

**Cladistic analysis finds a placement for an enigmatic species,
Peyerimhoffia sepei sp. n. (Diptera: Sciaridae),
with a note on its spermatophore**

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Abstract

A new species of Sciaridae from northern Europe, with an exceptional combination of characters, is placed in the phylogenetic system of the family by a cladistic analysis. The new species, *Peyerimhoffia sepei* sp. n., is described and illustrated, and the spermatophores of Sciaridae are briefly discussed.

Key words: *Peyerimhoffia*, new species, phylogeny, morphology, spermatophore

Introduction

Based on a cladistic analysis, Vilkamaa & Hippa (2005) proposed a new concept of the Holarctic genus *Peyerimhoffia* Kieffer 1903 (type species *Peyerimhoffia brachyptera* Kieffer). In addition to the species formerly associated with *Peyerimhoffia*, Vilkamaa & Hippa (2005) also included the species of the *Corynoptera crassistylata* group (Tuomikoski 1960, Menzel & Mohrig 2000), and gave arguments for the generic status of *Peyerimhoffia*, which had been previously regarded as a subgenus in *Cratyna* Winnertz. Vilkamaa & Hippa (2005) included 13 species in the genus.

An undescribed species, with a combination of characters suggesting a close relationship with *Peyerimhoffia* or *Cratyna* (*Spathobdella* Frey) but also sharing some characters with other sciarid genera, has been found in material collected in northern Europe. We have known about the existence of this species for a long time but have misinterpreted its characters. Our aim here is 1) to describe the new taxon, and 2) by means of a cladistic analysis, to place it in the phylogenetic system of the family. We are