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ON A NEW FOSSIL EGG FROM LAIYANG, SHANTUNG

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In the autumn of 1958, a special party was sent to Laiyang for making additional collections of dinosaurian remains. In addition to many skeletons of hadrosaurians and no less than 25 fossil eggs excavated, a special type of egg was immediately observed by our field specialist Mr. C. Y. Wang. According to him a complete but rather crushed egg of the same type is kept in the local exhibition room of Laiyang and only a broken piece of another one was brought to our Institute by him for study. The present study is based on this unique specimen.

Description

Oölithes megadermus sp. nov.

Type: A broken piece of egg with the crystallized calcite inside the shell.

Horizon and locality: Upper Cretaceous, middle part of the Wangshin Series from a spot about one kilometer west of the village Chaochun, Laiyang[1].

Diagnosis: Egg shell enormous thick from five to seven millimeters. Shell surface coarsely shagreened. Cuticle layer well developed. The prismatic zone is well canalized by the aëriferous canals with the outer opening of the pores extremely wide. Their lower extremities extend to the very base of the shell. The mammillary zone is probably poorly developed and the mammillae so well developed in *Oölithes spheroides* and *O. elongatus* are not clear, if not absent.

Description: According to the information given by Mr. Wang, who has seen the complete egg in Laiyang, the crushed egg belongs to a form of spheroid type. The general shape of the present specimen confirms this conclusion. But it differs from the *Oölithes spheroides* at first glance by its unusual thickness of the shell. Its thickness is not homogeneous, varying from five to nearly seven millimeters, so it is more than twice thicker than both forms of eggs from Laiyang. In *Oölithes spheroides* the maximum thickness of the shell is 3.3 mm and the same of *Oölithes elongatus* is 2.3 mm. Although the surface of the shell of the present specimen is somewhat weathered, the coarse shagreened structure is clearly observable which differs also from the two known species. The cuticle layer is well developed and much thicker than that of *Oölithes elongatus*. Very

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characteristic for the present specimen is the extensive development of the aeriferous canals which have very widely opened pores and narrow gradually to the base. The mammillary layer is however not so distinct and the mammillae are scarcely observable. The thick coating of the shell by the cuticle layer seems to be responsible for the other characteristics. Therefore our egg seemed to lay in a more humid circumstances even than that of *Oölithes elongatus* and *Oölithes spheroides*.

It is obvious, as based on the foregoing description, that the present specimen represents a new type of fossil egg. I like to propose the name *Oölithes megadermus*, sp. nov. for this new type of egg. Unfortunately the size of the egg is unknown. But this new egg may be recognized even by a small fragment according merely to its thickness.

It is also not certain about the dinosaurian origin of the egg, but it would not be wise at present to guess what kind of dinosaurus to be responsible for it.

References

[1] Chow, M. C.: 1951. Notes on the Cretaceous Dinosaurian Remains and the Fossil Eggs from Laiyang, Shantung. *Bull. Geol. Soc. China* **31**(1—4), pp. 404—407.

[2] ————: 1954. Additional Notes on the Microstructure of the Supposed Dinosaurian Eggs Shells from Laiyang, Shantung. *Scientia Sinica*. **3**(4), pp. 523—525.

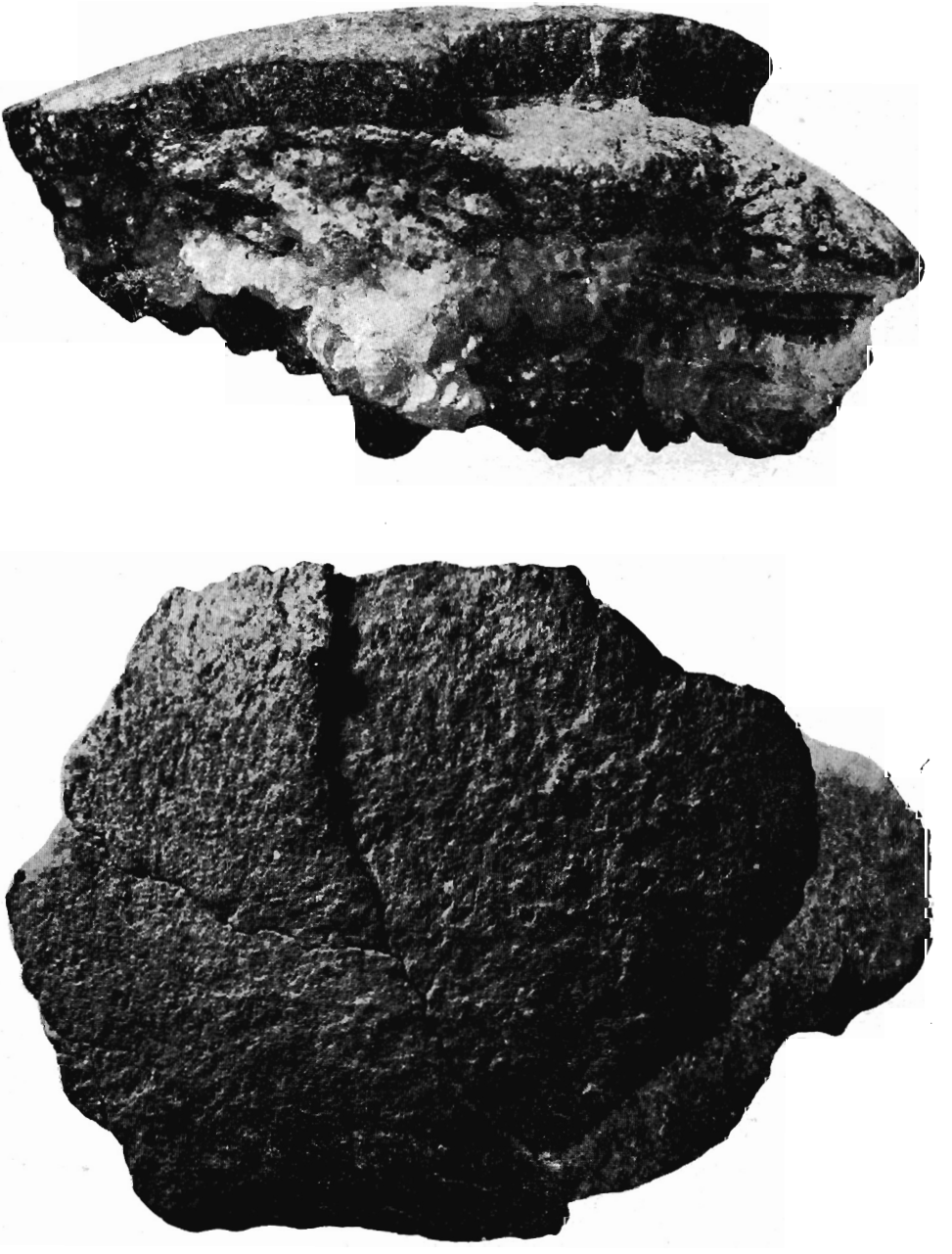
[3] Straelen, van V.: 1925. The Microstructure of the Dinosaurian Egg-shells from the Cretaceous beds of Mongolia. *Am. Mus. Nov.* No. 173.

