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A RECENTLY ACQUIRED ALBIAN AMMONITE FROM ANGOLA

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Although the Vernay collection of Albian ammonites from Angola includes 124 forms (Haas, 1942b, p. 206), one of the most spectacular species previously published, *Elobiceras neuparthi* (Choffat), is not represented. However, in 1944, the American Museum of Natural History was especially fortunate in receiving from Mr. H. B. Nannestad, Chief Engineer, "S.S. Talisman," through the courtesy of Dr. James P. Chapin, the specimen from Lobito Bay depicted in figures 1 to 3.

This topotype, reaching a diameter of 270 mm., is considerably larger than Choffat's holotype (1905, p. 38, pl. 2, fig. 1a, b, pl. 3, fig. 1c) which measures only 220 mm., and is almost as complete and well preserved as the latter. It may, therefore, deserve publication.

The height of its outer whorl is 26 per cent of the diameter; its height, measured in the median plane, 25 per cent; its intercostal width, 19 per cent; and its costal width, 26 per cent. The width of the umbilicus is $51\frac{1}{2}$ per cent of the diameter. The ratio of intercostal width is the same as that found in the holotype.¹ That the umbilicus is wider ($51\frac{1}{2}$ as compared to $45\frac{1}{2}$ per cent¹) and the outer whorl accordingly lower (26 as compared to 30 per cent¹) than in the holotype is due to the fact that the egression of the spiral, also observable in Choffat's plate 2, plays an even more important part in the topotype which attains a greater size.

The difference most noticeable at first sight is the greater density of the costation in the holotype, whose last whorl carries altogether 44 ribs, as compared to only 28 in the topotype. However, if the ribs are

counted back from the same diameter of 107 mm. in both shells, the results (21 per half whorl in the holotype, 24 in the topotype) deviate much less from each other. This difference hardly exceeds the limits of individual variation. Also, the considerable difference in the total of ribs of the outer whorls is obviously due to the greater size attained by the topotype, the rapid decrease in density of costation on the body chamber having already been emphasized in Choffat's original description of this species.

Thus both the differences discussed above can be derived from ontogenetic circumstances, and they therefore can hardly cast any doubt on the full conspecificity of the specimen here described with Choffat's holotype. The writer's belief in this conspecificity is based chiefly on the full agreement of both shells in the character of ornamentation. The ribs are almost straight at first, then (between the diameters of about 100 and 160 mm.) become decidedly sigmoidal and more prorsiradate than before, and, later, again less sigmoidal and less prorsiradate. In both specimens they lose the spiral ridges characteristic of the genus *Elobiceras*, to which this species is referred by the writer (see Haas, 1942b, pp. 100, 121), on the body chamber, viz., at diameters of about 150 and 200 mm., respectively. However, where the test is preserved, a faint spiral striation remains visible, even in the intercostals, up to diameters of 195 mm. in the holotype and of 215 mm. in the topotype. From a diameter of about 110 mm. the ribs carry pronounced, knob-like external tubercles²

¹ For the sake of better comparison, these figures are based on my own measurements of Choffat's photographs of the holotype, taken by the methods regularly applied in my studies, not on Choffat's (*ibid.*, p. 38) measurements.

² After the study of the specimen here dealt with I can no longer maintain my previous opinion (1942b, p. 121) that the external knobs are less prominent in *E. neuparthi* than in *E. browni* Haas (1942b, p. 120, pl. 21, figs. 2, 3, pl. 22, fig. 1a-c, text fig. 12e). However, the other differences pointed out there suffice to distinguish these species.



Fig. 1. *Elobiceras neuparthi* (Choffat), topotype, A.M.N.H. No. 26045, from the Albian of Lobito Bay, Angola. Right side view, $\times 1/2$.

