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Diagnoses for *Nubensia*, n. gen. (Diptera, Chironomidae, Chironomini), with the first full descriptions of the adult female and larva of *N. nubens* (Edwards, 1929)

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Abstract

A new genus, *Nubensia* Spies, is proposed for *N. nubens* (Edwards, 1929), n. comb., based on morphological evaluation of both adult sexes, the pupa and larva. The material studied includes name-bearing syntype specimens and the first reared associations linking three life stages for individual members of this species. The larva represents a unique morphotype previously described incompletely only from studies of subfossil chironomid remains. The problems with placement of the species in any previously established genus are discussed in detail, and various related issues in taxonomy and nomenclature are commented on. The verified distribution of *N. nubens* ranges from the British Isles and central Europe to the western Mediterranean, including northern Africa, with possible extensions to Turkey and central Asia. Larvae have been found on mostly coarse, variously covered substrates near the shores of lakes and banks of slowly flowing running waters, under both oligotrophic and eutrophic conditions.

Key words: systematics, taxonomy, *Polypedilum*, *Pentapedilum*, *Phaenopsectra*, COI

Introduction

During sampling in an artificial oxbow of the river Rhine in Germany, the present second author collected third and fourth instar larvae that did not fit any taxon treated in keys to extant taxa of Holarctic Chironomidae. Specimens were sent to the first author, who made the taxonomic connection to material in the ZSM and discovered that such larvae had been found first in studies of subfossil midge remains. Hofmann (1991, 1993) presented a distinct larval morphotype he had found in sediment cores from maar lakes in France and Germany. The provisional name assigned by Hofmann, "Chironomini type A" or "Chironomini A", was changed to "*Polypedilum* type A" later (Brooks *et al.* 2007: 102), as the taxon was deemed "close to *P. braseniae*" (Leathers). A return trip to the Rhine site, and subsequent successful rearing, has yielded many additional specimens and provided direct links between several life stages of individual animals. The pupae and adults proved to belong to the species originally described as *Pentapedilum (Pentapedilum) nubens* Edwards, 1929 from males and females only.

The present paper gives the first full characterizations of the larva and adult female, emends the published descriptions of the pupa and adult male, and provides additional information we have gathered on the species as well as further observations made during this study. The results lead to four life-stage diagnoses for a proposed new genus, and to modifications of corresponding data for some comparable taxa.

Morphology and methods

The morphological terminology used below follows Cranston (2013) for larvae, Langton & Visser (2003) for pupae, and Sæther (1980) in all other cases, as respectively applicable. Concerning structures on the adult tibial

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