

***Sugonyaevita* subgen. nov. of the genus *Encyrtus* Latreille, 1809  
(Hymenoptera: Encyrtidae)*****Sugonyaevita* subgen. nov. из рода *Encyrtus* Latreille, 1809  
(Hymenoptera: Encyrtidae)**

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***Sugonyaevita* subgen. nov.** of the genus *Encyrtus* Latreille, 1809 is established and described. Type species of this subgenus, *Encyrtus ludmilae* Sugonyaev, 1999, was reared from the soft scale *Megalocryptes bambusicola* (Green, 1930) (Hemiptera: Coccidae) dwelling on the surface of bamboo stems in nests of the ant *Crematogaster* sp. (Hymenoptera: Formicidae) in Vietnam.

В составе рода *Encyrtus* Latreille, 1809 описан новый подрод ***Sugonyaevita* subgen. nov.** Типовой вид этого подрода – *Encyrtus ludmilae* Sugonyaev, 1999 – был выведен из ложнощитовки *Megalocryptes bambusicola* (Green, 1930) (Hemiptera: Coccidae), обитающей на поверхности стволов бамбука в гнездах муравья *Crematogaster* sp. (Hymenoptera: Formicidae) во Вьетнаме.

**Key words:** encyrtid parasitoids, taxonomy, Vietnam, Hymenoptera, Encyrtidae, *Encyrtus*, new subgenus

**Ключевые слова:** паразитоиды-энциртиды, таксономия, Вьетнам, Hymenoptera, Encyrtidae, *Encyrtus*, новый подрод

**INTRODUCTION**

The encyrtid genus *Encyrtus* Latreille, 1809 (Hymenoptera: Encyrtidae) belongs to the tribe Encyrtini of the subfamily Encyrtinae. Its current diagnoses were given by Noyes (2010) and Trjapitzin (2014). Distribution of the genus is cosmopolitan (except for the Arctic and Antarctic zones), with 87 distinct species (Noyes, 2013). Species of *Encyrtus* with known biology are primary endoparasitoids of Coccidae. Some of them, for example *E. aurantii* (Geoffroy, 1785) [more familiar under its synonymic name *E. lecaniorum* (Mayr, 1876)] and *E. saliens* Prinsloo et Annecke, 1978, have been used for classical biological control and integrated pest management.

**SUBGENERIC STRUCTURE  
OF THE GENUS *ENCYRTUS***

The first attempt to define some species groups within *Encyrtus* was made by Sugonyaev & Gordh (1981) based on the Holartic material known to them. Depending on the types of dorsal and lateral ridges of the facial cavity they divided the genus into two species groups, as follows.

I. The group of *E. lecaniorum*. Its fronto-facial ridge has a shape of a bow which almost attains eye orbits; there is a keel on the gena. Referred here are *E. lecaniorum*, *E. infelix* (Embleton, 1902) and *E. fuscus* (Howard, 1881); now it is necessary to add to this group also the Palaearctic species *E. dubius* (Mercet, 1921) and *E. sugonyaevi* Simutnik,

2010. Trjapitzin (2008) divided this species group into two subgroups: 1) the subgroup of *A. aurantii* with a strongly developed hairy keel on the gena; 2) the subgroup of *E. infelix* with a faintly developed keel.

II. The group of *E. infidus* (Rossi, 1790). Dorsal part of the fronto-facial ridge is rounded and does not attain laterally the inner orbits of eyes. Referred here are *E. infidus*, *E. swederi* Dalman, 1820, *E. albitarsus* Zetterstedt, 1840, *E. marilandicus* (Girault, 1917), *E. sasakii* Ishii, 1928 and *E. trjapitzini* Myartseva et Sugonjaev, 1977. Prinsloo (1991), however, noted that the diagnostic features of this species group proposed by Sugonjaev & Gordh (1981) do not fit the Afrotropical species of *Encyrtus*. Discussion of this problem is beyond the scope of this contribution.

Trjapitzin & Myartseva (2004) defined two other species groups within *Encyrtus*.

III. The group of *E. mexicanus* (Girault, 1917) with the female hypopygium (metasomal sternite VII) triangular, attaining or almost attaining apex of the gaster. Referred here are two American species: *E. mexicanus* and *E. kerzhneri* Trjapitzin et Sitdikov, 1993. However, these species are different in some other characters, so separation of this species group may be unjustified.

IV. The group of *E. cancinoi* Trjapitzin et Myartseva, 2004 with a long marginal vein of the fore wing. Referred here is only *E. cancinoi* from Mexico. The Afrotropical species *E. fuliginosus* Compere, 1940 also has a long marginal vein, but it is not related to *E. cancinoi*.

