

## A brief review of species of the genus *Parablastothrix* with description of a new species from Mexico (Hymenoptera: Encyrtidae)

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A diagnosis of the genus *Parablastothrix* Mercet, 1917 and a list of its species with some data on their geographical distribution and hosts, leaf-mining Lepidoptera, are provided. A new species *P. ninelpetrovae* from Mexico is described and compared with *P. nearctica* Miller, 1965 from USA.

**Key words:** Hymenoptera, Encyrtidae, *Parablastothrix*, new species

### INTRODUCTION

Until now, 16 species are described in *Parablastothrix* Mercet, 1917, seven of them having been reared from cocoons of leaf-mining Lepidoptera of the families Nepticulidae, Gracillariidae, Lyonetiidae, Heliozelidae, and Bucculatricidae. In 2001, while in the entomological collection of the University of California, Riverside, USA, I examined a female of an encyrtid wasp from Mexico belonging to the genus *Parablastothrix*. A comparison with a paratype of *P. nearctica* Miller, 1965, a species widely distributed in USA (Miller, 1965; Zuparko, 1995), I supposed that the Mexican specimen belonged to an undescribed species closely related to *P. nearctica*.

### TAXONOMIC PART

#### Genus *Parablastothrix* Mercet, 1917

Type species: *Parablastothrix vespertina* Mercet, 1917 by monotypy.

*Gender:* feminine.

*Diagnosis. Female.* Body more or less compact or somewhat elongate, with metallic luster. Frontoververtex broad. Occipital margin sharp. Malar spaces very short, in some species almost absent. Antennal scape not broadened; funicle with 6 segments; clava 3-segmented. Mandible with 3 teeth at apex. Pronotum short. Mesoscutum without parapsidal lines. Wings not abbreviate.

Submarginal vein of fore wing without triangular dilation in its apical third; marginal vein longer than wide or almost punctiform; postmarginal vein shorter than stigmal. Ovipositor not exerted.

*Male.* Funicular segments of antenna with 4–5 long branches; clava non-segmented.

*Comments.* The genus has been described primarily from Spain (Mercet, 1917; 1921). Review of its Holarctic species was published by Logvinovskaya (1981), and a key to Palaearctic species – by Trjapitzin (1989). Trjapitzin (1973) included *Parablastothrix* into the subtribe Pentacnemina Hoffer, 1955 of the tribe Copidosomatini Hoffer, 1955. But Pentacnemina occurred to be a synonym of Copidosomatina. Trjapitzin and Gordh (1978) established a subtribe *Parablastothrichina* for *Parablastothrix* and *Calometopia* Mercet, 1921 (later the latter genus was synonymized with the former by Trjapitzin (1989). Noyes and Hayat (1984) considered the genera *Parablastothrix* and *Calometopia* to be morphologically closer to the subtribe *Aplycina* Hoffer, 1954 of the tribe *Aphycini* Hoffer, 1954. However they did not support this point of view. I do not agree with the placement of *Parablastothrix* in *Aphycina* because it contradicts host-parasite relations. All members of the subtribe *Aphycina* are parasites of mealybugs (Homoptera: Pseudococcidae), and most probably this subtribe should be assigned to the subfamily *Tetracneminae* Howard, 1892 rather than to the

subfamily Encyrtinae Walker, 1837 which contains all Copidosomatini. According to Zuparko (1995), *Parablastothrix* is the most basal lineage within this tribe. This may be true especially taking into consideration the monoembryony of *Parablastothrix* in spite of some specialized morphological features of the genus, for example very short (nearly absent) malar spaces.

*Composition.* The following species of *Parablastothrix* have been described:

*P. albifemur* (Girault, 1922) – Australia (Queensland).

*P. chilensis* (Brethes, 1919) – Chile.

*P. flavicornis* (Mercet, 1921) – Spain, Hungary (ex nepticulid *Nepticula submacuella* Haworth on oak *Quercus*).

