

A CASE OF INVERSION OF SUTURE LINES IN *HYSTERO CERAS* *VARICOSUM* (SOW.).

OTTO HAAS.

ABSTRACT. In one individual of *Hystero-ceras varicosum* (Sow.), *var. angolana* nova var., from the Albian of Hanha, Lobito Bay, Angola, the five last suture lines were found to be inverted.

A RICH collection of Albian ammonites from Hanha, Lobito Bay, which the writer is studying, together with other cephalopods from Angola belonging to The American Museum of Natural History, includes four specimens only of *Hystero-ceras varicosum* (Sow.)¹ which could be referred to its typical form. The majority of the individuals of that species (64 specimens) had to be referred to a new variety, named *var. angolana*.

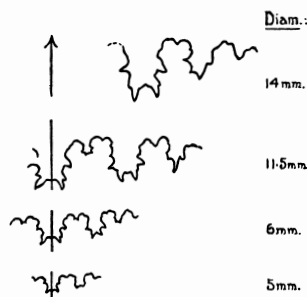


Fig. 1. Four suture lines of the holotype of *Hystero-ceras varicosum* (Sow.), *var. angolana* nova var. (AMNH. no. 25—101 /y:1) x 5 (appr. X). X Abbreviation for "approximately."

For a detailed description of this variety reference may be made to the first part of the writer's paper on Cretaceous Ammonites from Angola, now in the course of preparation. In order to establish the validity of this variety, we may state here that it differs from the type of Sowerby's species by smaller size, accelerated development, especially as to the vanishing of the keel and the coalescence of the ribs across the venter, and by narrower and less sigmoidal costae and somewhat stouter whorls. The holotype of the *var. angolana* (AMNH. no. 25—101: 1) is depicted in Pl. I, Figs. 1, a, b, c and Text Fig. 1.

¹ For synonymy see Spath, 1934, p. 473, Text-Figs. 161 c-g, 162-164, Pl. XLIX, Figs. 5, 10, 11.

These suture lines do not show anything out of the ordinary, as compared with others of *H. varicosum* (e.g., Jayet, 1929, Fig. 8; Spath, 1934, Figs. 161 e-g)² nor do those of some other individuals of the *var. angolana* studied at various sizes.

In a single specimen (AMNH. no. 25—101:20), however, which doubtless belongs to the same variety, as seen in its left

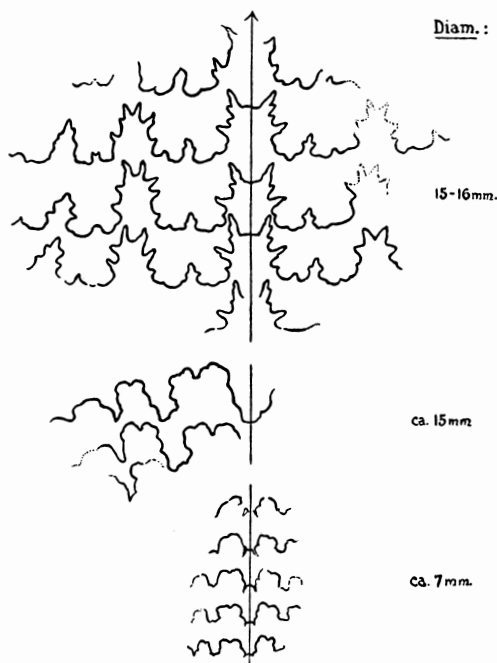


Fig. 2. Suture lines of another individual of *Hysterocheras varicosum* (Sow.), *var. angolana* nova var. (AMNH. no. 25—101 /y:20) x 4.5 (appr. X).
X Abbreviation for "approximately."

side and ventral views (Pl. I, Figs. 2 a, b), the five last suture lines are, most peculiarly, turned upside down. Text Fig. 2 shows, at its bottom, three suture lines and the median parts of two more (diameter about 7 mm.), in its middle part two suture lines, along with the left second lateral lobe of a third (diameter about 15 mm.); all of these suture lines are quite normal, but the five last, seen at the top of the drawing,

² The characters of the suture line are rather variable in this species: the first lateral lobe which is, as a rule, shorter than the siphonal one can be of the same length or even longer as well; furthermore, it can be either bifid or trifid or, occasionally, trifid with a blunt, two-pronged middle point. (Cf. Jayet, 1929, p. 6: "lobe latéral plus ou moins large, plus ou moins divisé à terminaison bifide ou grossièrement trifide, etc.")

(diameter 15-16 mm.) are inverted. The suture line following the topmost of the middle group is the last normal one, that one at the bottom of the upper group is the first inverted one. The chamber between these two septa was necessarily of biconvex shape and, in consequence, a point of reduced resistance of the shell. No wonder that, in the course of preparation, it broke just there. Both the rear and the front septum of this critical chamber are shown, in sectional view, in Pl. I, Figs. 2c and 2d. Both of them exhibit exactly the same aspect although, in the regular course of events, one ought to be the mould of the other.