These attempts to separate species groups within *Encyrtus* were preliminary, because they did not include all known species of this genus. Besides, many tropical species of *Encyrtus* remain to be described, as shown by Noyes (2010) who discovered thirteen new species in Costa Rica alone. Comparative morphology studies within *Encyrtus* are just in a beginning stage. Possibly in the future, *Encyrtus* may be divided into several separate genera. The first step in this direction may be definitions of some

subgenera. Thus, *Sugonyaevita* subgen. nov. is suggested here as the first taxon of subgeneric rank within *Encyrtus* owing to its highly apomorphic morphological and biological features.

## TAXONOMIC PART

### Order HYMENOPTERA

### Family ENCYRTIDAE

### Genus *Encyrtus* Latreille, 1809

### *Sugonyaevita* subgen. nov. (Figs 1–9)

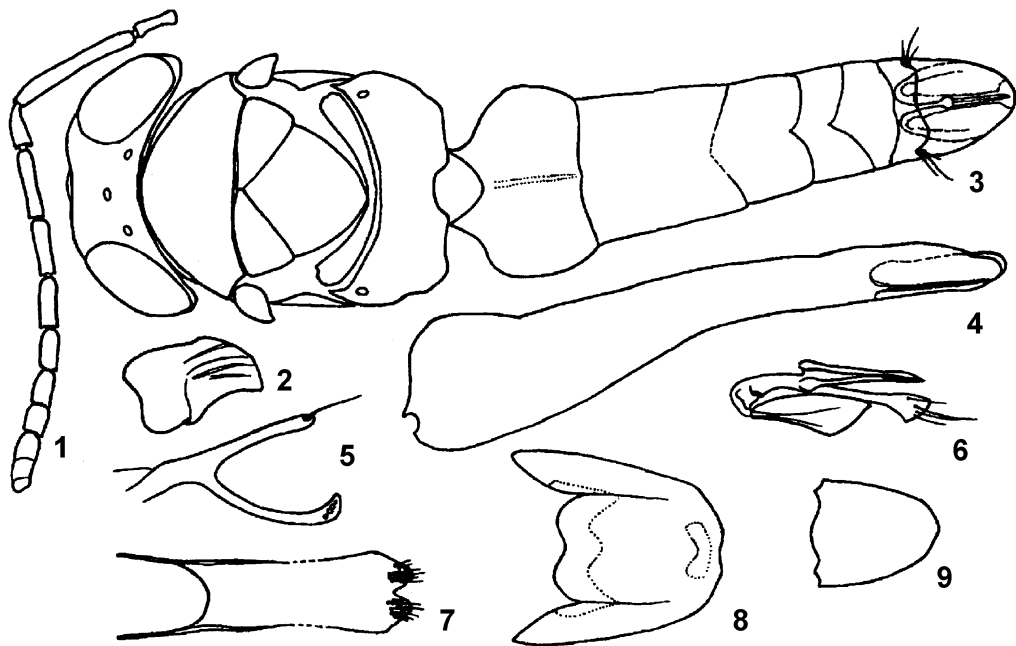
Type species: *Encyrtus ludmilae* Sugonyaev, 1999.

*Diagnosis.* Female. Gaster very long, somewhat curved ventrally (Figs 3, 4); III metasomal (first gastral) tergite cordiformly broadened (Fig. 3); IV tergite and the following metasomal tergites narrow. Ovipositor apparatus small, at apex of gaster (Figs 3, 4, 6). Antenna (Fig. 1) thin, with all funicular segments considerably longer than wide. Length of body 3.0–3.7 mm.

Male unknown.

*Distribution.* Vietnam (Sugonyaev, 1999).

*Biology.* *Encyrtus ludmilae* was reared by E.S. Sugonyaev in 1995 from females of *Megalocryptes bambusicola* (Green, 1930) on the surface of bamboo stems inside nests of the ant *Crematogaster* sp. (Hymenoptera: Formicidae) (Sugonyaev, 1999). An unusually slender gaster of the parasitoid female with the ovipositor apparatus at its apex is indicative of myrmecotropy of this species. It is an adaptation to parasitization of the host dwelling in narrow interspaces between the superficies of bamboo stems and the ant nest made from a cardboard-like mass. The large transverse head and broad mesosoma do not permit females of the parasitoid to penetrate into these interspaces. Apparently, females of *E. ludmilae* use trackways of the ants to get to the spaces inhabited by the soft scale; they push through their slender gasters into this narrow interspace



**Figs 1–9.** *Encyrtus (Sugonyaevita) ludmilae*, female (after Sugonyaev, 1999): 1, antenna; 2, mandible; 3, body, dorsal view; 4, metasoma, lateral view; 5, part of venation of fore wing; 6, ovipositor complex; 7, sternite VII of metasoma; 8, tergite VII of metasoma; 9, syntergite IX of metasoma.

and to parasitize the host (Sugonyaev, 1995, 1999, 2001, 2009).

**Etymology.** It gives me a great pleasure to name this subgenus after my friend and colleague Professor Evgeniy Semenovich Sugonyaev. I collaborated with him for nearly 60 years (since 1955).

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