



Description of *Chironomus quinnitukut*, n. sp., closely related to the *C. decorus* group in North America, with characterization of an additional larval form from halobiontic habitats

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Abstract

Chironomus quinnitukut n. sp., from halobiontic habitats in Connecticut and Massachusetts, is described on the basis of the adult and larval morphology, and the banding pattern of the salivary gland chromosomes. In previous studies, the Connecticut population has been referred to as *Chironomus atrella* Townes, but a re-examination has indicated that it can be readily differentiated from *C. atrella* in all life stages. Rather, the banding pattern of the polytene chromosomes indicates the species, is best placed as a member of the *Chironomus decorus* group. Larvae of a second halobiontic species, *C. species Cape Cod*, are morphologically very similar to *C. quinnitukut* and this species also appears to be a member of the *C. decorus* group.

Key words: Chironomidae, *Chironomus*, new species, karyosystematics

Introduction

In 1968, Anderson and Hitchcock described the biology and tested for the control of an estuarine species of *Chironomus* that had been identified as *C. atrella* by S.S. Roback and H.K. Townes Jr. Subsequently, larvae were obtained from the same location for cytological examination, which clearly showed that this species was not in fact *C. atrella* (Martin *et al.* 2006). Consequently it is necessary to allocate a different name for the species from estuarine habitats. One possibility would be *C. halophilus* Packard (1874), but this name is rejected on three grounds: 1, As with previous attempts (e.g. Townes 1945), it has not been possible to locate Packard's material, so it is not possible to check the details of the larval morphology; 2, an additional and cytologically different larval form occurs in our Massachusetts specimens; and 3, Packard notes that the larvae possessed ventral tubules, probably a bathophilus-type, while the name *halophilus*-type has been used to describe a larval type with very reduced ventral tubules (e.g. Harnisch 1942), which would cause confusion if the name were to be resurrected for a species that does not have a halophilus-type larva. Packard's species is therefore best considered a *nomen dubium*, and the present material is described as a new species, based on the adults, larvae (including a few pupal characters from a prepupa) and cytology. The larvae of the second species at Massachusetts have the preliminary name of 'species Cape Cod' (Martin 2010), and some characters to enable separation of the two species are given.

Material and methods

Morphological terminology follows Sæther (1980), Webb & Scholl (1985) and Vallenduuk & Moller Pillot (1997). Measurements include range, median (meristics), or mean (mensurable), and, in brackets, the number