Diplomoceras cylindraceum (Defrance, 1816): a typically Maastrichtian ammonite in the Piotrawin section, Central Poland

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W dużym, nieczynnym od kilku lat kamiennolomie w Piotrawinie nad Wisłą (ryc. 1), odsłania się monotonny profil opok o miąższości około 35 m. Jest to jedno z pięknych odkryć w Piotrawinie.


Podczas badań w Piotrawinie, dzięki Andrei Klinger (South African Museum, Cape Town) oraz Władysławowi Czyżewskiemu (Instytut Paleobiologii PAN, ul. Zwirki i Wigury 93, Warszawa), odkryto w profilu Wisły w Piotrawinie gatunek Diplomoceras cylindraceum (Defrance, 1816), znany z wielu obszarów Europy. Wymienione gatunki są niecodziennymi zjawiskami, które pokazują, jak ważny jest badanie struktury i osadów w tym rejonie.

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A c. 35 m thick monotonous sequence of siliceous chalk ("opoka" in Polish literature), is exposed in a huge disused quarry at Piotrawin on the Middle Vistula Valley (Fig. 1).

The importance of the Piotrawin section is that it provides the best sequence of the latest Campanian Nostoceras pozarskii Zone, as distinguished by Blaszkiewicz (1980) in the Middle Vistula Valley. Recently this zone, renamed as Nostoceras hyatti Zone, has been recognized in many parts of the world and has proved to be very important in global
The Piotrawin section represents the upper part of the Nostoceras hyatti Zone. No detailed data concerning the ammonite distribution within this section are available in the literature, except for the Burnett et al.'s (1992) remark that N. hyatti and N. helicinum are present from 12 to 30 m above the base of the sequence. These authors also pointed out that the belemnites collected from the top of the quarry belonged to Belemnella langei, which proved that "the locality is entirely within the upper Upper Campanian" (Burnett et al., 1992). The concept and stratigraphic range of this species are open to question, however, which undermines its value for biostratigraphic correlation (see Christensen, 1995).

A specimen of a heteromorph ammonite not previously recorded from the Piotrawin section has recently been found by Dr. Herbert Klinger (South African Museum, Cape Town) during a joint excursion to the quarry. Found on the highest terrace of the quarry, in a loose block of the chalk, it undoubtedly comes from the topmost 3–5 metres of the section. This level is characterized by the occurrence of numerous Baculites spp. and of Placenticeras meeki.

The specimen at hand is preserved as a fragmentary external mold of the straight, densely ribbed shaft, which is almost 12 cm in length (Fig. 2). Although fragmentary, the specimen can be safely identified as Diplomoceras cylindraceum (Defrance, 1816). It falls well within the range of variation of this species as defined recently by Kennedy (1987), Ward & Kennedy (1992) and Henderson et al. (1992). All material of the species known to date is fragmentary; the conch probably consisted of at least three straight shafts joined by tightly curved sections (lit. cit.).

Diplomoceras cylindraceum is a cosmopolitan species, widely recorded from various regions of the world. Where well dated this species is always Maastrichtian in age (Kennedy, 1987; Ward & Kennedy, 1992; Henderson et al., 1992 and the literature cited therein). It was also reported from Maastrichtian deposits of Vistula Valley (Blaszkiewicz, 1980).

The occurrence of Diplomoceras cylindraceum at the top of the Piotrawin section, which in current view corresponds to the latest Campanian, may thus represent the first Campanian record of the species. An alternative interpretation, admittedly much less probable due to the lack of the classic early Early Maastrichtian index fossils Belemnella lanceolata and Pachydiscus neubergicus in Piotrawin, is that some part of the section represents already the Maastrichtian Stage. In that respect, it should be pointed out that Peryt (1995) assigned the upper half of the Piotrawin section to the Maastrichtian Stage, based on benthic foraminiferal evidence.

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