

PACHYDISCID AMMONITE (Cephalopoda: Ammonoidea: Ammonitina:
Desmoceratacea: Pachydiscida) FROM CAMPANIAN CHERT OF ISRAEL

(RECORD NO. 6 OF THE HEBREW UNIVERSITY GEOLOGICAL MUSEUM)

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Among non-classified material in the collection of the Hebrew University Geology Department, was found a piece of brown chert, of undoubted Upper Senonian (Campanian) age. A fragment of small, juvenile ammonite was preserved in this chert (reg. No. 21410). The locality of the fossil finding was not indicated, but most likely it is the area of Jerusalem, either Mt. Scopus (around the former University Campus grounds) or the south of the town, near the Talpioth quarter.

The fragment shows a part of an inner whorl, appr. 13 mm in diam., embraced by the following whorl, nearly 30 mm in diam., which is partly open. Three last septa are preserved in this latter whorl, and about a quarter of volution is occupied by body chamber. The fossil is completely silicified, being partly cherty, partly opaline, and incrustated inside with dense cluster of tiny quartz crystals. Inside the body chamber, attached to the wall, is visible a worm-like callus, made of opal and microcrystalline quartz, which doubtless has no connection with the structure of the shell itself, but which is related to the process of silification.

The preservation of the fossil is so poor that any attempt of a detailed and exact determination is useless. Nevertheless, the scarcity of ammonite species in the Upper Senonian of Palestine and of the neighbouring countries, calls our attention to this fragment, as it reveals a different shape from that of the commonly occurring species of this age. Its main character is its broad, almost perfectly rounded, semi-circular ventrum. The shell, in its juvenile whorls, is almost smooth, while in the following volution it seems to be ornamented with low spaced ribs. On the basis of the known data we do not have many alternatives for determining to what genus this particular ammonite may belong.

The characteristically rounded, semi-circular ventrum, points to the pachydiscid group, such as the genera *Eupachydiscus* or *Anapachydiscus*. The shape of the inner whorl corresponds to the s.c. "ganesa stage" (Collignon 1935) of the quoted genera.

Pachydiscids were reported from Palestine by H. Taubenhau (1920), but his determinations were already doubted by Blanckenhorn (1927). Examination of his material (deposited now in the collections of the Hebrew University Geology Department) fully justifies this criticism.

Taubenhau quotes and discusses three following species: (1) *P. arrialorrensis*

Stoliczka (mistake: should be "*arrialoorensis*"); (2) *P. cf. vaju* Stol.; (3) *P. sp. aff. P. neubergicus* v. Hauer em. Schlüter.

The general shape and ornamentation of *P. arrialoorensis* Taubehaus, found in the Upper Senonian (Campanian) in the south of Jerusalem (our collection No. 2139) has aroused Collignon's doubts (1955, p. 50) as to the correctness of this determination. The true *P. arrialoorensis* is ascribed to the genus *Anapachydiscus* Yabe & Shimizu, while Taubehaus' specimen has rather the character of *Eupachydiscus* Spath. As far as a reliable determination could be done without knowing the suture line, it seems that Taubehaus' specimen is identical, or at least very near, to *E. isculensis* (Redtenbach), a well known species occurring in the Upper Santonian — Lower Campanian of Western and Southern Europe, of East Africa and of Madagascar.

The second species, discussed by Taubehaus, *Pachydiscus cf. vaju* (Stol.) (our collection No. 2189), is correctly determined, although its illustration gives only a very vague idea about its characteristics. In his description the author surprisingly affirms that the Palestinian specimen is ten times (!) bigger than the Indian, as described and figured by Kossmat (1895, p. 90[154], Pl. XIV[XX], figs. 4a, b); in reality, the Palestinian specimen is a little more than twice as big, the diameters being 150 mm and 63 mm respectively. The stratigraphical horizon of the Indian specimen is the Lower Trichinopoly group, which is equivalent to the standard Santonian, in good correlation with the stratigraphical level of the Palestinian specimen. The species, according to the modern standards, belongs now to the genus *Lewesicerias* Spath.

The third species, *Pachydiscus aff. neubergicus* (our collection No. 2140), is wrongly determined and, unfortunately, the geographical and stratigraphical informations are also incorrectly given. The specimen was found by Blanckenhorn on the way from the Mezra'a locality, on the eastern shores of Dead Sea, to Kerak; Blanckenhorn

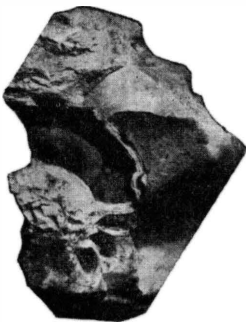


Figure 1

Eupachydiscus sp., Campanian, Jerusalem, lateral view (Department of Geology, Hebrew University, Collection No. 21410).



Figure 2

The same: natural cross-section of a whorl.

has ascribed it to Cenomanian. *P. neubergicus* is a species of Maestrichtian age. Probably because of this determination, Taubenhaus has chosen a "middle way", attributing this ammonite to an Emscherian (Lower Senonian) age.

Although unsatisfactorily preserved, this ammonite can be classified without hesitation as belonging to Pachydiscidae. Most probably it is *Lewesiceras* and, possibly, *L. peramplum* of Lower Turonian age. An ammonite, tentatively identified as *Pachydiscus peramplus*, was reported by E. Basse (1937, p. 191) from Lower Turonian of Ain Tineh, in the North Alaouite Mountains (NW Syria). It thus seems that pachydiscids are more common in the Palestino-Syrian region than it has been known up to now.

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