie, O. E. 1995: Fauna Entomologica Scandinavica, Vol. 31. The Aphidoidea (Hemiptera) of Fennoscandia and Denmark. V. Family Aphididae: Part 3 of Tribe Macrosiphini of Subfamily Aphidinae, and family Lachnidae. — E. J. Brill, Leiden. 222 pp.

Holman, J. 2009: Host Plant Catalog of Aphids: Paleartic Region. — Springer, Netherlands. 1140 pp.

Mamontova-Solukha, V. A. 1964: Aphids of the Ukrainian "Polissie". — Praci Institutu Zoologii AN URSR 20: 52–72. [In Ukrainian.]

Mamontova, V. A. 1972: Fauna of Ukraine. Vol. 20, No. 7: Aphids—Lachnidae. — Naukova Dumka, Kiev. 226 pp. [In Ukrainian.]

Mamontova, V. A. 2002: New Replacement Name for *Cinara nigra* Mamontova. — Vestnik zoologii 36 (4): 98.

Remaudière, G. & Remaudière, M. 1997: Catalogue of the word's Aphididae. — INRA editions, Paris. 474 pp.