

FERNS FROM THE CRETACEOUS OF MADHYA PRADESH -2

[*Cladophlebis medicottiana* (Oldham) Pascoe, *Sphenopteris* sp.]

SUKH-DEV

Birbal Sahni Institute of Palaeobotany, Lucknow

ABSTRACT

Two more ferns, *Cladophlebis medicottiana* (Oldham) Pascoe and *Sphenopteris* sp., are described from the Lower Cretaceous (Jabalpur Stage) of Madhya Pradesh which form a part of the studies on the fossil ferns of this region undertaken by me (Sukh-Dev, 1970). In the first paper of this series *Gleichenia nordenskiöldii* Heer (Gleicheniaceae), *Phlebopteris polyodioides* Brongniart (Matoniaceae) and *Weichselia reticulata* (Stokes & Webb) Ward were described.

The specimens are deposited in the Museum of the Birbal Sahni Institute of Palaeobotany, Lucknow.

DESCRIPTION

Form-Genus *Cladophlebis* Brongniart 1849

Cladophlebis medicottiana (Oldham) Pascoe
Pl. 1, Figs. 1-5; Text-fig. 1

Indian specimens:

- 1876 — *Alethopteris Medicottiana* Oldham:
Feistmantel, p. 127.
1877 — *Alethopteris Medicottiana* Oldh.:
Feistmantel, p. 87, Pl. 1, Figs. 2-6
(Jabalpur, L. Cretaceous).
1882 — *Alethopteris medicottiana* Oldh.:
Feistmantel, p. 30, Pl. 1, Figs. 12,
13 (Jabalpur, p. 4), and 14 (Bansa).
(All L. Cretaceous).
1931 — *Alethopteris medicottiana* Oldh.:
Fox, Pl. 7 (Jabalpur, L. Cretaceous).
1959 — *Cladophlebis medicottiana* (Oldh.)
Pascoe, p. xix, Fig. 2-Pl. facing p.
990 (Fig. same as Fox 1931.
Change in genus name only).
1968 — *Alethopteris medicottiana*: Krish-
nan, Pl. 6, Fig. 5 (Fig. same as
Fox 1931 & Pascoe 1959).

Diagnosis: (Based on Feistmantel 1877 and my specimens). Frond bipinnate, rachis stout, about 3 mm wide. Pinnae imparipinnate, ovate-elongate, making an angle of 60°-70°. Pinnules linear, broader at their base, narrowing very gradually for a considerable length, and then near the distal end narrowing abruptly to an acute

