

EVOLUTIONARY MONOGRAPH 4. Biology of Ithycerus noveboracensis (Forster), (Coleoptera) and Weevil Phylogeny, by Michael Sanborne. 80 pp., 33 plates. April, 1981. Initial price \$13.00; \$11.00 to individuals.

Abstract: A detailed account of the biology of Ithycerus is given and includes life cycle, ecology, behaviour, distribution, geographic variation and zoogeography.

The larva and pupa of Ithycerus are described for the first time. Seven instars are reported with the possibility that more exist. The first instar larva of Arrhenodes minutus (Drury) and the final instar larva of Antliarrhinus are also described for the first time and compared with Ithycerus. The genus Antliarrhinus is given family ranking (Antliarrhinidae stat. nov.) and a diagnosis is provided. The digestive and reproductive systems, external genitalia, and larval and adult ventral nervous systems of Ithycerus are described.

A history of the higher classification of Ithycerus is outlined and a discussion of the merits of maintaining family status (Morimoto, 1976) for the genus is given. Additional notes are given on the classification of the "higher weevils", which include all species which have the 1st and 2nd visible sternites solidly fused together while the 3rd, 4th and 5th remain more or less freely articulated. This is the 'curculionid type' abdomen of Morimoto (1962).

A phylogenetic scheme is presented for the five families examined in this study; Ithyceridae, Brenthidae, Antliarrhinidae, Apionidae and Curculionidae (excluding Platypodidae and Scolytidae). Ithyceridae is believed to be very closely related to Brenthidae. The phylogenetic importance of ventral nervous systems of adult and larval Curculionoidea is discussed. Systems with 8 abd. ganglia, separated by long connectives, are considered primitive. An evolutionary sequence is postulated for the numbers and positions of setae and sensilla on the labra of larval Curculionoidea.

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