**An Extensive Assessment on Phylogeny and Phylogeography of *Simulium ornatum* species group (Simuliidae: Diptera) in Turkey**

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The aim of this study is investigate the phylogeny and phylogeography of the Anatolian *S. ornatum* species group, which is widely distributed in Palearctic, with using COI, NADH2 and ITS 1 and 2 regions.

Specimens collected from 222 different localities representing 54 provinces in 19 freshwater basins in Turkey between 2014-2018. Furthermore, specimens from 17 different localities from Europe were included in the study. Total DNA was extracted from 384 individuals. After polymerase chain reaction and Sanger sequencing, data sets were generated for each region and; Maximum likelyhood, Maximum parsimony, Bayesian phylogeny, Haplotype network analysis and Molecular clock analysis were applied to the data sets with the aim of the assessment of the evolutionary relationships of the species group.

The following conclusions were obtained for the species group; morphotaxonomically, identified as *Simulium ornatum* Meigen, 1818 and *Simulium kiritshenkoi* Rubtsov, 1940 were found to be genetically not as two different species. *Simulium intermedium* Roubaud, 1906, which is another species of the species group, was recorded for the first time from our country. As a result of the phylogenetic analysis, it was predicted that this species could be considered as a sibling species differentiating from *S. ornatum* +*S. kiritshenkoi* clade. It is concluded that faunistic data of *Ornatum* species group of Anatolia need a serious revision. Within the species group, *S. intermedium* species, shared the last common ancestor with *S. kiritshenkoi*+ *S. ornatum* clade about 3.5 million yearsago (Pleistocene-Pliocene transition).

**Keywords**: *Simulium ornatum*, COI, NADH2, ITS 1-2, Phylogeny, Phylogeography.