

CYCADOLEPIS SAPORTA FROM THE RAJMAHAL HILLS, BIHAR, INDIA

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ABSTRACT

Revised interpretation of *Cycadolepis indica* Gupta (1954) and description of a new combination *C. oldhamii* (Feistmantel) form the subject of this paper.

INTRODUCTION

IN the Mesozoic rocks of India *Cycadolepis* type of scale-leaves are known from Cutch, the Rajmahal Hills and the Madras Coast. Feistmantel (1876) reported *C. pilosa* from Bhoojooree, Cutch and later in 1877 described *Cycadolepis* type of scale-leaves as *Cyclopteris oldhamii* from the Rajmahal Hills. From Vemavaram, the Upper Gondwana of the Madras Coast, Feistmantel (1879) figured four scale-leaves as *Cycadolepis* sp. Besides these, two flat scale-like organs were reported by Sahnii & Rao (1931) as cf. *Cycadolepis* Saporta from the Rajmahal Hills, but no figures were published. Also from the Rajmahal Hills, Gupta (1954) described a few specimens as *Cycadolepis indica*.

The present work is based on the original specimens of Gupta and a new specimen in counterparts of a scale-leaf resembling the original specimens of *C. oldhamii* described by Feistmantel (*l.c.*). This specimen* was collected by one of us (BOSE) in 1957 from Bindaban about 2½ miles south of Mirzachowki railway station.

DESCRIPTION

Cycadolepis indica Gupta

Pl. 1, Figs. 3-4

1877 — *Cyclopteris oldhamii* Feistmantel, pp. 31-32, pl. 3, fig. 1.

1954 — *Cycadolepis indica* Gupta, pp. 22-23, pl. 3, fig. 12.

Emended diagnosis — Scale-leaf thick, leathery, broadly obovate, 8 cm. long and 6.7 cm. broad at the broadest region, base comparatively narrow about 1.5 cm. broad, margin entire. No mid-rib visible, veins

radiating from the base, running parallel for some distance near the centre then diverging and bifurcating 2-3 times before reaching the margin.

Remarks — The above description is based on the most complete specimen figured by Gupta (1954). But here too the margin is not complete at places. Gupta described the margin as deeply lobed in the young scale-leaves. We have re-examined one such specimen and do not agree with his observations. In our opinion the specimen is badly preserved, the folded look is only due to the matrix which looks much crumpled (PL. 1, FIG. 4). In none of the specimen mid-rib is visible, the venation is somewhat like the venation of *Gangamopteris* McCoy, but the present specimens do not even give the look of a false mid-rib as is seen in *Gangamopteris*. According to Gupta *C. indica* is closest to *C. jenkinsiana* (Tate) described by Seward (1903) from Cape Colony, only difference being in the Indian species there is no mid-rib. *C. indica* is more like the sub-genus *Eury-* *Cycadolepis* of Seward (1917). As nothing is known about their cuticular structure, it is difficult to say anything regarding their exact affinity.

Locality — Banchapa and Bindaban, Rajmahal Hills, Bihar.

Horizon — (Rajmahal Series).

Collection — Lectotype No. 7894 of the Birbal Sahni Institute of Palaeobotany, Lucknow.

Cycadolepis oldhamii (Feistmantel)

n. comb.

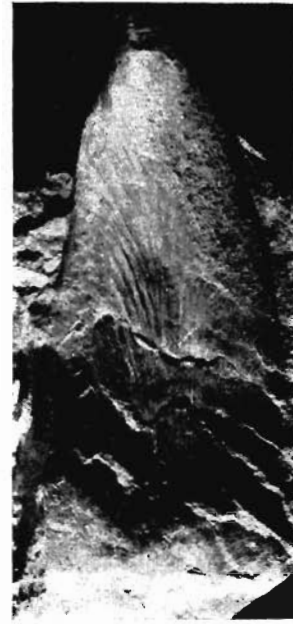
Pl. 1, Figs. 1-2

1877 — *Cyclopteris oldhamii* Feistmantel, pp. 31-32, pl. 36, fig. 2; pl. 37, figs. 5-6.

Diagnosis — Fleshy scale-leaf, oblong-ovate or narrowly triangular, broad cordate base gradually tapering towards the apex, 7.8 cm. long and 3.3 cm. broad at the broadest region. Apex pointed, margin entire, slightly revolute. Mid-rib absent, veins



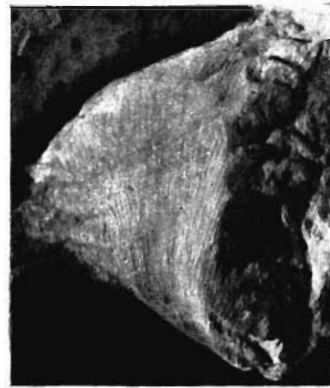
1



2



3



4

numerous, radiating from the base, nearly parallel for a short distance in the middle, later diverging, forking twice or thrice before reaching the margin or apex.

Remarks — *Cycadolepis oldhamii* (Feistm.) differs from *C. indica* Gupta in being oblong-ovate and in having a pointed apex. Also margin of *C. oldhamii* is somewhat revolute. *C. pilosa* Feistmantel (1876) differs from *C. oldhamii* in having stiff hairs on the margin. In shape *C. oldhamii* may be compared with some of the specimens of

C. psila Harris (1932), but the former species is much bigger in size, also the cuticle of *C. psila* is Bennettitalean while nothing is known about the cuticle of *C. oldhamii*.

Locality — Bindaban about 2½ miles south of Mirzachowki railway station, Rajmahal Hills, Bihar.

Horizon — (Rajmahal Series).

Collection — Lectotype No. 4/506 of the Geological Survey of India, Calcutta and Isotype No. 25607 of the Birbal Sahni Institute of Palaeobotany, Lucknow.

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EXPLANATION OF PLATE I

- 1, 2. *Cycadolepis oldhamii* (Feistmantel) n. comb. No. 25586 & 25607 respectively. × 1.
3. *Cycadolepis indica* Gupta. No. 7894. × 1.
4. *C. indica*, showing the so-called folds due to bad preservation or crumpling of the matrix. No. 7894. × 1.