



Weevils, weevils, weevils everywhere*

ROLF G. OBERPRIELER¹, ADRIANA E. MARVALDI² & ROBERT S. ANDERSON³

¹ CSIRO Entomology, GPO Box 1700, Canberra ACT 2601, AUSTRALIA.

E-mail: rolf.oberprieler@csiro.au

² Instituto Argentino de Investigaciones de Zonas Áridas (IADIZA), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), C. C. 507, 5500 Mendoza, Argentina.

E-mail: marvaldi@lab.cricyt.edu.ar

³ Research Division, Canadian Museum of Nature, PO Box 3443, Station D, Ottawa, ON. K1P 6P4 CANADA.

Email: randerson@mus-nature.ca

*In: Zhang, Z.-Q. & Shear, W.A. (Eds) (2007) Linnaeus Tercentenary: Progress in Invertebrate Taxonomy. *Zootaxa*, 1668, 1–766.

Table of contents

Abstract	491
Carolus Linnaeus — the humble beginnings	492
Weevil numbers — a most inordinate fondness	493
Weevil classification — progress since Linnaeus	496
Nemonychidae	497
Anthribidae	499
Belidae	499
Attelabidae	500
Caridae	501
Brentidae	501
Curculionidae	503
Weevil fossils — a record of the past	509
Weevil evolutionary history — a sequence of key innovations	510
Weevils diversity — a tale of success	513
Acknowledgements	514
References	514

Abstract

An overview is presented of the progress made on the taxonomy, classification and phylogeny of weevils in the 250 years since the first taxonomic descriptions of weevils by Carolus Linnaeus. The number of described weevils species is calculated to be about 62 000 and the likely total number of existing species 220 000, indicating that we have described just over a quarter of the diversity of this important group of beetles and that, at current rates of discovery and description, it will take another 650 years or so to describe the rest. Within the framework of the current concept of weevil phylogeny, a brief account is given of the seven main weevil lineages (families), and of the subfamilies of the largest of them, the Curculionidae, summarising their diversity, distribution and biology and identifying the major classificatory problems remaining in each. In conjunction with the phylogenetic hypothesis of weevil relationships and their fossil record, which is briefly summarised, the evolutionary history of weevils is mapped as a sequence of key evolutionary innovations that together have led to the phenomenal diversification and success of weevils.

Key words: Curculionoidea, diversity, classification, phylogeny, evolutionary history