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Late Triassic (Rhaetian) ophiuroids from Winterswijk, the Netherlands; with comments on the systematic position of *Aplocoma* (Echinodermata, Ophiolepididae)*

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Abstract

An ophiuroid assemblage from Rhaetian dark shales in a subsrosion pipe (or sinkhole) penetrating middle Triassic (Muschelkalk) strata, and, outside the subsrosion pipe, discordantly overlying middle Triassic strata, east of Winterswijk, the Netherlands, is described, discussed and assessed taxonomically. The material consists of nearly intact and articulated as well as wholly disintegrated skeletons, almost all of which are pyritised, yet so well preserved that the diagnostic characters could be studied in detail. All specimens belong to *Aplocoma agassizi* (von Münster, 1839). Examination of the type material of *Ophiolepis damesii* Wright, 1874 (housed at the Roemer and Pelizäus Museum in Hildesheim, Germany, collection numbers NKP 7821 to NKP 7828) from Rhaetian strata at Hildesheim, Germany, comparable to those exposed at Winterswijk, has revealed that *O. damesii* is to be considered a *nomen dubium* due to the insufficient preservation of the type material. Based on the present lot, which documents the first Triassic echinoderms from the well-known Winterswijk quarry complex, we suggest that the genus *Aplocoma* is best reassigned to the family Ophiolepididae, in proximity to the extant *Ophiozonella*, and that the family Aplocomidae is to be suppressed. From a palaeoecological point of view, the Winterswijk assemblage illustrates preservation under the influence of storms in an otherwise very quiet environment; it is here interpreted as a monospecific assemblage amidst an oligospecific bivalve community in a near-coastal, shallow, muddy setting with fluctuating or low salinity levels and/or dysoxic bottom waters.

Key words: Ophiuroidea, brittle stars, palaeoecology, Rhaetian, taxonomy, the Netherlands

Introduction

Ophiuroid systematics is based almost exclusively on external characters of the calcitic skeleton. One would therefore expect extinct brittle stars to be directly comparable with their modern relatives. However, the majority of studies of ophiuroid fossils have so far failed to integrate these taxa into the classification of extant brittle stars in a meaningful way. Instead, most fossil brittle star taxa were compared amongst each other, even though some were assigned to extant genera, mostly, if at all, with highly dubious justification (Hess 1965). This holds true in particular for the Triassic, which ranks amongst those time slices that show the greatest abundance of articulated brittle stars, yet con-