

A NEW CROMYOCRINID FROM BRAZIL

Por

HARRELL L. STRIMPLE

R E S U M O

Descreve-se aqui uma nova espécie de Crinoide, *Dicromyocrinus tapajosi*, proveniente do Carbonífero Superior da Amazônia, série Itaituba. O fóssil provém de um afloramento de calcário próximo a Itaituba, rio Tapajós, Estado do Pará, Brasil.

I N T R O D U C T I O N

There are only four species of *Dicromyocrinus* known at this time. One that is questionably referred to the genus, *Dicromyocrinus bowsheri* (Strimple, 1949a), is from the Chester series, Mississippian (Lower Carboniferous) of Oklahoma. The other three are of Pennsylvanian age (Upper Carboniferous), being *D. ornatus* (Trautschold, 1867) the genotype species from Russia, *D. meadowensis* (Strimple, 1949b) from Nebraska, and *D. optimus* Strimple (1951) from Oklahoma. It is therefore of considerable geographic, stratigraphic and paleontologic interest that a new species has been discovered in Brazil by Dr. Kenneth Caster, University of Cincinnati, Cincinnati, Ohio. To my knowledge the only Pennsylvanian crinoids known from Brazil are *Erisocrinus loczyi* Katzer (1903) and a form listed as *Cyathocrinus* sp. indet. (Stielglieder) by Katzer, both reportedly from the Tapajós limestone. No detail is given for the specimen reportedly ascribable to *Cyathocrinus*. The illustration of *Erisocrinus loczyi* indicates close affinity with *Paradelocrinus*. The holotype should be re-examined before positive identification is attempted.

DICROMYOCRINUS Jaekel, 1918

DICROMYOCRINUS TAPAJOSI, new species

Figures 1-3

Only one specimen of the species is available which is designated as the holotype. The entire dorsal cup is in excellent preservation and two primibrachs are preserved and exposed in place. There may be other brachials covered by the matrix.

The calyx is composed of five infrabasals, five basals, five radials and three anal plates. All cup plates are decidedly tumid and the sutures sharply impressed. The plates have a smooth surface.

Infrabasals form a pentagonal disk in subhorizontal position. The outer extremities are slightly upflared and are visible in the depressed interbasal areas when the cup is viewed from the sides. The central portion of the disk is depressed due to the tumidity of the plates and further impressed for the reception of the proximal columnals. Basal plates are large with lower portions curved under to participate in the formation of a rather broad basal plane. Their upper portions form a large part of the lateral calyx walls. Radial plates are large elements and are very prominent in side view of the calyx. The upper portion of each radial curves sharply inward to form a subhorizontal, narrow shelf in front of the articulating fossae. The outer ligament furrow is visible on one plate and is narrow but sharply impressed.

The placement of the anal plates within the posterior interradius is a modification that has been termed "Extreme type" (see Strimple, 1948), wherein anal X has lost contact with the posterior basal. This condition is brought about by migration of the radianal (RA) to the dominant posterior position, forcing anal X upward. The right tube plate (RX) is in place directly above the RA and to the right of X.

Axillary primibrachs are visible in two rays. They are wide, low, tumid elements.

About eight alternately expanded columnals are preserved. They are rather thin, particularly the smaller segments. The outer surface is very uneven and, where segments have slipped out of place, strong crenellae are disclosed. The end of the lowermost columnal is damaged so that the lumen is not exposed. Measurements in millimeters, taken along the normal surface curvature, are as follows:

Width of dorsal cup (maximum)	27.5
Height of dorsal cup	14.0
Width of infrabasal circlet	10.2
Diameter of proximal columnals (maximum)	3.3
Length of right anterior basal	13.8
Width of right anterior basal	13.7
Length of suture between basals	7.0
Length of right anterior radial	11.5
Width of right anterior radial	15.2
Length of suture between radials	5.5

Remarks: *Dicromyocrinus tapajosi* has a more advanced arrangement of anal plates than other species assigned to the genus. The exact placement is given in the description above. It is also distinguished from *D. ornatus* and *D. optimus* through lack of a nodose surface. Both of the later species also have a series of pits along the sutures that are not found in *D. tapajosi*. In *D. meadowensis* and *D. bowsheri* there is a definite basal invagination.

Occurrence: Tapajos limestone, Itaituba formation, Pennsylvanian, near Itaituba, Rio Tapajos, Estado do Pará, Brazil.

Holotype: Deposited in the collections of the University of Cincinnati, Cincinnati, Ohio.

FIG. 1 — Anterior view

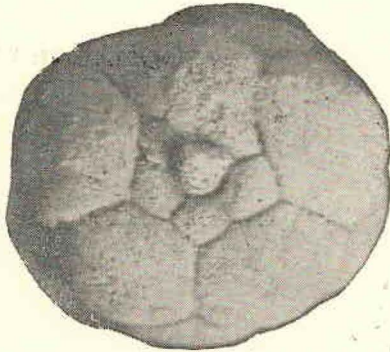


FIG. 2 — Posterior view

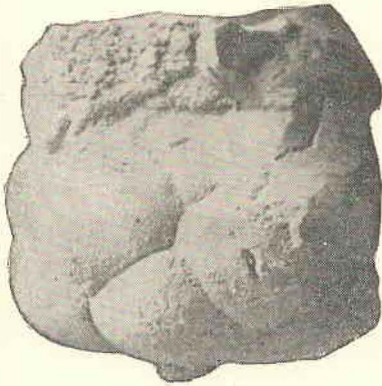
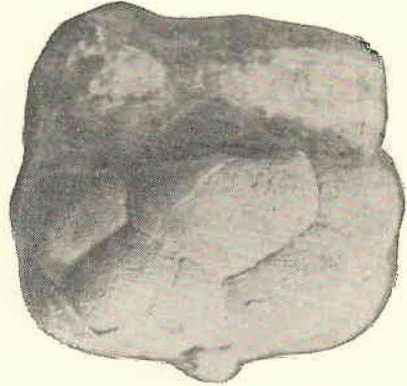


FIG. 3 — Basal view



Dieromyocrinus tapajosi, new species

REFERENCES

- JAEKEL, O., (1918) — *Phylogenie and system der Pelmatozoen*; Paleont. Zeitschr., 3, p. 1-128.
- KATZER, F., (1903) — *Grundzüge Geol. unteren Amazonasgebietes*, pp. 159, 263, pl. 4, fig. 9.
- STRIMPLE, HARRELL L., (1948) — *Notes on Phanocrinus from the Fayetteville formation of northeastern Oklahoma*, Jour. Paleo., 22, n.º 4, p. 491, text-fig. 4.
- (1949a) — *Mooreocrinus bowsheri, new species from the Chester series of northeastern Oklahoma*, Amer. Jour. Sci., vol. 247, 128-131, 1 pl.
- (1949b) — *Studies of Carboniferous crinoids, Part, 3, Description of two new cromyocrinids from the Pennsylvanian of Nebraska*, Palaeontographica Americana, 3, n.º 23, p. 24-27, pl. 4.
- (1951) — *Some new species of Carboniferous crinoids*, Bull. American Paleont., 33, n.º 137, pp. 15-17, pl. 3, figs. 1-4.
- TRAUTSCHOLD, H., (1867) — *Einige crinoideen und andere thierreste des jungeren bergkalks in Gouvernement Moskau*, Bull. Soc. Imper. des Nat. de Moscou, 60, n.º 3, pp. 1-49, 5 pls.