

大巴山晚奥陶世 *Nankinolithus* 的发现

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当前所描述的标本, *Nankinolithus wanyuanensis* Cheng et Jian (新种), 系西北大学地质系 1958 年在大巴山中段——四川万源县的中巴乡发现的。标本产于厚约 1 米的黄绿色页岩中。其下为具有干裂纹的紫红色石灰岩, 根据岩性及所含化石, 似应相当于长江中游及陕西汉中一带的宝塔石灰岩。其上为厚约 20 米的黑色页岩、砂质页岩及紫红色页岩。页岩中含有笔石 *Glyptograptus* sp., *Monograptus* sp. 及 *Rastrites* sp. 等下志留统常见的化石。

Nankinolithus 属名系卢衍豪于 1956 年创建的, 其属型为 *Nankinolithus nankinensis* Lu, 标本发现于南京汤山的汤头层(晚奥陶世), 以后又曾发现于浙西、黔北、川南等地, 其时代皆属晚奥陶世。故当前所描述的标本其产生时代属晚奥陶世似无疑间。

本文承中国科学院地质古生物研究所卢衍豪及斯行健两教授校阅全稿, 张文堂先生阅读全文并提出宝贵意见, 笔者在此特致谢意。

化石描述

科 *Trinucleidae* Hawle et Corda, 1847属 *Nankinolithus* Lu, 1956*Nankinolithus wanyuanensis* Cheng et Jian (新种)

(图 1—2)

描述: 背壳亚卵圆形, 长约 21 毫米, 宽约 17 毫米。头部半圆形, 长 12 毫米, 宽 17 毫米, 其长略大于背壳长度的 1/2。头鞍长卵圆形至卵圆形, 有二对短而浅的头鞍沟。颈环狭窄, 颈沟浅而宽。无侧眼及侧眼脊。后边缘沟向两侧逐渐变深, 至饰边处有一深的小陷孔。饰边前边狭, 向后侧角增宽, 并分为凸起的颊边缘及下凹的内边缘。内边缘靠外边, 其上具有三排呈同心排列的小陷孔, 此种小陷孔深陷于放射状排列的陷坑内。颊边缘靠内边, 其上的小陷孔在头部前部作放射状排列, 在头部两侧则呈不规则交错排列。颊刺长约 15 毫米, 约等于背壳长度的 3/4, 彼此平行向后延伸。

胸部由 6 节组成; 中轴部狭窄, 约小于胸部宽度的 1/5, 凸出, 向后逐渐尖削。肋节平宽, 内端水平延伸, 至其长度 2/5 的关节面处, 则略向后弯曲。第一对肋节前侧缘圆, 末端尖; 第二至第六肋节的末端则呈截切状。肋沟浅而宽, 略向后斜伸。

尾部半椭圆形, 横向延伸, 具一急剧向下斜倾的边缘, 其上有细的同心线纹。中轴狭窄, 锥形, 由五个环节及一个圆形的末节组成。肋叶部平, 亚三角形, 具三对浅而宽的肋沟。

討論：当前的新种，就其飾边特征看来，很象 *Nankinolithus nankinensis* Lu，但从其他特征看来，二者则有很大不同：(1) *Nankinolithus wanyuanensis* 的头部呈規則的半圓形，而 *N. nankinensis* 的头部則略呈方形；(2) *N. wanyuanensis* 的头鞍呈长卵圓形至卵圓形，而 *N. nankinensis* 的头鞍則呈梨形；(3) *N. wanyuanensis* 的頰刺較长，且彼此近于平行，而 *N. nankinensis* 的頰刺較短，且向外延伸；(4) *N. wanyuanensis* 的尾部呈半橢圓形，而 *N. nankinensis* 的尾部則呈三角形。

