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MORPHOLOGICAL CHARACTERISTICS OF MALE GENITALIA IN SOME SPECIES IN THE GENUS *TORYMUS*

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Morphological Characteristics of Male Genitalia in Some Species in the Genus *Torymus* (Torymidae, Hymenoptera). Klymenko S. I. — Morphology of male genitalia in some species in the genus *Torymus* Dalman is studied for the first time. In contrast to genitalia of Eurytomidae species, where this structure is highly species-specific, the structure of genitalia in Torymidae species show no distinct specific differences: phallobase in studied species is opened; most species have three hooks on digital sclerites with the small indents at their bases.

Key words: genitalia, phallobase, *Torymus*.

Особенности морфологии генитального аппарата самцов некоторых видов рода *Torymus*. Клименко С. И. — Впервые исследована морфология генитального аппарата самцов некоторых видов рода *Torymus*. В отличие от генитального аппарата эвритомид как признака, который является высоко видоспецифическим, в строении гениталий торимид нет четко выраженных видовых отличий: фаллобаза у всех исследованных видов открытого типа, у большинства видов по три крючка на дигитальных склеритах, в основании крючьев имеются небольшие зубцы.

Ключевые слова: генитальный аппарат, фаллобаза, *Torymus*.

Morphology of male genitalia in some species in the genus *Torymus* is studied for the first time.

The structure of genitalia in Torymidae species were studied in two species — *Torymus fagopirum* (Provancher) and *T. rubi* (Schrank) (Snodgrass, 1941; Zerova, Seryogina, 2003). We studied morphology of male genitalia from some species from the genus *Torymus*, its subgenera *Torymus* Dalman, *Syntomaspis* Förster, *Lioterphus* Thomson.

Male genitalia in Torymidae species have long gaunt phallobase, no basal ring and distinct cuspidal parts. Phallobase is a hollow tube, open in Torymidae. This means that its dorsal longitudinal part is formed by two folds closing down or (more often) laying upon each other. In some cases, in open phallobase, folds are not tightly closed leaving dorsal slit. Along the edges of the either side of the fallobaza distal opening there are parameres looking like short lobes with a few setae on their outer side. The setae have different length, and sometimes are not too visible. Two digital sclerites are movably joined to the ventral edge of the phallobase distal opening. Outer edge of the digital sclerites bears some sharp hooks joined movably. There is movable part, aedeagus, inside phallobase. Principle differences in aedeagus structure are in its distal part that may be either narrow or something broadened. In all species studied, external part of aedeagus is narrow. From the basal part of the aedeagus, chitinous bands, apodemes, are stretched out backwards.

