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***CYPHOPHTHALMUS SOLENTIENSIS* SP. NOV. (CYPHOPHTHALMI, SIRONIDAE), A NEW ENDOGEAN MITE HARVESTMAN SPECIES FROM CROATIA, WITH AN APPLICATION OF CONFOCAL LASER MICROSCOPY TO ILLUSTRATE GENITALIA IN OPILIONES**

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ABSTRACT. The genus *Cyphophthalmus* is one of the most diverse genera of Cyphophthalmi and has been used as a model to study diversification in the Balkan region. However, the taxonomy of the group is deficient and type material is not available for study. Here we describe a new species, *Cyphophthalmus solentiensis* sp. nov., from the coastal region of Croatia using state-of-the-art techniques for illustrating species of Cyphophthalmi. The species, phylogenetically close to *C. gjorgjevici* on the basis of a molecular data analysis of four markers, is illustrated by means of stereomicroscopy and scanning electron microscopy, and the genitalia are imaged using confocal laser microscopy and three-dimensional reconstruction techniques, allowing unparalleled visualization of Opiliones genitalia. We hope that this description stimulates research in this diverse but still obscure genus of Cyphophthalmi.

KEY WORDS: Opiliones; Arachnida; genitalia; phylogeny; Balkans; Mediterranean region; confocal laser microscopy; molecular data

INTRODUCTION

Among the most diverse genera of Cyphophthalmi is the sironid *Cyphophthalmus* Joseph, 1868, with 32 species currently recognized (Karaman, 2009), distributed from

Austria to Turkey along the Mediterranean region. The group has undergone an interesting biogeographical history due to its ancient age and because it diversified explosively in the Balkan region, giving origin to at least three phylogenetic lineages (Boyer *et al.*, 2005; Murienne *et al.*, 2010) whose evolution could be related to the paleogeographic history of the Adria microplate (Murienne *et al.*, 2010). Among these three clades, the *gjorgjevici* lineage is one of the poorest-known lineages, and includes *C.*

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