参 考 文 献

- [1] Bancroft, B. B., 1929, Some new species of *Crypsolithus* (s. l.), from Upper Ordovician. *Mem. & Proc. Manchester Lit. & Phil. Soc.*, Vol. 73, p. 67—98, pls. 1—2.
- [2] ———, 1949, Upper Ordovician trilobites of zonal value in South-east Shropshire. *Roy. Soc. London, Proc.*, ser. B., V. 136, p. 291—315, Pls. 9—11.
- [3] Dean, W. T., 1960, The Ordovician trilobite faunas of South Shropshire, I. *Bull. Brit. Mus. (Nat. Hist.) Geol.* Vol. 4, No. 4, p. 1—143, Pls. 11—19.
- [4] Störmer, L., 1930, Scandinavian Trinucleidae, with special reference to Norwegian species and var. *Norske vidensk.-Akad. Oslo, I. Mat.-Naturv.. Kl.*, No. 4, p. 1—111, Pls. 1—14.
- [5] Whittard, W. F., 1955, The Ordovician trilobites of the Shelve Inlier, West Shropshire. *Paleontographical Society (Monogr.)* Vol. CIX, p. 1—90, Pls. 1—4, London.
- [6] ———, 1956, *Ibid.* Vol. CX, p. 41—70, Pls. 5—9, London.
- [7] ———, 1958, *Ibid.* Vol. CXI, p. 71—116, Pls. 10—15, London.
- [8] Whittington, H. B., 1940, On some Trinucleidae described by Joachim Barrande. *Amer. Jour. Sci.* Vol. 238, p. 241—259, Pls. 1—4.
- [9] ———, 1941, The Trinucleidae, with special reference to North American genera and species. *Jour. Paleont.*, Vol. 15, p. 21—41, Pls. 5—6.
- [10] 卢衍豪, 1954, 南京湯山上奥陶紀三叶虫动物羣初步鑑定(摘要)。中国古生物学會訊, 第7期, 第8頁。
- [11] 卢衍豪, 1956, 中国标准化石。无脊椎动物, 第三分册, 三叶虫部分。
- [12] 穆恩之、潘江、俞昌民, 1954, 南京湯山奥陶紀地层新知。地质知識, 1, 第23—24頁。

ON THE OCCURRENCE OF *NANKINOLITHUS* FROM THE UPPER ORDOVICIAN IN DABASHAN, N. SICHUAN

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(Summary)

The specimens (part and counterpart) which are described here as *Nankinolithus wanyuanensis* Cheng et Jian (sp. nov.) were collected by the students of the Geological Department of Northwestern University from the Upper Ordovician in the middle part of Dabashan, in 1958. The rock from which the specimens were derived is a yellowish-green shale, about 1 m in thickness. The shale is underlain by a pinkish sun-crack limestone, corresponding to the Pagoda limestone of Hanzhong and the Lower Yangzi Valley, and is overlain by a sequence of black shale, siliceous shale and pinkish shale, ca. 20 m in thickness. From the shales above mentioned there have been found *Glyptograptus* sp., *Monograptus* sp. and *Rastrites* sp. All of them are general fossils of the Lower Silurian.

The generic name *Nankinolithus* was created by Lu in 1956. The genotype, *Nankinolithus nankinensis* Lu, was found from the Tangtou formation (Upper Ordovician) at Tangshan near Nanjing. This hitherto monotypic genus has been later found from the Upper Ordovician of W. Zhejiang, N. Guizhou, S. Sichuan and many other regions. It appears evident that the geological age of the yellowish-green shale in Dabashan belongs to the Upper Ordovician.

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Family Trinucleidae Hawle et Corde, 1847

Genus *Nankinolithus* Lu, 1956

Nankinolithus wanyuanensis Cheng et Jian (sp. nov.)

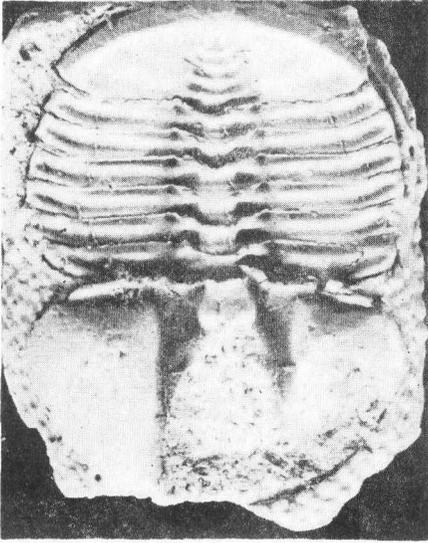
(Figs. 1—2)

