

ON A TURONIAN AMMONITE (MAMMITES DAVIESI) FROM
RAMRI ISLAND, BURMA. BY L. F. SPATH, D.Sc., F.G.S.
(With Plate 32.)

In a recent note by Dr. Cotter¹ it was announced that the brief description of an ammonite, bearing the manuscript name '*Acanthoceras daviesi*' had been found among papers left by the late E. Vredenburg. In the absence of an illustration, however, it was impossible to recognise the species. Moreover, as I pointed out in a review² of Dr. Cotter's note, the ammonite was spoken of as a typical Cenomanian form, while at the same time it was compared to the Turonian *Pseudaspidoceras footeanum* (Stoliczka). The real affinities of the ammonite thus remained uncertain; but since the fossil is the only evidence of Cretaceous rocks on Ramri Island, it is of considerable importance. I am grateful to Dr. L. L. Fermor for submitting this interesting ammonite to me for re-examination.

I may add that the ammonite was discovered last year in the collections of the Geological Survey of India during an examination, by Mr. F. E. Eames, Palaeontologist, Burmah Oil Co. Ltd., of the Arakan fossils collected by Mr. H. I. Davies in about 1912-1913. Mr. Eames has been kind enough to state that the locality at which the specimen had been collected was marked on Mr. Davies's map as being in Zinchaung Bay. The locality is apparently a quarter to half a mile west of Konbwe Inspection Bungalow (93° 38': 19° 8'). The village of Konbwe is at mile 12 on the coast road from Minbyin to Ramri. Mr. Eames adds that in all probability the specimen was collected between high and low water tide levels.

As can be seen from the illustration (Plate 32), the ammonite is rather fragmentary. Only part of the body-chamber is preserved and the inner whorls are almost unrecognisable. The side not figured, however, is in a condition not worse than that represented in the illustration, so that the measurements are reliable. Fortunately, the suture-line also is clearly traceable.

¹ Note on an Ammonite from Ramri Island', *Rec. Geol. Surv. Ind.*, LXVI, Pt. 2, pp. 255-256, (1932).

² *Geol. Zentralbl. B. (Pal. Zentralbl.)*, Vol. III, Nos. 5-6, p. 355 (No. 1036), (1933).

DESCRIPTION.

Coiling sublatumbilicate (with rather wide umbilicus); whorls subplatygyral (rather high), subpachygyral (rather thick). Whorl-section (Fig. 1*a*) octagonal, with flattened sides and gently convex venter, high and steep umbilical wall. Blunt, coarse ribs, at first

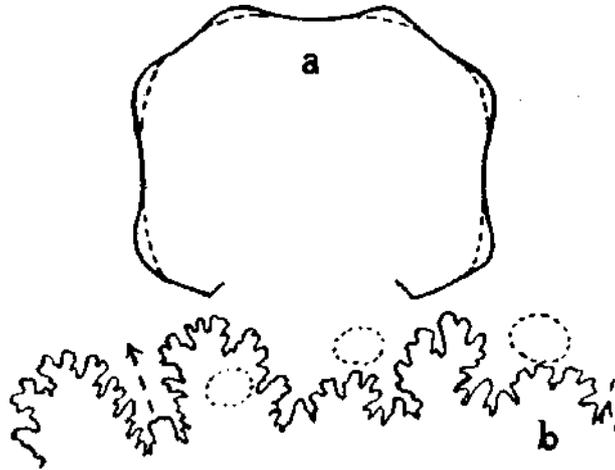


FIG. 1.—*Mammites daviesi* (Vredenburg MS.), sp. nov., Turonian, Ramri Island. (a) Outline whorl-section at diameter of 90 nuns.; (b) Suture-line, composite.

alternately long and short, on body-chamber more equal-sized; about nine to the half-whorl. Umbilical end of the longer ribs produced into a rounded tubercle which is relatively more prominent at the beginning of the outer whorl than at the end. Ventrolateral tubercles on the ribs less conspicuous and a third tubercle each side of the siphonal depression of the ribs lower still. Shorter, intercalated ribs with only two outer tubercles.

Suture-line (Fig. 1*b*) with unusually wide first lateral lobe, subdivided by a large median pseudo-saddle into two sub-bifid branches, second lateral lobe also sub-bifid, similarly second lateral saddle which is very low. External lobe almost the same depth as the first lateral.

MEASUREMENTS.

Diameter in millimetres	145
Whorl-height in per cent, of diameter	35
Thickness in per cent, of diameter	47
Width of umbilicus in per cent, of diameter	41

REMARKS.

This ammonite is undoubtedly very close to *Ammonites conciliatus*, Stoliczka¹, which, as Kossmat² has shown, is a near relation of *Mammites nodosoides* (Schlotheim). On account of the bad state of preservation of the inner whorls of the specimen under discussion, comparison is not easy with the smaller syntype of Stoliczka's species; but the larger lectotype (Plate LI, fig. 1) differs chiefly in having higher whorls and consequently a narrower umbilicus (about 33 per cent, of the diameter). The most conspicuous difference is in the suture-line, *M. conciliatus* having a much narrower first lateral lobe and much less pronounced degeneration of the whole suture-line, compared with the ancestral *Acanthoceras* suture-line. In this respect there is resemblance of the suture-line of *Mammites damesi* to that of *Pseudaspidoceras footeanum*⁵, as already mentioned by Vredenburg, but the ammonite does not belong to the group of *Acanthoceras coleroonense*, Stoliczka, as held by that authority. The suture-line of *Mammites michelobensis*, Laube and Bruder⁴, is also very much like that of *M. daviesi*, so that the affinity with the Turonian *Mammites* and not the Cenomanian *Acanthoceras* is established.

Kossmat already had pointed out that *Mammites conciliatus* (which had been recorded by Fritsch from Bohemia and by A. de Grossouvre from Provence) came from the uppermost part of the Utatur group. *Mammites nodosoides* and *Pseudaspidoceras footeanum* belong to the Lower Turonian or Ligerian (Mammitan age of my table)⁵ and since these Mammitids are of very wide horizontal distribution⁶, they are very useful for correlation.

EXPLANATION OF PLATE.

PLATE 32.—*Mammites daviesi* (Vredenburg MS.), sp. nov., Turonian, Ramri Island.

¹ Cephalopoda of the Cretaceous Rocks of Southern India, *Pal. Ind.*, Ser. I & III, Vol. I, p. 99, Pl. L, fig. 4; Pl. LI, fig. 1 (1865).

² Untersuchungen über die sudindische Kreideformation, *Beitr. Geol. Pal. Oesterreich-Ung.*, etc., Band XI, p. 21, (1898).

³ See in Stoliczka, *loc. cit.*, p. 18; Pl. LII, fig. 1c.

⁴ Ammoniten der böhmischen Kreide, *Palaeontographica*, Vol. XXXIII, text-fig, on p. 231, (1887).

⁵ On new Ammonites from the English Chalk, *Geol. Mag.*, Vol. LXIII, table on p. 80, (1926).

⁶ A small specimen (B. M. No. C. 36398) of a *Mammites* just brought back by Mr B. Aitken from Spain (Burgos) compares well with the young of the Indian *M. conciliatus*.

GEOLOGICAL SURVEY OF INDIA.

Records, Vol. LXVIII, Pl. 32.



G. S. I., Calcutta.

MAMMITES DAVIESI (VREDENBURG MS.) *sp. nov.*
TURONIAN, RAMRI ISLAND.