*P. fulgens* Logvinovskaya, 1981 – Ukraine (Crimea).

*P. kodensis* (Hoffer, 1957) – Czech Republic, Russia (Voronezh Province).

*P. maritima* Logvinovskaya, 1981 – Russia (Primorsky Terr.; ex neptiulid *Ectoedemia picturata* Puplesis).

*P. metatibialis* Erdos, 1955 – Sweden, Czech Republic, Hungary.

*P. montana* Erdos, 1955 – Netherlands (ex *Nepticula vimineticola* Frey), Sweden, Finland, Germany, Czech Republic, Slovakia, Hungary, Bulgaria, Russia (Karelia, Leningrad and Kaluga Provinces).

*P. nearctica* Miller, 1965 – USA: Michigan, West Virginia (ex nepticulid *Obrussa* sp.), Virginia, Mississippi (ex heliozelid *Coptodisca* sp. on bilberry *Vaccinium arborescens*), California (ex bucculatricid *Nepticula variella* Braun, *C. powellella* Opler and *Bucculatrix albertiella* Busck, gracillariid *Phyllonorycter sandraella* Opler on oak *Quercus agrifolia*, and ex *Nepticula* spp. on *Q. dumosa*, *Ceanothus* sp. [fam. Rhamnaceae] and *Prunus ilicifolia*), Arizona. According to Zuparko (1995), *P. nearctica* is a solitary, thus monoembryonic, parasite.

*P. nepticulae* Hedqvist, 1976 – Sri Lanka (ex *Nepticula ipomoella* Gust).

*P. plugarui* Trjapitzin, 1971 – Hungary, Moldavia (ex *Bucculatrix ulmella* Zeller on oaks *Quercus robur* and *Q. petraea*).

*P. reimovi* Trjapitzin, 1970 – Turkmenistan, Uzbekistan (Karakalpakistan).

*P. sugonjaevi* Logvinovskaya, 1981 – Tajikistan (West Pamir).

*P. trjapitzini* Logvinovskaya, 1980 – Russia (Voronezh Province).

*P. uncinatus* (Girault, 1915) – Australia (Queensland).

*P. vespertina* Mercet, 1917 – Spain, England (ex *Nepticula salicis* Stainton on sallow *Salix caprea*).

### *Parablastothrix ninelpetrovae* sp. nov.

*Holotype.* Mexico, D.F., 12 mi. W.W. Texcoco, elev. 2300 meters, screen sweeping, 28 Oct. 1982, coll. A. Gonzalez (University of California Collection, Department of Entomology, Riverside, California, USA).

*Description. Female.* Frontovortex about 0.5 maximum head width and a little longer than wide (5 : 4). Occipital margin slightly and smoothly convex, eyes almost reaching it. Apical angle of ocellar triangle about 90°; distance between posterior ocelli somewhat longer than distance from posterior to anterior ocelli; distance from posterior ocelli to occipital margin approximately equal to that to eyes margins. Antennal toruli located above level of inferior margins of eyes; scrobes short and not meeting above. Scape of antenna almost linear, long and narrow, 8 times longer than wide, and 3.4 times longer than pedicel. Pedicel about 2.3 times longer than wide at apex and somewhat longer than 1st funicular segment which is longer than wide; 2nd segment of funicle only slightly longer than the 1st (6 : 5) and 3 times longer than wide; 3rd and 4th segments slightly shorter than 2nd (5 : 6) and longer than wide (5 : 3); 5th segment somewhat longer than 4th (7 : 5) and longer than wide (3 : 2); 6th segment only slightly shorter than 5th and 1.5–2 times longer than wide. Clava short, somewhat longer than two preceding funicular segments combined and 2–3 times longer than wide; its apical segment short and obliquely truncate dorsally almost to base; length of this truncation about 2 times less than that of ventral margin of clava; 1st segment of clava longest; sutures dividing seg-

ments of clava almost transverse. Malar space 9 times shorter than greatest diameter of eye.

