

ON A NEW SPECIES OF *BOULTONIA*

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(with 1 plate)

Early in 1927, Prof. J. S. Lee erected the genus *Boultonia*, the genotype of which is *Boultonia willsi*. In the same publication, he described another species *Boultonia rawi* from the Penchi Series of the Moscovian age. This latter species has been afterwards transferred by various authors to *Wedekindellina*. Later in 1934, Prof. S. Chen described a new species of *Boultonia*, *B. cylindrica*, from the Maping Limestone of Southwest China. Skinner and Wilde pointed out that the new species *B. cylindrica* might belong to *Schubertella* according to the descriptions and illustrations of Prof. Chen. On examining the specimens collected by some members of the Institute of Palaeontology, Academia Sinica in a recent trip to Lungtan, some 20 km southeast of Nanking, the writer found a new species of *Boultonia* which deserves special notice. The specimens have been found in association with *Boultonia willsi* Lee from the *Pseudoschwagerina* zone of the upper part of the Chuanshan Limestone. Since only a single species of *Boultonia* has been hitherto known from China, it seems desirable to mention and illustrate this new species here.

Description of species

Family Fusulinidae Möller 1878

Subfamily *Boultoninae* Skinner and Wilde 1954Genus *Boultonia* Lee 1927*Boultonia chent* Ho (sp. nov.)

pl. I, Figs. 1-7.

Test small, elongately fusiform or slenderly rhomboidal with its median part slightly vaulted, lateral part flattened, and polar extremities sharply pointed.

The number of whorls usually $4\frac{1}{2}$ to 5. The axis of convolution of the first whorl running askew to that of the outer ones, thence the whorls become ovoidal to rhomboidal in the second volution, but suddenly increasing in length to produce an elongated fusiform in the outer whorls. The axial length ranging from 1.5 to 2 mm and the diameter from 0.2 to 0.34 mm, the form ratio of the last whorl being 5.7-6.6.

Spirotheca thin, measuring 0.005, 0.008, 0.01 mm from the third to the fifth volutions of a typical individual, composed of a thin tectum underlain by a light-

coloured layer. Septa as thin as the spirotheca, strongly and regularly fluted throughout the length of the test except the median part. The folds not very high, only reach $\frac{1}{2}$ of the height of the chamber. The septa counts numbering 15, 19, 22 in the 3rd, 4th and 5th volutions respectively in a median section.

Chomata feebly developed in all the whorls, tunnel low and narrow.

Proloculus minute, spherical, only 0.03-0.04 mm in its outside diameter.

Axial filling weakly developed along the axial region.

Comparison and Discussion *Boultonia cheni* bears a resemblance to the genotype *B. willsi*, but differs from the latter in its larger form ratio, in its more sharply pointed poles and in the more strongly and regularly septal folding. In their important paper published in 1954, Skinner and Wilde figured some specimens of *B. willsi* from the Chuanshan Limestone of Chihsiashan in the vicinity of Nanking. It seems to the present writer that judging solely from the photographs the specimens shown in pl. 42, figs. 4 and 6 of their paper might most probably be conspecific with the present form.

Boultonia cheni in some respects resembles *Minojapanella* Fujimoto and Kanuma. However, the narrow and high septal fluting, the large size, the thicker axial filling and especially the four-layered wall structure in *Minojapanella* are its prominent features. Some of our specimens show a discontinued and very irregularly developed layer below the diaphanotheca. This layer may be considered as matrix substance deposited at the time of fossilization.

No marked difference of the wall structure exists between *Boultonia* and *Schubertella*, but the latter genus usually has an elliptical shape, smaller size, fewer whorls and nearly plane septa, while in *Boultonia* the septal fluting is stronger and more regular throughout the length of the shell, and the dominant elongated fusiform profile of the shell is a distinguished feature of this genus.

Measurements of *Boultonia cheni* (in mm)

Specimen	L.	D.	F.R.	Diam. Prom.	Diameter of volution					Form ratio of volution				
					1	2	3	4	5	1	2	3	4	5
8024	1.874	0.3	6.24	0.04		0.134	0.192	0.24	0.3		1.2	2.2	4.7	6.24
8022	1.52	0.27	5.7	0.03	0.07	0.09	0.168	0.27		1	2.4	4.3	5.7	
8020	2.00	0.33	6.06	0.03	0.066	0.1	0.12	0.2	0.33				5.3	6.06
8026	2.05	0.31	6.6		0.09	0.134	0.16	0.23	0.31	1.1	2.5	3.7	5.9	6.6

Horizon and Locality: *Pseudoschwagerina* zone, upper part of the Chuanshan Limestone, Kuanshan, Lungtan region, Kiangsu Province (Cat. No. 8020-8026.)

