Marcusodictyon, an encrusting bryozoan
from the Lower Ordovician (Tremadocian) of Bohemia

(2 pls).

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Abstract. Marcusodictyon es spectans sp. n. (Clenostomata) has been found in
the Třenice Formation (Lower Tremadocian). The zoaria of this species en-
crusted the pebbles in the intertidal zone.

Abstrakt. Marcusodictyon espectans sp. n. (Clenostomata) je popsán z tře-
nického souvrství (spodní tremadok). Druh vytváří povlěkavá zoaria na va-
lounce v intertidální zóně.

Introduction

The benthic fauna of the Třenice Formation (Lower Tremadocian) consists mainly of inarticulate
brachiopods assigned by Havlíček (1982) to the shallow-water Hyperobolus Community. Articu-
late brachiopods are less common, while trilobites, cystoids, and gastropods are rare. These groups
mostly come from abandoned iron ore mine „Ouzký“ N of Holoubkov (Rokycany area, SW part
of the Prague Basin), where they occur in a lens of haematite. This fauna was studied by Havlíček
(1977, 1982a, b; brachiopods), Prokop (1964; cystoids), Růžička (1926, 1927; all groups), and
Vaněk (1965; trilobites). Recently, the ctenostomate bryozoan Marcusodictyon was obtained from
this locality; however, it has a different mode of occurrence than the all other groups mentioned
above.

Mode of occurrence

The zoaria of Marcusodictyon are attached to pebbles of cherts or rhyolites, pebbles are usually
well rounded, less commonly subangular, with smooth surface. Bryozoans preferred large and
heavy pebbles; the mass of the smallest pebble covered by bryozoan is 25 g (largest more than
800 g), the average mass of overgrown pebbles is 80 g; all covered pebbles have more than 50 mm
in diameter. Only 5% to 10% of pebbles are coated by bryozoans. Zoaria are preserved particu-
larly on small protected places of pebble surface (minute throughs, depressions), less commonly they
cover the more exposed places (edges of pebbles); usually, less than 5% of pebble surface is covered.
The primary number of pebbles coated by bryozoans was probably greater, because a part of the
zoaria was most likely wiped due to mutual rubbing of pebbles by wave action.

The zoaria are ovoid in shape, the largest zoarium having more than 40 mm in diameter; the
average diameter is 7 to 10 mm. On one pebble, one or two, exceptionally seven zoaria are attached.
The zoaria cover usually only one side of the pebble; rarely they coat all sides of the pebble.

Marcusodictyon espectans sp. n. never covers the valves of brachiopods or thecae of cystoids,
which are both abundant in haematite. This is in contrast to the mode of occurrence of M. priscum
(Bassler) (type species) from the Lower Tremadocian of Estonia where the zoaria often encruste
the valves of large obolids (Obolus appollinis Eichwald, according to Bassler 1911).

The association with dominant Marcusodictyon espectans is a typical low-diversity, rough-
water intertidal assemblage (benthic assemblage 1—2 according to Boucot 1975). It occurs in con-

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glomerates at the base of the Ordovician sequence, just above the Upper Cambrian rhyolites.

A similar mode of occurrence of bryozoans (Berenticea vetrya Prantl) was described by Mergl (1983) from the rocks of Arenigian age (locality Ejpovice, SW part of the Prague Basin). The bryozoan Berenticea vetrya coats there the pebbles in an intertidal, near-shore environment, but in contrast to the mode of occurrence of Marcusodictyon, it coated only the smaller pebbles.

Ctenostomata Busk, 1852
Stolonifera Ehlers, 1876
Vinellidae Ulrich - Bassler, 1904
Marcusodictyon Bassler, 1952
Marcusodictyon exspectans sp. n.
Pls. I, II

Holotype: Specimen figured on pl. I as fig. 1, pl. II, fig. 5. Deposited in the collections of the Geological Survey, Prague (MM 210).

Type horizon and locality: Trénice Formation, Lower Tremadocian; Holoubkov, abandoned iron ore mine „Ouzký“.

Material: 20 zoaria coating the pebbles.

Description: Zoarium consists of dichotomously bifurcating threads, as a whole having a form of rather regular network. Meshes of the network are hexagonal to heptagonal, usually gently elongate, 0.6 to 1.2 mm in diameter; threads themselves are less than 0.2 mm wide. Due to poor preservation no pores were observed.

Comparison: Marcusodictyon priscum Bassler recalls M. exspectans by a typical dichotomous branching but differs by more slender threads (only 0.02 mm) and a smaller dimension of meshes (0.4 mm on the average).

Occurrence: Type locality only.

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References


Marcusodictyon exspectans sp. n. 1–6 - zoaria coating surface of pebbles, all ×7, MM 210–215

Photos by M. Mergl
Marcusodictyon exspectans sp. n.: 1–6 - zoaria coating surface of pebbles, 1,2 - ×7, MM 216, MM 217; 3–6 - ×2, MM 218, MM 213, MM 210, MM 219

Photos by M. Mergl