



A revision of the genus *Phellopsis* LeConte (Coleoptera: Zopheridae)

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Abstract

The world species of *Phellopsis* LeConte are revised based on the examination of all available material. *Phellopsis obcordata* (Kirby) and *P. porcata* (LeConte) are found to be valid vicariant species isolated in old growth boreal forest habitats of eastern and western North America, respectively. *Phellopsis robustula* Casey and *P. montana* Casey are placed as junior synonyms of *P. porcata* NEW SYNONYMIES. On the Asian continent, *P. imurai* Masumoto is placed in synonymy with *P. amurensis* (Heyden) NEW SYNONYMY. *Phellopsis amurensis* (Heyden) now has a documented range that extends from the coastal mountains of Russia's Primorskii Krai into the Korean peninsula. The other two described species found to be valid are *P. suberea* Lewis, known only from Japan, and *P. chinense* (Semenow) from west central China. *Phellopsis yulongensis* NEW SPECIES is described from the Yunnan Province of western China. Redescriptions of all valid species are provided, with comments on the history of the genus, biology and biogeography of the group. A key and illustrations are provided for the identification of all known *Phellopsis* species.

Key words: Coleoptera, Zopheridae, new species, taxonomy

Introduction

The genus *Phellopsis* LeConte is the only component of the tribe Phellopsini (Ślipiński and Lawrence 1999), and can be separated from other large Zopherinae by having 11-segmented antennae and slightly open procoxal cavities. It forms a distinct cluster based on a unique combination of characters (Ślipiński and Lawrence 1999) and hypothesized synapomorphies including the laterally lobed ventrites. The members of *Phellopsis* are widely distributed in the Holarctic, but exhibit very little interspecific morphological diversity. This similarity among species has led to considerable taxonomic confusion. This revision is the first for the genus as a whole, provides a key to species, full species descriptions, illustrations, taxonomic history, synoptic catalog and distribution maps for all included species.

Taxonomic history

LeConte (1862) erected *Phellopsis* for *Bolitophagus obcordatus* Kirby 1837 from Canada and New England, and *Nosoderma porcatum* LeConte 1853 from California and Oregon. In his 1853 description, LeConte noted the strong resemblance between *P. porcata* and *P. obcordata*, an observation that started the confused history of the taxonomy of the North American species.

Several authors have dealt with the problem of distinguishing these allopatric species in North America. Horn (1870) stated that the species were difficult to diagnose, but treated them as distinct species based on color and sculpture. Henshaw (1881) first synonymized the two species in his catalog of species described by