

Poster 13

Systematics of the leech genus *Orobdella*

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Terrestrial macrophagous leeches (the family Orobdellidae) are distributed in East Asia. Orobdellidae is a monotypic family and includes only its type genus *Orobdella*. Orobdellid leeches possess three patterns of mid-body somite annulation in different species, viz., quadrannulate (which means one somite is divided into four short rings), sexannulate (six rings), and octannulate (eight rings). Eleven species were described and have been recorded from Japan, Taiwan, and South Korea. Sexannulate and octannulate species of *Orobdella* have been only reported from the Japanese Archipelago. During the past five years, about 300 orobdellid specimens have been newly collected and morphologically examined. In addition, phylogenies of the known as well as unidentified *Orobdella* species were reconstructed based on mitochondrial DNA sequences (app. 2400 bp). The present results indicated that eight undescribed species are now recognized in Japan. Molecular phylogenies constructed herein revealed that sexannulation and octannulation have evolved in parallel in the genus *Orobdella*, in contrast to quadrannulation, which is a plesiomorphic characteristic of this genus. The annulation in *Orobdella* is considered to have diversified only in the species inhabiting the Japanese Archipelago.