

## Abstract

Parasitoid wasp *Lipolexis gracilis* ( Förster ) is primary parasitoid of many of vegetation hazardous aphids. The wasp is polyphagous species with global range and as primary internal parasitoid , to control different species of aphids have been introduced. In this study, morphological characteristics of parasitoid wasp *Lipolexis gracilis* in different biogeography regions examined. Studied samples from 12 countries including Iran, Pakistan, Japan, Czech Republic, France, Serbia, Slovenia, Aslvakya, Spain, Montenegro, Thailand and United states of America and on the 7 aphid genera were collected. Female insects from each sample selected and from them microscopic slides prepared and ten morphological traits were compared. These characteristics including count the number of antenna segments , length to width ratio of the first and secong segments of flagellum, ratio of the length first segment of flagellum to it second segment, count the number of sensory plates on first and second segments of flagellum, count the number of maxillae palp and labium segments and length to width ratio of petiole, propodeum characteristic and also ovipositor sheath properties. Measurement of relative morphological characteristic using the software tps dig 2/05 linearly were performed and three methods of analysis , DFA, CVA and UPGMA for data analysis in software statistic version10 were used. Results of analysis showed that between studied populations, there are significant difference, but clear evidence based on relation of these three groups with specific hosts not understood. This may be due to morphological variation of intraspecies that led to ambiguity in results obtained will be. At the same time, based on studies, two series of samples quite distinct from North America and Thailand were identified , as new species were included. Both new species, according to number of palp segment , wing venation and jagged lines on the petiole easily are distinguished from other species. Further studies combined with analysis of molecular properties to identify species and subspecies in palearctic region is essential.

: *Lipolexis gracilis*, Taxonomic revision, Species group, Aphidiina **Keywords**

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**Taxonomic revision on different populations of  
*Lipolexis gracilis* (Förster)  
(Hym., Braconidae, Aphidiinae)**

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