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Abstracts der Vorträge

The feeding apparatus in metalmarks with different proboscis lengths (Lepidoptera: Riodinidae)

Die Mundwerkzeuge und Saugpumpe bei Riodinidae (Lepidoptera) mit unterschiedlich langen Rüsseln

J. BAUDER

Among butterflies, some taxa of the family Riodinidae are known to comprise butterfly species with extremely long mouthparts, which exceed body length by far. Advantages of long proboscides are obvious in context with nectar feeding on long-spurred flowers. Since the number of nectar-feeding butterfly species with extremely long proboscides is considerably small, disadvantages are expected, that, however, received few attention so far. Because of this, the study at hand is the first that deals with potential anatomical costs that come from extremely elongated proboscides compared with short proboscides. Extra costs of proboscis elongation can be estimated by comparison of (1) the dimensions of the hemolymph pump that accounts for proboscis uncoiling, (2) the volumes of intragaleal muscles and cuticula, (3) the number of sensilla and (4) the dimensions of the suction pump that accounts for nectar uptake. Using micro computertomography and serial semithin sections for 3D reconstructions, as well as light microscopy, to examine structures and organs that are involved in the feeding process renders possible a morphometrical comparison between related long-tongued and short-tongued species. In this way, we will be able to quantify material investments and extra costs of extremely long proboscides to gain new insights in the evolutionary interactions between plants and insect pollinators.

Die Thematik wurde im Rahmen des FWF-Projekts 22248B17 "Extremely long mouthparts in flower-visiting insects: form, function, evolution." bearbeitet; Projektleiter Prof. Dr. Harald Krenn.

Anschrift der Verfasserin: Mag. Julia BAUDER
Department für Evolutionsbiologie
Universität Wien
Althanstraße 14, 1090 Wien, Austria
E-Mail: julia.bauder@univie.ac.at