Geographic distribution of the genus *Cycadopteris* during the Upper Gondwana

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A leaf of the genus *Cycadopteris* Zigno is reported for the first time from the Athgarh Formation, Orissa. The distribution of the genus *Cycadopteris* in India during the Upper Gondwana is discussed.

**Key-words**—Mega-fossil, *Cycadopteris*, Corystospermaeaceae, Athgarh Formation, Upper Gondwana (India).

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**सारांश**

उपरोक्त जंतुक में साइक्डोप्टेरिस प्रजाति का भौगोलिक वितरण

नीर भंडार

अभिक रोपण-स्थल में साइक्डोप्टेरिस जिसके प्रजाति की एक अद्वितीय भारी सही आभूषणित की गई है। भारत में उपरोक्त जंतुक में साइक्डोप्टेरिस प्रजाति का वितरण भी विशेषतः विवरणात्मक क्रम गया है।

**DESCRIPTION**

**Family**—Corystospermaeaceae

**Genus**—*Cycadopteris* Zigno

*Cycadopteris* sp.

Pl. 1, figs 1-3

**Description**—Pinna incomplete, 3.4 cm long and 0.5 cm wide. Rachis less than 1 mm broad. Pinnules broadly ovate, with rounded apex and slightly decurrent base, alternate, rather sparse, attached at an angle of 60°-90°, 2.3 mm long and 1.5-2 mm broad, margin thickened. Midrib broad, persisting up to apex and dividing the lamina longitudinally into broader basiscopic half and narrow acroscopic half. Secondary veins prominent, arising at an acute angle and forking once or twice.

**Collection**—Specimen no. BSIP 68/3132; Talbast, Cuttack District, Orissa; Athgarh Formation, Early Cretaceous.

**Remarks**—*Cycadopteris* sp. resembles *C. pulcherrima* (Bose & Dev, 1958) in shape and size of pinnules. In *C. brauniana* (Bose & Dev, 1958) and the present specimen the basiscopic half of pinnules is larger than the acroscopic half. However, the pinnules in *Cycadopteris* sp. are comparatively distant, small and lack phytomelma. *Cycadopteris* sp. is also somewhat comparable to the smaller pinnules of *C. zeilleri* Antevs 1915 in shape, size and arrangement of pinnules; however, the former species lacks cuticular details.
Text-figure 1—Distribution of the genus *Cycadopteris* during the Upper Gondwana in India; a, Bara-Patpara, Jabalpur Formation, Madhya Pradesh; b, Chunakhali, Rajmahal Formation, Bihar; and c, Talbast, Athgarh Formation, Orissa.

The genus *Cycadopteris* is characterized by thick leathery leaves, turned-margin, generally flange over midrib, sunken stomata and sometimes papillae over the leaves which are xeromorphic characters. The present specimen though preserved as impression has small and thick leaves suggesting a rather dry environment for the Athgarh Formation.

Distribution—The genus *Cycadopteris* was so far known from Early Cretaceous of Bansa and Patparha, (Jabalpur Formation), Madhya Pradesh and Chunakhali (Rajmahal Formation), Bihar. Its occurrence in the Athgarh Formation is significant as this occurrence extends its geographic distribution from Madhya Pradesh and Bihar to Orissa during the Early Cretaceous Period (Text-fig. 1).

REFERENCES


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PLATE 1

1. *Cycadopteris* sp., Specimen no. BSIP 68/3132, x 2.
2. Above specimen magnified, x 6.
3. A pinnule based on the above specimen showing venation. x approx. 8.