



Differentiation between two epilittoral species, *Scutovertex arenocolus* spec. nov. and *Scutovertex pilosetosus* Polderman (Acari: Oribatida) from different European coasts

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Abstract

Scutovertex arenocolus spec. nov. living in the sandy shore of the Baltic coast is described. Additionally, a closely related species, *S. pilosetosus*, occurring in marsh habitats of the North Sea coast, is redescribed in detail. Both species show a similar habitus. *Scutovertex arenocolus* differs from *S. pilosetosus* in the length of body, cusps and notogastral setae, in the ridge on mentum as well as in a different exochorion structure of the eggs. A morphometric analysis of 14 morphological characters confirmed distinctly shorter cusps and notogastral setae in *S. arenocolus*. Additionally, a principal component analysis performed with 17 morphological traits provided a clear separation of these two species and of *S. minutus*. The results of these analyses lead to the conclusion that earlier reports of *S. minutus* in the coastal zone of the Atlantic, the Baltic and the North Sea should be assigned to the one or the other of these two littoral species.

Key words: *Scutovertex minutus*, morphology, morphometry, PCA, exochorion

Introduction

The majority of oribatid mite species live in habitats of the inland and represent mainly soil inhabiting animals. Only about one percent of oribatid mites show a close ecological relation to the marine littoral environment, as for example members of the families Ameronothridae, Selenoribatidae, Fortuyniidae and Podacaridae (Schuster 1966). There are only a few single representatives of other families that are known to inhabit littoral ecosystems as well as terrestrial areas. Within the Scutoverticidae the typical inland moss-dwelling *Scutovertex minutus* (Koch, 1836) was reported to occur also at the North Sea and the Baltic coast (Weigmann 1973; 2008). Polderman (1977) discovered one epilittoral living species in the Netherlands, *Scutovertex pilosetosus* Polderman, 1977, which was formerly mistaken for *S. minutus*. Weigmann (2006) lists *S. pilosetosus* as a “species inquirenda” and mentions a possible synonymy with *S. minutus*. Recently collected specimens of *Scutovertex* at the German Baltic coast which could be assigned neither to *S. minutus* nor to any other species necessitate a detailed morphological analysis of the unidentified (new) species and a comparison with *S. pilosetosus* as well as *S. minutus*.

Materials and methods

Specimens of *S. arenocolus* were sampled from upper regions of sandy beaches.

German Baltic coast: a) Darss-Zingst (Mecklenburg-Western Pomerania); 28/06/2007 (leg. C. Hellig). – b) Behrendorf (Schleswig-Holstein), sand and root balls of grass (*Elymus arenarius*, *Ammophila arenaria*); 22/09/2007 (leg. T. Pfungstl).