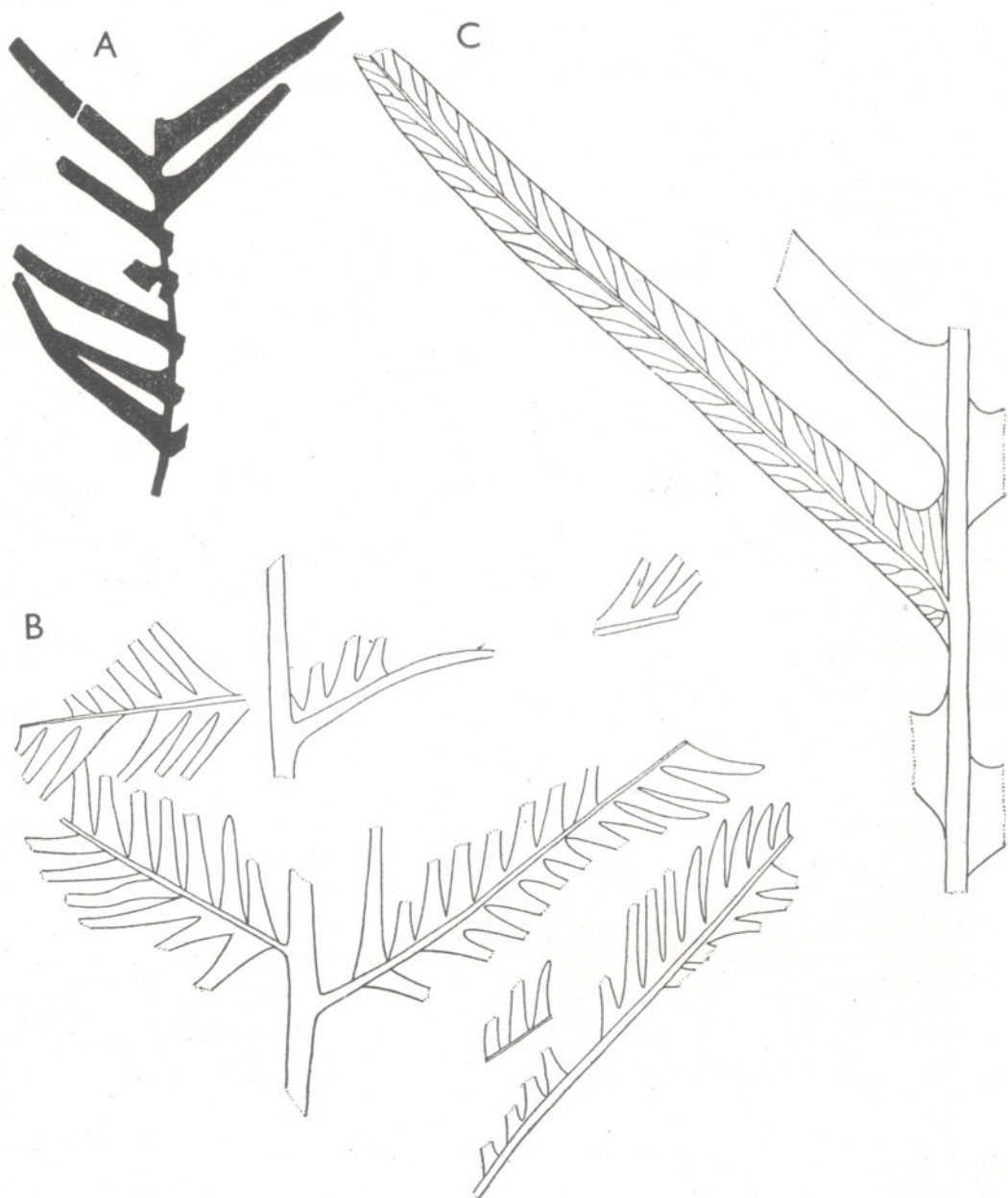
or obtuse apex, straight or falcate, typically 3.5 cm × 3 mm, slightly wider at the base. Apical pinnules shorter and broader, connected at their base by up to 1 mm broad web, lower pinnules usually free. Pinnules arising at an interval of 4 to 8 mm (range 3-9 mm), making an angle of about 70° below, angle reduced to 30° above. Terminal pinnule elongate, broad at the base and narrowing towards the apex. Midrib thick, originating nearer to the basiscopic edge of the pinnule and persisting to the apex. Secondary veins numerous, catadromic, arising at an interval of about 0.5 to 2.5 mm at an angle of about 20° to 50°, forking once (rarely a branch forking again), except the basal pair, and reaching the margin at a concentration of 10-20 veins per cm. The first catadromic vein arising from the rachis or at the origin of midrib usually twice forked. The basiscopic branch of the first anadromic vein usually once forked, rarely the other branch also once forked. Margin entire but crenulate or denticulate near the apex.

Lectotype: Specimen No. 4/850 (Feistmantel, 1877, Pl. 1, Fig. 2).