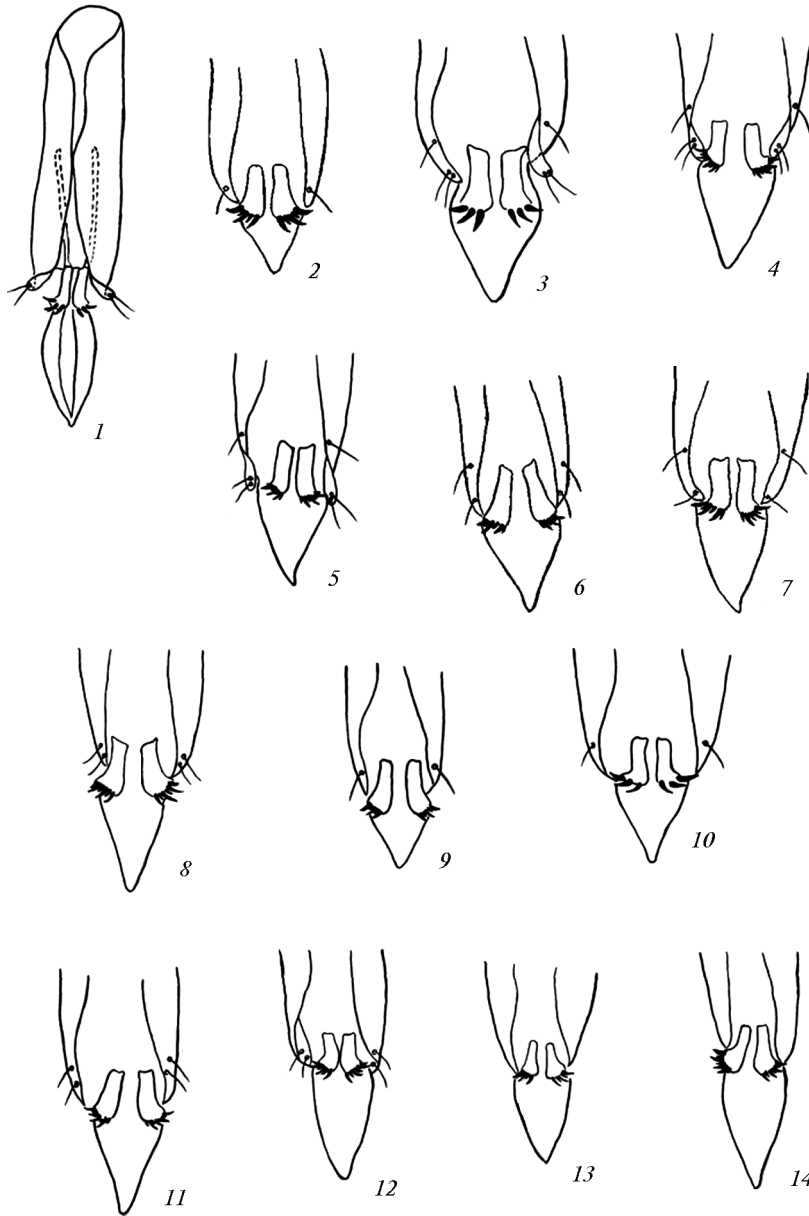


Fig. 1. Male genitalia: 1 — *Torymus rubi*; 2 — *Lioterphus nitidulus*; 3 — *Torymus verbasci*; 4 — *Torymus giraudianus*; 5 — *Torymus bedeguaris*; 6 — *Torymus ventralis*; 7 — *Torymus auratus*; 8 — *Torymus cingulatus*; 9 — *Torymus eglanteriae*; 10 — *Torymus arundinis*; 11 — *Syntomaspis eurytomae*; 12 — *Syntomaspis affinis*; 13 — *Syntomaspis montanus*; 14 — *Syntomaspis varians*.

Рис. 1. Генитальный аппарат самцов: 1 — *Torymus rubi*; 2 — *Lioterphus nitidulus*; 3 — *Torymus verbasci*; 4 — *Torymus giraudianus*; 5 — *Torymus bedeguaris*; 6 — *Torymus ventralis*; 7 — *Torymus auratus*; 8 — *Torymus cingulatus*; 9 — *Torymus eglanteriae*; 10 — *Torymus arundinis*; 11 — *Syntomaspis eurytomae*; 12 — *Syntomaspis affinis*; 13 — *Syntomaspis montanus*; 14 — *Syntomaspis varians*.

All species from genus *Torymus* have opened phallobase (fig. 1, 1). Number and length of setae in species studied are different, in two species, *S. montanus* Zerova and *S. varians* (Walker) setae are not revealed (fig. 1, 13, 14). Main specific characters in the structure of genitalia in Torymidae species are the shape of digital sclerites, size and number of hooks on them, and presence or absence indents at their bases. Thus, in 11

species we found three large hooks on each digital sclerite (fig. 1, 1–3, 5–10, 12, 13); in 3 species, *T. giraudianus* (Hoffmeyer), *S. eurytomae* Puzanova-Malysheva, *S. varians* (Walker), there were four hooks (fig. 1, 4, 11, 14); and 8 species have small indents at hook bases (fig. 1, 2, 4–9, 11).

Morphological analysis of male genitalia in species in the genus *Torymus* shows that there are no distinct specific differences in the structure of male genitalia similar to those in species in the genus *Eurytoma* (Eurytomidae) studied earlier (Zerova, Seregina, Klymenko, 2010). Phallobase can be either open or closed in Eurytomidae species, shape of digital sclerites and number of hooks on them is species-specific. Furthermore, there are no distinct differences between species in the subgenera *Torymus*, *Syntomaspis* and *Lioterphus*.

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