

The twisted-wing parasites (Strepsiptera) are entomophagous insect order with cosmopolitan distribution. There are about 600 known species up to date. In spite of this, they have very broad host spectrum. Strepsiptera parasites in seven insect groups (Thysanura, Blattodea, Mantodea, Orthoptera, Hemiptera, Diptera, Hymenoptera). The mutual relationship between genera or even between species are not known, except for the species list and the host specification. Moreover, there is an unambiguous use of their species concept. Some authors consider Strepsiptera as the specialists and they match almost every host species with one separate strepsipteran parasite. The opposite concept is to consider strepsiptera as the generalists. The presence of the cryptic species also affect our understanding of the diversity of Strepsiptera. Therefore, the knowledge of Strepsiptera phylogeny provide us the important information about species diversity of studied group as well as about their coevolution with their hosts.

On the basis of molecular analyses of three genes constructed the phylogeny genus Stylops. This genus has the wider spectrum of the host species from other strepsipterans of Stylopidae, It is obvious, that strepsipterans of genus Stylops are mainly specialised on their host subgenus. There was detected two species of Strepsiptera, which are parasites of two different host species. It was also distinguished about thirty species of studied group. It is evident, that the diversity of Strepsiptera is much higher than was presented so far.

Key words: Strepsiptera, Stylops, phylogeny, parasitic, host specificity.