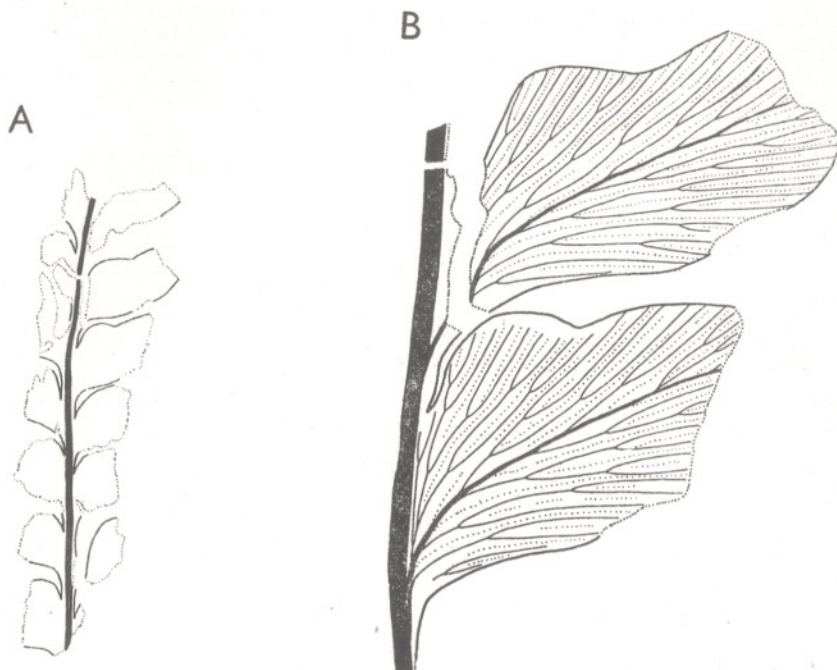
Occurrence:

- Jabalpur Stage: 1. South Rewa, Marwar Ghat about 3/4 km. NE (Loc. C) and about 1/2 km. NNW (Loc. B) of Bansa, and Patparha, Shahdol district.
2. Jabalpur.

Comparison: *Cladophlebis longipennis* described by Seward (1925) from the Cretaceous of Greenland also has linear pinnules, but they are much broader, separate and constricted at their basal edges. Here I may also mention that in no way does *C. medicottiana* resemble *C. longipennis* Seward (1894) from the English Wealden. In my opinion the Greenland and the English specimens are not co-specific, and



TEXT-FIG. 1—*Cladophlebis medlicottiana* (Oldham) Pascoe: A, specimen No. 30763, $\times 1$. B, lectotype, 4/850, $\times 1$, C, venation, 30244, $\times 3$. A, Patparha; C, Bansa (Loc. B); B, Jabalpur



TEXT-FIG. 2—*Sphenopteris* sp. A, part of a pinna, 34057, $\times 2$. B, two pinnules of the same specimen enlarged showing venation, $\times 8$. Bansa (Loc. A).

because of the priority of the English species the Greenland specimens should be given a new specific name.

Form — Genus *Sphenopteris* Sternberg 1825

Sphenopteris sp.

Pl. 1, Fig 6; Text-fig. 2

Description — Frond probably bipinnate. Pinnae linear. Pinnules typically 4 mm wide, closely attached at an angle of about 20° - 90° , sub-circular to broadly ovate. Acroscopic basal margin making a deep

sinus, basicopic basal margin first contracted and then slightly decurrent. Apex obtuse. Margin lobed. Midrib distinct, originating with a curvature. Secondary veins catadromic, numerous, close, forking more than once and arching symmetrically to the margin. Venulae recurrentes present amongst all the lateral veins.

Occurrence:

Jabalpur Stage: South Rewa, about $\frac{1}{4}$ mile (Loc. B) and $\frac{1}{2}$ mile NNW (Loc. A) of Bansa, Shahdol district.

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*Reference has not been seen

EXPLANATION OF PLATE

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| 1. <i>Cladophlebis medlicottiana</i> (Oldham) Pascoe No. 31698, × 1. Patparha. | Patparha (specimen consumed). |
| 2. <i>C. med'icottiana</i> . No. 29858, × 1. Bansa (Loc. C). | 5. <i>C. medlicottiana</i> . Venation. No. 30244, × 2. Bansa (Loc. B). |
| 3. <i>C. medlicottiana</i> . No. 31699, × 1. Patparha. | 6. <i>Sphenopteris</i> sp. No. 34057, × 1. Bansa (Loc. A). |
| 4. <i>C. medlicottiana</i> . No. 29908, × 1. Probably | |

