



The *Centetostoma scabriculum* complex—a group of three cryptic species (Arachnida: Opiliones: Nemastomatidae)

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Abstract

Nemastoma scabriculum Simon, 1879 turned out to be a group of three closely related species of the Pyrenees in SW Europe (France and Spain). Though the species are similar in general habit they can easily be recognized by external morphology (structure of the apophysis of male chelicerae) and male genital morphology (penial structure). For *Nemastoma scabriculum* Simon, 1879 sensu stricto a lectotype is designated. The synonymous *Nemastoma ventalloi* Mello-Leitao, 1936 is considered to be a distinct species and is re-described. The third species of the group is described as new, *Centetostoma juberthiei* sp. n. Though partly sympatric in their restricted Pyrenean area, the individual species are found to be small-scale allopatric; only twice have two species been found in syntopy in narrowly circumscribed localities. *Centetostoma* Kratochvíl, 1958 is confined to presently comprise one Southwest Alpine and three Pyrenean species.

Key words: *Centetostoma juberthiei*, new species, *Centetostoma ventalloi*, taxonomy, phylogeny, lectotype, synonymy, Pyrenees, France, Spain

Introduction

Taxonomic history. In 1879 Simon described a new nemastomatid species from the central Pyrenees, *Nemastoma scabriculum* Simon, 1879. In his description he mentioned the patella of the male palp to be armed with a medio-distal spur, much smaller than in *Nemastoma dentipalpe* Ausserer. Over the decades this species attracted little attention and in general was mentioned only in catalogues. Roewer (1914, 1919, 1923) presented a rough drawing of the dorsal side of the body and mentioned it only from the type locality. Furthermore, in his 1914 publication and in all subsequent publications in which he treated nemastomatids (Roewer 1919, 1923, 1951) he pointed out that he saw Simon's type series originating from Saint-Sauveur and that, in the 1951 paper, he obtained samples from Simon's type material. In 1919 Roewer drew attention to *Nemastoma scabriculum* as –in his opinion– close relative of *Nemastoma centetes* Simon, 1879. Strangely, this Simon series of *N. scabriculum* ('ex type') is still present in the Roewer collection and, correctly, is labelled Saint Sauveur, the type locality (now in SMF Frankfurt am Main).

Mello-Leitao (1936) described a new species undoubtedly closely related to *N. scabriculum* and named it *Nemastoma ventalloi* Mello-Leitao, 1936. He added a detailed drawing of the dorsal side including chelicerae and pedipalp, showing that in the male chelicerae this species has a deeply split apophysis and that the male pedipalp's patella lacks a spur. These characters could be verified by inspection of two paratypes and newly collected material.

Kratochvíl (1958) divided the polytypic and certainly not monophyletic genus *Nemastoma* into several genera in a Roewerian typological manner based on external morphology. Few of these genera gained wider acceptance, but several are in usage still today. In his analysis *N. scabriculum* played no role, but he selected *Nemastoma centetes* as the type species of his new genus *Centetostoma* Kratochvíl, 1958. In this study, this species of the western Alps is regarded as a close ally of the Pyrenean *N. scabriculum* group, which we hereby place in the genus *Centetostoma* (see Systematics on genus level).

In the following decades the species remained unattractive for taxonomists. Kraus (1961), Rambla & Perera (1989) and Rambla (1998, 2001) published new records from the Pyrenees, the latter authors from Huesca. Kraus