



A new Permagrionidae from the Middle Permian of the South of France (Odonoptera: Protozygoptera)

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Abstract

The new permagrionid protozygopteran genus and species *Salagoulestes wesleyi* is described from the Middle Permian of Lodève Basin, Salagou Formation. It seems to be more closely related to the two genera *Scytolestes* and *Permagrion* than to any other Permagrionidae. It increases the diversity of the odonopteran fauna in the Salagou Formation to 14 different species.

Key words: Protozygoptera, Permagrionidae, Middle Permian, France, entomofauna, palaeodiversity, Lodève, Salagou Formation, **gen. n.**, **sp. n.**

Introduction

The Protozygoptera is a very ancient group, ranging between the Late Carboniferous and the Middle Cretaceous. These small damselfly-like Odonoptera were likely predating on small insects in the same way as the more recent Zygoptera (with oldest known representatives in the Jurassic [Fleck *et al.* 2001], but a clade probably already present during the Triassic when members of its sister group Epiproctophora are known). The Permagrionidae is a Permian family that comprises the largest Protozygoptera. It is recorded from the Malouine Islands, Russia, and France, with five described genera. Among numerous other Odonoptera, the Middle Permian Lodève Basin has already yielded *Epilestes gallica* Nel *et al.*, 1999, that belongs to this group. Here we describe a new small damselfly-like protozygopteran Permagrionidae from the same layers, showing that the diversity of these insects was quite impressive.

Material and methods

We follow the wing venation homologies proposed by Riek & Kukalová-Peck (1984), modified by Nel *et al.* (1993) and Bechly (1996). Wing venation abbreviations are as follows: C (+ScA), costal vein; ScP, subcosta posterior; RA radius anterior; RP radius posterior; IR1, IR2, intercalary veins between branches of RP; MAa, anterior branch of media anterior; MAb, posterior branch of media anterior; MP, media posterior; CuA, cubitus anterior; CuP, cubitus posterior; AA, analis anterior; AP, analis posterior (completely fused with posterior wing margin); Pt, pterostigma; Cr, nodal cross-vein; Sn, subnodal cross-vein; Ax1, Ax2, primary antenodal cross-veins; ASn, strong subantenodal cross-vein located in area between RA and RP, and between arculus and subnodus; N, nodus. Most drawings were prepared using an Olympus SZX9.

Systematic palaeontology

Taxon Stigmoptera Bechly, 1996