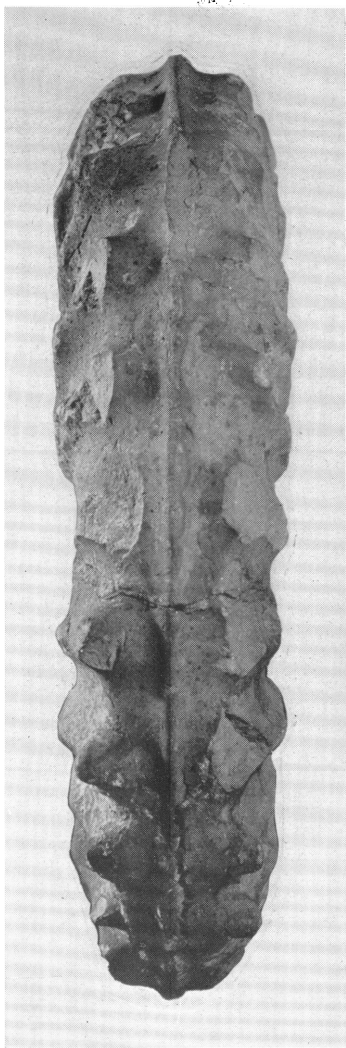


Fig. 2. *Elobiceras neuparthi* (Choffat), topotype, A.M.N.H. No. 26045, from the Albian of Lobito Bay, Angola. Ventral view, $\times \frac{1}{2}$.

which fade only at a short distance from the apertural margin where the costation, too, degenerates rather suddenly, the ribs losing in prominence, becoming fold-like and, once more, strongly prorsiradiate. In addition to the external nodes, there are radially elongated lateral ones which culminate somewhat above the middle of the flanks. They begin to be indicated at diameters between 100 and 125 mm. and

reach their maximum development at diameters of about 200 mm. in the holotype and of about 225 mm. in the topotype, about a sixth and a quarter, respectively, of a whorl apical of the anterior end. It is true that they are less developed in the holotype than in the individual here described, but they are far from being absent in the former, although no mention of them is found in Choffat's original description. They can readily be recognized in his side

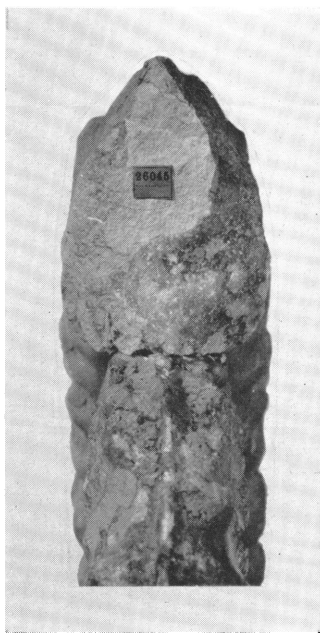


Fig. 3. *Elobiceras neuparthi* (Choffat), topotype, A.M.N.H. No. 26045, from the Albian of Lobito Bay, Angola. Upper half of frontal view, $\times \frac{1}{2}$, to show fastigation of outer whorl near aperture.

view (1905, pl. 2, fig. 1a) and are indicated in his sectional diagram (*ibid.*, fig. 1b) also, but at the place of this cross section they appear to be in a higher position than elsewhere in the outer whorl.

Whereas Choffat states the body chamber to occupy three-quarters of it in the holotype, only a little more than half a volution is unseptate in our topotype. Nevertheless the apertural margin cannot have been far distant from the actual

anterior end, as may be seen not only from the degeneration of the sculpture, described above, but also from the simultaneous, rather sudden fastigation of the periphery (see fig. 3), which is rather truncate up to this point.¹ The same phenomenon has been repeatedly recorded in this genus (see, e.g., Haas, 1942b, pl. 32, fig. 1b, c, and pl. 29, fig. 1d) as well as in others (see, e.g., *Sharpeiceras goliath* Haas, 1942a, fig. 7b, c) and, in a more general scope, discussed (Haas, 1942b, p. 213) by the writer.

In his original description Choffat mentions merely that the suture lines are only imperfectly visible in the holotype. The present specimen, however, permits their study at various diameters between 65 and about 200 mm., though nowhere completely enough to warrant delineation.

¹ To judge by Choffat's side view (pl. 2, fig. 1a), a similar change seems to take place in the holotype also.

From what can be seen it may well be inferred that the sutural characters also support the reference of this species to the genus *Elobiceras*. About the same features prevail as in some other forms of this genus at the corresponding diameters, e.g., *E. irregulare* (Spath), var. *rigidecostata* Haas (Haas, 1942b, pl. 35, fig. 2), *E. raymondi*, Haas (*ibid.*, pl. 35, fig. 10b), *E. intermedium* Spath (*ibid.*, text fig. 13b, α and β). The degree of indentation is comparatively high. The main lobes are comparatively wide, especially so in their lower portions, and the main saddles appear to be rather deeply intersected by lobules and considerably straitened in their lower parts by the far expanding branches of the lobes; this seems to be particularly true of the first lateral saddle. The first lateral lobe seems to be, though somewhat asymmetrically, bifid, the second trifid.

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