Description: Exoskeleton subovoid, about 21 mm long and 17 mm wide. Cephalon semi-circular, 12 mm in length, 17 mm in width, a little more than one-half the total length of the shield. Glabella oblong-ovoid, with two pairs of very short and shallow glabellar furrows. Occipital ring narrow; occipital furrow shallow and broad. Lateral eyes and ocular ridges absent. Posterior marginal furrow deepening laterally and ending in a deep pit until reached the fringe. Fringe narrow in front, widening postero-laterally, divided into a convex cheek roll and a concave brim, externally the brim with three concentric rows of pits deeply sunk in radial sulci; internally the cheek roll with pits arranged radially in front and irregularly in lateral portion. Genal spines with a length of about 15 mm extending directly backward, parallel with each other, about three-fourths the length of the shield.

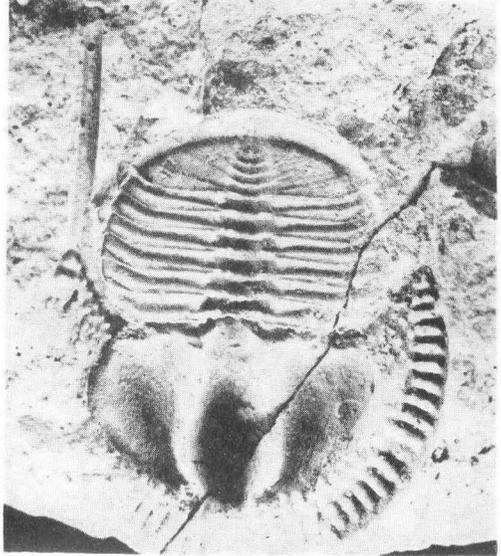
Thorax composed of six segments, axis narrow, less than one-fifth the width of the thorax, convex, gradually tapering backward. Pleural segment flat, horizontal in inner portion, bending slightly backward at the fulcrum about two-fifths its length. First pleurae with rounded antero-lateral edge and a pointed terminal end. The ends of second to sixth pleurae are truncated. Pleural furrows wide and shallow, slightly diagonal.

Pygidium semi-elliptical, transverse, with a broad and sharply inclined downward marginal border, which is ornamented by fine concentric lines. Axis convex, narrow, conical, composed of five complete rings and a rounded terminal piece. Pleural regions flat, subtriangular, marked with three pairs of shallow and broad pleural furrows.

Discussion: In regard to the fringe feature, this new species recalls *Nankinolithus nankinensis* Lu, but differs in many other features: (1) in *Nankinolithus wanyuanensis*, the cephalon is regularly semi-circular, but in *N. nankinensis*, the cephalon is slightly quadratic; (2) the glabella of *N. wanyuanensis* is oblong-ovoid, and the glabella of *N. nankinensis* is pear-shaped; (3) the genal spines of *N. wanyuanensis* are longer and nearly parallel, and those of *N. nankinensis* are shorter and stretched outward; (4) the pygidium of *N. wanyuanensis* is semi-elliptical, and that of *N. nankinensis* is triangular.



1



2

图 1—2. *Nankinolithus wanyuanensis* Cheng et Jian sp. nov. 四川省,万源县,中巴乡,晚奥陶世。图 1,内模 $\times 4$,标本编号: W0001 (正型标本)。图 2,外模, $\times 3$ 。标本编号: W0002 (正型标本的付本)。标本保存于西安西北大学地质系。图版照相系由中国科学院地质古生物研究所庞茂芳同志所摄。

Fig. 1—2. *Nankinolithus wanyuanensis* Cheng et Jian sp. nov. Upper Ordovician, Zhongba-xiang of Wanyuan xian, N. Sichuan. Fig. 1, Internal mould, enlarged ($\times 4$), Cat. No.: W0001 (Holotype). Fig. 2, External mould, enlarged ($\times 3$), Cat.No.: W0002 (Counterpart of Holotype).

The specimens are preserved in Department of Geology, North-western University.