圖 版 說 明

圖影未加任何潤飾,攝影者为刘雪筠先生,薄片均保存在中國科学院古生物研究所。

圖 1—7. *Boultonia cheni* Ho (新种)

- 1, 1a. 副型标本,軸切面放大 40 倍及 60 倍。登記号:8022。
2. 副型标本,中切面放大 40 倍。登記号:8021。
3. 副型标本,微斜軸切面放大 40 倍。登記号:8023。
4. 正型标本,軸切面放大 40 倍。登記号:8020。
5. 副型标本,軸切面放大 40 倍。登記号:8024。
- 6, 6a, 6b. 副型标本,放大 40 倍、60 倍及 130 倍,放大部分示旋壁構造。登記号:8025。
7. 副型标本,中切面放大 40 倍。登記号:8026。

Explanation of Plate

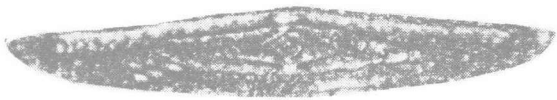
All figures are unretouched photographs. Photo by S. Y. Liu. The slices are all preserved in the Institute of Palaeontology, Academia Sinica.

Figs. 1-7. *Boultonia cheni* Ho (sp. nov.)

- 1, 1a. Axial section ($\times 40$ and $\times 60$) of a paratype. Cat. No. 8022.
2. Sagittal section ($\times 40$) of a paratype. Cat. No. 8021.
3. Obliquely axial section of a paratype ($\times 40$). Cat. No. 8023.
4. Axial section ($\times 40$) of holotype. Cat. No. 8020.
5. Axial section ($\times 40$) of a paratype. Cat. No. 8024.
- 6, 6a. Axial section ($\times 40$ and $\times 60$) of a paratype. Cat. No. 8025.
- 6b. Enlargement of part of figure 6 ($\times 130$), to show the wall structure.
7. Sagittal section ($\times 40$) of a paratype. Cat. No. 8026.

何 炎: *Boultonia* 屬的一个新种

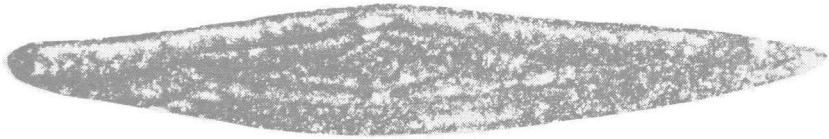
圖版 I



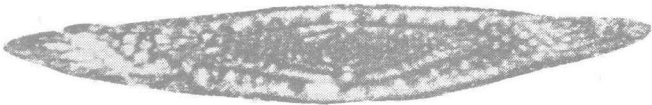
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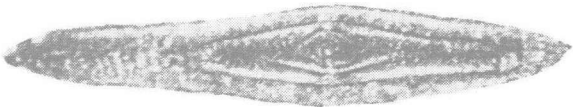
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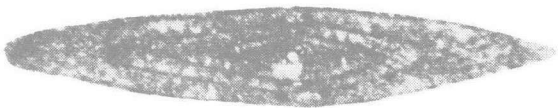
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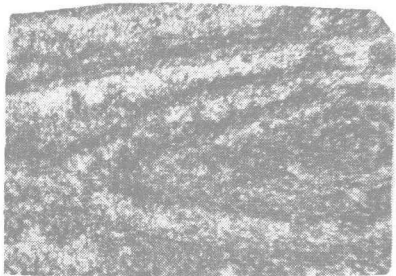
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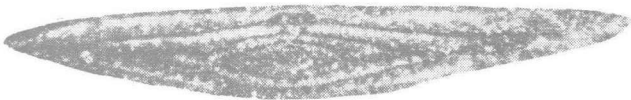
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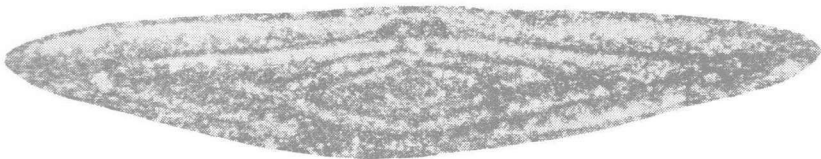
5



6b



6



6a



7