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**Biology, ecology and pre-imaginal stages of new species in the
Merodon planifacies Bezzi, 1915 species complex: *M. capi* and *M. roni*
(Diptera:Syrphidae)**

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The genus *Merodon* Meigen, 1803 is the largest European hoverfly genus, widely distributed around the Palaearctic and Afrotropical regions. Larvae of *Merodon* are phytophagous, feeding on buried plant storage structures, often bulbs of plants pollinated by the adults. The larval morphology and habits of most species remain unknown.

Merodon planifacies Bezzi, 1915, belongs to the Afrotropical lineage of the *M. desuturinus* species-group. The latest studies of *Merodon* in Africa have revealed the existence of two new species within the taxon previously known as *Merodon planifacies*, found exclusively in the Drakensberg Mountains in Republic of South Africa, specifically in the Cathedral Peak National Park and the Royal Natal National Park. These two new species are *M. capi* in litt. and *M. roni* in litt.

The current study presents the general description of the pre-imaginal stages of *M. capi* and *M. roni*, together with the functional morphology of the cephalopharyngeal skeleton. Geometric morphometry and linear measurements were carried out on the spiracular openings of the Posterior Respiratory Process (PRP) of pupae. There were differences in the shape of the PRP and spiracular openings between the two species. The feeding



requirements of adults of the two species were analysed and compared with a third species from the *M. desuturinus* species-group, found in the same valleys at the same time: *M. drakonis* Vujić & Radenković, 2018. Pollen grains found on the body and in the gut were identified and counted; the morphology of the mouthparts of the adults was also described and compared.

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