

***Nebria tenuicaulis* sp. nov., a sympatric species with *Nebria sadona ohdaiensis* Nakane, with studies on the phylogeny of the subgenus *Sadonebria* Ledoux & Roux (Coleoptera: Carabidae)**

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**Abstract**

*Nebria* (*Sadonebria*) *tenuicaulis* **sp. nov.**, a sympatric species with *N. (S.) sadona ohdaiensis* Nakane, is described from Japan. Phylogenetic analysis of the subgenus *Sadonebria* Ledoux & Roux based on morphological characters of adult beetles is undertaken. The results indicate phylogenetic utility of endophallic structures of this group and provide the relationships of six taxa as ((((*N. sadona leechi* Bates, *N. saeviensi* Bates), *N. tenuicaulis* **sp. nov.**), *N. sadona ohdaiensis* Nakane), *N. niitakana* Kanô), *N. chinensis* Bates).

**Keywords:** endophallic structures, *Nebria tenuicaulis* **sp. nov.**, phylogeny, *Sadonebria*, sympatric species

**Introduction**

The subgenus *Sadonebria* was erected by Ledoux and Roux (2005) for *Nebria sadona* Bates. This subgenus includes four species, *N. sadona* Bates, *N. saeviensi* Bates, *N. niitakana* Kanô and *N. chinensis* Bates, and is distributed in China, Taiwan, Korea and Japan. In Japan, five species-group taxa occur: *N. sadona sadona*, *N. s. leechi* Bates, *N. s. ohdaiensis* Nakane, *N. saeviensi* and *N. chinensis* (Uéno 1985; Ledoux & Roux 2005).

In our recent research, it became apparent that two *Sadonebria* species coexist on Mt. Ohdaigahara, the type locality of *N. s. ohdaiensis*. In the present paper, we describe this new species, and provide phylogenetic analysis of the subgenus *Sadonebria* based on the morphological characters.