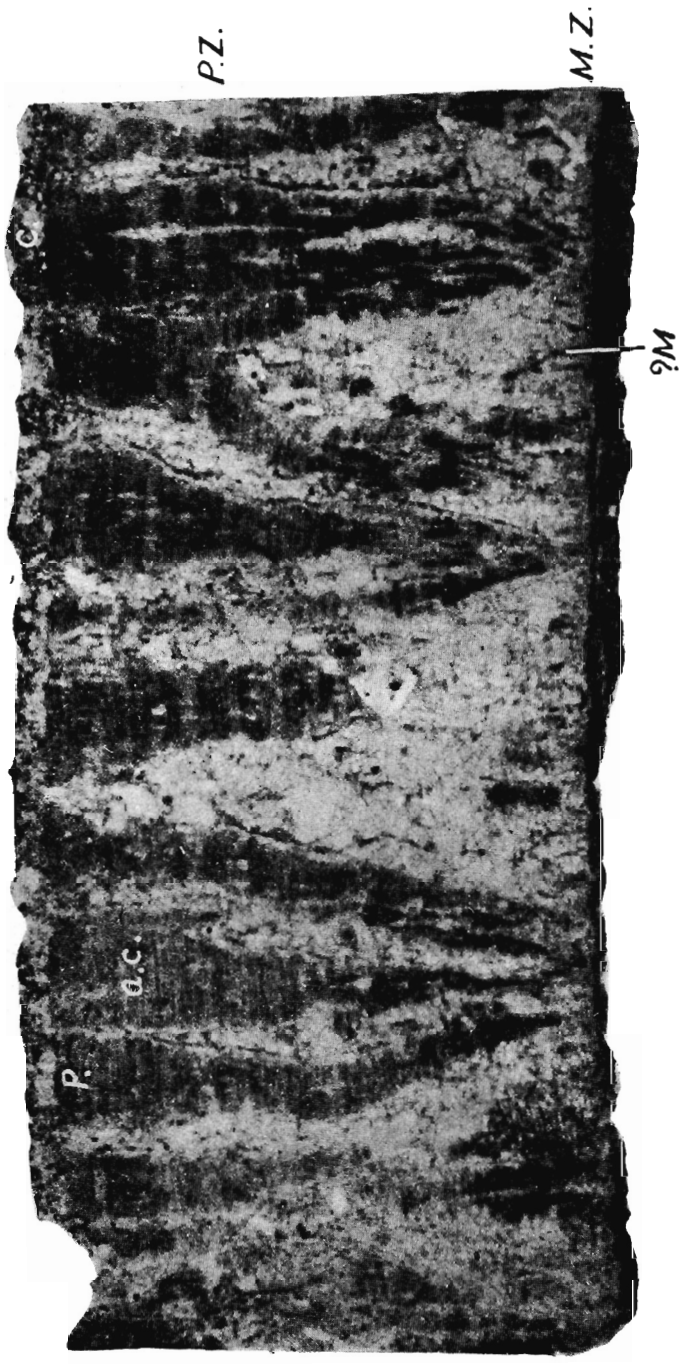
[4] Young, C. C.: 1954. Fossil Reptilian Eggs from Laiyang, Shantung, China. *Scientia Sinica*. 3 (4), 505—572.

EXPLANATION OF PLATES I-II

Plate I. *Oölithes megadermus* sp. nov. Upper figure, The fragment of shell looking from the side showing the breakage and the enclosed crystallized calcite. Lower figure, the same, showing the surface of the shell. All twice natural size.

Plate II. *Oölithes megadermus* sp. nov. Micro-cross section of the shell. A. C. acriferous canals; C. cuticle layer; M. mammillae; M. Z. mammillary layer; P. pores; P. Z. prismatic layer. Ca. 20 times natural size.

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