Pronotum short, with concave hind margin. Mesoscutum somewhat wider than long (37 : 30). Axillae narrow. Scutellum slightly shorter than mesoscutum (5 : 6) and longer than wide, its apical part overhanging plate-like the middle part of propodeum; margins of scutellum acute. Mesopleura not reaching base of gaster being separated by triangular metapleura and by lateral parts of propodeum. Propodeum very short in middle and inclined posteriad. Gaster slightly shorter than mesosoma.

Forewing long, 2.6 times longer than wide, very far exceeding apex of gaster; costal cell narrow, 12 times longer than wide. Marginal vein 2.5 times longer than wide; stigmal vein straight, as long as marginal vein, narrow at its base and broadening to the apex; postmarginal vein shorter than stigmal (5 : 8). Mesotibial spur slightly longer than the 1st segment of mid tarsus (5 : 4), which is very long, 2.5 times longer than 2nd segment and 5 times longer than wide. Last (VII) abdominal sternite (hypopygium) not reaching apex of gaster. Ovipositor sheaths well seen from beneath and at sides but only inconsiderably exerted when observed from above.

Head green-blue. Scape of antenna brown-yellow or yellow-brown, with darkening along dorsal margin and at apex; remaining parts of antenna blackish or black-brown. Mandibles yellow, darkened apically. Palpi more or less yellow. Pronotum greenish-violet-blue. Mesoscutum bright blue-green or green-blue, with some bronze and violet reflections. Tegulae dirty white with more or less bronze apices. Axillae and scutellum bronze-green. Postspiracular sclerites yellow-wish-white, but dark along lateral sides of pronotum and bronze in some dorsal parts. Forewing hyaline with rather broad slightly darkened transverse stripe under marginal, postmarginal and stigmal veins, this stripe reaching posterior margin of wing, and its width about 1/3 of the greatest wing width. Mesopleura

bluish-bronze-violet. All coxae and femora white. Fore tibiae brownish-yellow; mid tibiae dirty white, with darkened apices; mesotibial spur white; hind tibiae black, with light bases. Fore and mid tarsi darkened, last segment of mid tarsi being black; hind tarsi black. Propodeum green-blue medially. Gaster green-blue-violet. Ovipositor sheaths dirty white.

Frontovertex with fine cellular sculpture, scattered punctulation on vertex, with row of dots along each inner orbit of eyes. Sculpture of mesoscutum very finely cellular and punctulate. Axillae and scutellum with larger cells. Sculpture of mesopleura rather largely cellular, deep. Propodeum and gaster with cellular sculpture.

Face, malar spaces and cheeks with sparse short light pubescence. Mesoscutum with longer, but not dense, light setae. Metapleura and lateral parts of propodeum with very short dense light pubescence. Linea calva or fore wing not reaching posterior margin of wing.

Body length 2.0 mm.

*Male* unknown.

*Etymology.* The species is named after Ninel Alexeyevna Petrova, a karyosystematist of Simuliidae and Chironomidae in the Zoological Institute (St. Petersburg).

*Comments and comparison.* The new species is close to *P. nearctica* in the body colouration. Though Miller (1965) reported that *P. nearctica* had the overall body colouration black with bluish and greenish reflections, Zuparko (1995) revealed that this might be an error for the holotype and two paratypes of *P. nearctica* he re-examined as well as specimens from California and Arizona had a green body. I examined one paratype of *P. nearctica* in the U.S. National Museum, Washington, and also found that the hind tarsi of this species are white. The female of *P. ninelpetrovae* **sp. nov.** differs from that of *P. nearctica* in having the following main characters: 1st to 3rd funicular segments of antenna subquadrate (vs. longer than wide in *P. nearctica*), the marginal vein of the forewing as long as stigmal (vs. much shorter),

the transverse stripe under marginal veins intensively dark (vs. weakly pronounced), the hind tarsi white (vs. black).

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