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PROGRAMME
&
BOOK OF ABSTRACTS



MYTILENE 2019



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Unexpected high COI divergence between Balkan and Anatolian lineages of *Merodon ambiguus* and *Merodon sapphous* (Diptera, Syrphidae)

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Merodon ambiguus Bradescu, 1986 and *M. sapphous* Vujić, Pérez-Bañon et Radenković, 2007 belong to the *M. bessarabicus* subgroup of the *M. aureus* species group. The *M. aureus* species group has been intensively revised during the last years. Cryptic species complexes within the group were resolved using an integrative taxonomic approach. The single information source on genetic diversity of these complexes is the mitochondrial gene for the cytochrome c oxidase subunit 1, or COI. The COI gene is widely accepted as an appropriate marker for species delimitation studies, although no universal or constant threshold value for species delimitation exists. In this study, we aimed to estimate COI sequence divergence among Balkan and Anatolian lineages of *M. ambiguus* and *M. sapphous* species in order to check for cryptic speciation. The resulting distance estimation indicates high COI divergence between Balkan and Anatolian lineages in both species. Such high COI divergence corresponds to species group divergence and might indicate the presence of cryptic species. Despite high divergence between lineages of the same species, COI divergence between Balkan lineage of *M. ambiguus* and Anatolian lineage of *M. sapphous*, as well as Balkan lineage of *M. sapphous* and Anatolian lineage of *M. ambiguus*, is unexpectedly low and correspond to intraspecies or closely related species divergence level. In order to discover the cause of this inconsistency we employ additional mitochondrial and nuclear molecular markers and evaluate their levels of variability and potential utility in species delimitation studies.

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