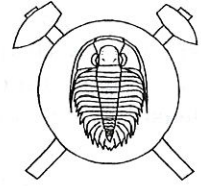


## Sponge spicules from the Lower Devonian (Pragian) of the Barrandian



### Jehlice hub ze spodního devonu (stupeň prag) Barrandienu (Czech summary)

(1 text-figure, 2 plates)

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Submitted February 17, 1992

Five distinct morphological groups of sponge spicules or spicule-like microfossils from the Lower Devonian (Pragian) Dvorce–Prokop Limestone are described. They include octactines type A and B, triactine spicules and dichodiaenes type A and B. Their possible taxonomical position and the presumed paleoecological importance are discussed.

### Introduction

Isolated spicules are in most cases the only evidence of fossil sponges in the Barrandian Lower Paleozoic. These were described particularly at the end of the last century (see Počta 1898 for next references). The most recent study of sponge spicules from this area is by Nekvasilová and Štemproková (1960), where the previous works are also reported.

From the Devonian rocks namely two species of the genus *Pyritonema* are referred by Počta (1898). From several localities, Pragian in age, Nekvasilová and Štemproková (1960) described octactine spicules and peculiarly shaped spicules referred in this paper as dichodiaene type B.

The material collected by the author comes from nodular micritic Dvorce–Prokop limestone (Lower Devonian, Pragian), locality Konvářka – “Nad viaduktem” (Budil 1992). These limestones, deeply weathered into so called “white beds”, were washed out (sieve mesh 0.063 mm) and the picked up association of microfossils was investigated by the SEM. All studied sponge spicules are calcitic, heavily recrystallized. They are deposited in the author’s collection at the Department of Paleontology, Charles University, Prague.

### Systematical part

Class: *Calcarea* Bowerbank, 1864

Order: *Heteractinida* de Laubenfels, 1955

Family: *Wewokellidae* King, 1943

Triactine spicules

Pl. I, fig. 3

Material: 5 well preserved specimens.

Description: Small triactine spicules;

three major rays equally spaced in the same plane, individual rays straight, round, unornamented, smoothly taper to sharp tips; 0.14 mm long, have a basal ray diameter of 0.015 mm. The fourth ray (observed on the specimen pkD–2, Pl. I, fig. 3) much smaller, normal to this plane, radiating from the center of the major ray junction; it is straight, round and unornamented, 0.06 mm long, has a basal ray diameter of 0.01 mm and tapers to a relatively abrupt tip.

Occurrence: These are the sole representatives of triactine spicules in the Lower Paleozoic of the Barrandian and adjacent areas. Similar triacts occur in some wewokellid genera from Pennsylvanian and Permian of North America and West Europe (Rigby and Nitecky 1975).

Discussion: Triactine spicules of similar characters are known only in Late Paleozoic heteractinid family *Wewokellidae* King (see Rigby and Nitecki 1975 for next references). Lokke (1964), for example, described small triacts from Early Permian *Talpaspongia clavata*. Although these spicules are only isolated, they record one of the earliest occurrences of spicules like those common in the *Wewokellidae* of the Late Paleozoic. This is not the only case when isolated spicules shifted the history of this family to the Early Paleozoic. Rigby and Dixon (1979) described a single polyactine spicule, typical for *Wewokellidae*, from the Silurian of Arctic Canada.

Family: uncertain

Octactine spicules type A

Pl. I, figs. 4–8

Material: several dozens of variously preserved spicules.