Gayle Scott (1940, p. 306) recently mentioned "a single specimen in which the soft parts were evidently partially dislodged from the shell by a blow on what was then the posterior margin of the shell. The animal was partially rotated in its shell, became reattached and continued to grow for some time afterward. The ventral lobe of the suture lies on the ventrolateral area of the shell." But the writer does not know any case of such a complete inversion of ammonite septa recorded in literature.

As to the possible reasons of such a striking abnormality the writer would prefer to abstain from any speculations which are always more or less likely to assume anthropomorphic points of view, as seen repeatedly in Stieler's most accurate investigations on the costation of *Oxytropidoceras roissyanum* (d'Orb.) (1920, pp. 348-350) and on abnormal orifices and reinforced (flared) ribs in "*Inflaticeratids*" (1923). There is, however, one point which is, in the writer's opinion, most worth noting: As seen in Text Fig. 2, the five last suture lines are turned upside down, but not in the least distorted. On the contrary, every detail—if allowance is made for the richer indentation due to the later stage of development—agrees exactly with the normal suture lines of this individual and with those of the holotype of the *var. angolana* as well. Sutural characters of ammonites have sometimes been thought to be overrated by specialists, but hardly a more telling refutation of such doubts can be thought of than that furnished by the present case which proves how definite sutural features are immanent to every genus and even to every species (variety) of ammonites.

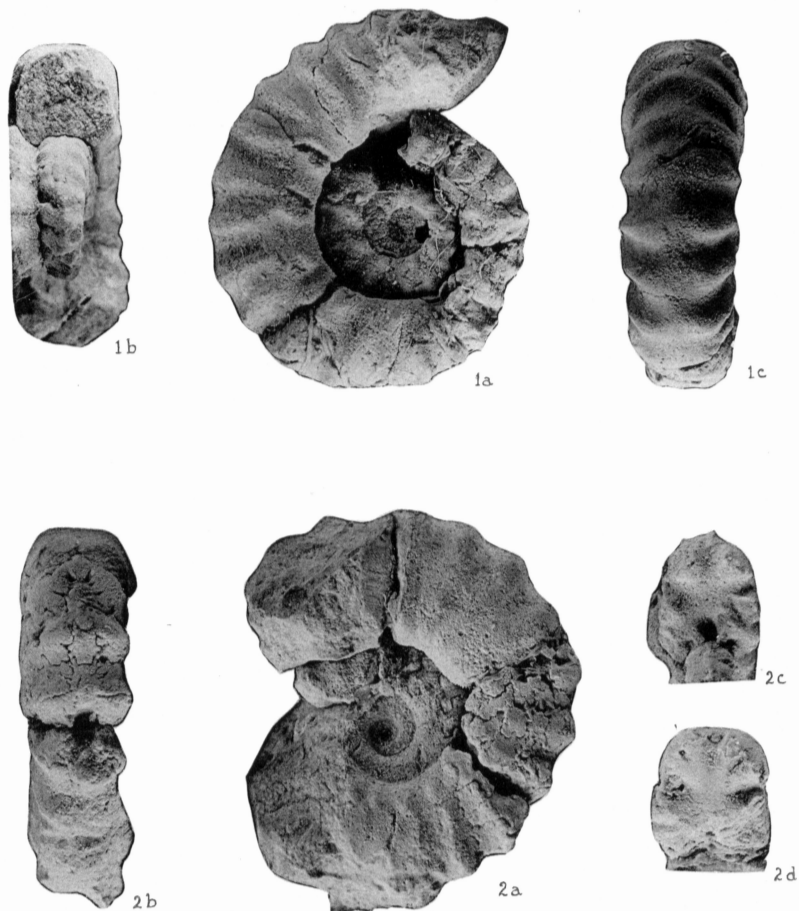
The writer's sincerest thanks are due to Dr. Harold E. Vokes, Assistant Curator of Invertebrate Palaeontology, The Amer-

ican Museum of Natural History, who most kindly made the photographs seen in Pl. I. For the drawings of suture lines (Text Figs. 1, 2) Miss Helen Babbitt is to be credited.

REFERENCES.

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Hysterocheras varicosum (Sow.), *var. angolana* nova var.

FIG. 1. Holotype (AMNH, no. 25101: 1) *a*) right side view, *b*) ventral view of penultimate whorl and natural section of outer whorl, *c*) ventral view of outer whorl.

FIG. 2. Another specimen (AMNH, no. 25101: 20) *a*) left side view, *b*) ventral view, *c*) last normal septum, *d*) first inverted septum.

All figures x2 (approx.).

ERRATA

Owing to an unfortunate error in the September, 1941, issue of the AMERICAN JOURNAL OF SCIENCE, Vol. 239, the legends under the text figures in the article "A Case of Inversion of Suture Lines in *Hysterocheras varicosum* (Sow.), by Otto Haas, were misprinted. They should read as follows:

Page 661. Fig. 1. Four suture lines of the holotype of *Hysterocheras varicosum* (Sow.), *var. angolana* nova *var.* (AMNH. no. 25101:1) x 5 (approx.).

Page 662. Fig. 2. Suture lines of another individual of *Hysterocheras varicosum* (Sow.) *var. angolana* nova *var.* (AMNH. no. 25101:20) x 4.5 (approx.).