

THE FOSSIL FLORA OF THE JABALPUR SERIES—2. FILICALES

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ABSTRACT

Onychiopsis psilotoides (Stokes & Webb), *Cladophlebis* sp. cf. *C. longipennis* (Seward), *Cladophlebis* sp., *Coniopteris hymenophylloides* (Brongniart) Seward, *Coniopteris* sp. cf. *C. hymenophylloides* (Brongniart) Seward and *Sphenopteris* sp. are here described from Jabalpur and Sehora, Madhya Pradesh.

INTRODUCTION

THE filicean remains forming the subject of this paper were collected in 1948 from the Chui hills, Jabalpur, and in 1957 from Sehora (Sher river cutting), Narsinghpur district. These localities were discovered as early as 1860 by Medlicott and the plant fossils from them were described by Feistmantel (1877). Among the Filicales Feistmantel had described only *Sphenopteris* cf. *arguta*, *Diksonia* sp. and *Cladophlebis* (*Alethopteris*) *whitbyensis*. Later Deb (1932) reported another species of *Cladophlebis*, *C. indica*, from Jabalpur and Crookshank (1935) recorded two species of *Hausmannia* — *H. dichotoma* and *H. buchii* from Jatamao, Madhya Pradesh.

DESCRIPTION

All the species recorded here are fragmentary and none of them bears the fertile parts. The fossils from the Chui hills are preserved as impressions on a greyish white clay and those from Sehora are carbonized.

POLYPODIACEAE

Genus *Onychiopsis* Yokoyama

Onychiopsis psilotoides (Stokes & Webb)

Pl. 1, Figs. 8-11

Five specimens, all of them sterile, are here assigned to the genus *Onychiopsis* Yokoyama (1890). The best specimens are figured in Pl. 1, Figs. 8-11. Detached pinnae as well as bipinnate fronds have been collected. Largest bipinnate frond about 7.5 cm. in length. The pinnae about 2-6 cm. in length, slender and linear in outline, attached to the rachis in alternate manner. The pinnules small, lanceolate, acutely directed forward. Veins not visible.

Comparison — Present fronds resemble to a great extent *Onychiopsis psilotoides* des-

cribed by Seward from the English Wealden (1894) and Cape Colony (1903) and by Oishi (1931) from Takata, Japan, in its habit and in the form of the ultimate segments.

Remarks — The age of the Jabalpur series is still a matter of controversy. According to Feistmantel (1877), Cotter (1917) and Crookshank (1936) they are Middle or Upper Jurassic in age; Matley (1921) and Arkell (1956) consider them to be Lower Cretaceous. The presence of *O. psilotoides*, which is a characteristic Wealden fern, supports the latter view.

Locality — Sehora, Narsinghpur District, Madhya Pradesh.

? OSMUNDACEAE

Genus *Cladophlebis* Brongniart

Cladophlebis sp. cf. *C. longipennis* Seward

Pl. 1, Figs. 1, 2

The present collection includes numerous specimens resembling *Cladophlebis longipennis* Seward (1894). But none of the specimens collected shows the bipinnate form. Largest pinnae about 8.5 cm. long and 1 cm. broad. Pinnules 3-5 mm. long and 2-4 mm. broad. Veins rarely visible. Other characters of the pinnae and the pinnules same as *C. longipennis* described by Seward.

Remarks — This species is rather common, and the pinnules are of variable size.

Locality — Sehora, Narsinghpur District, Madhya Pradesh.

Cladophlebis sp.

Pl. 1, Figs. 3, 4

Pl. 1, Figs. 3-4 show pinnae of two imperfect specimens. Pinnae are simple, alternate, long, linear-lanceolate, broader and inequilateral at the base, tapering towards the apex, margin entire. Secondary veins mostly dividing only once.

Comparison — The pinnae of the present specimens resemble the pinnae of *Osmunda sturii* described by Raciborski (1890, 1894). But none of our specimens are bipinnate and moreover, the pinnules of *O. sturii* are mostly smaller in size.

Remarks — From the material so far collected, it is impossible to judge whether the specimens are detached pinnae of a bipinnate frond or they are only simply pinnate forms.

Locality — Sehora, Narsinghpur District, Madhya Pradesh.

CYATHEACEAE

Genus *Coniopteris* Brongniart*Coniopteris hymenophylloides*

(BRONGNIART) Seward

Pl. 1, Fig. 5

A portion of a sterile foliage is seen on Pl. 1, Fig. 5, which may be compared closely with such forms of *C. hymenophylloides* as have been described by Seward (1900, 1911), Sze (1933) and P'an (1936).

Remarks — There are only two specimens in the collection and their venation is not clear.

Locality — Chui hills, Jabalpur.

Coniopteris sp. cf. *C. hymenophylloides*

(BRONGNIART) SEWARD

Pl. 1, Fig. 6

Only a single specimen was obtained. Pinnules of this form resemble those of the

figured specimens of Seward (1900, Pl. XVII, FIG. 3), Yabe and Ōishi (1929, Pl. XXI, FIG. 1) and Sze (1931, Pl. 5, FIG. 7).

Remarks — This form seems to be rather rare.

Locality — Chui hills, Jabalpur.

Genus *Sphenopteris* Brongniart*Sphenopteris* sp.

Pl. 1, Fig. 7

Several fragmentary specimens have been collected from Jabalpur. Mostly bipinnate (? tripinnate) with a slender rachis from which linear pinnae are given off alternately. Pinnules varying in shape, ovate with blunt or acuminate apex. At the base the pinnules contiguous, near the apical region even united, leaving only a portion of their apex free. Margin entire. Secondary veins rarely bifurcating.

Remarks — This species is quite abundant, and variable in form. May be compared with *Sphenopteris* sp. cf. *zarecznyi* (Raciborski) from Kamenka described by Thomas (1911).

Locality — Chui hills, Jabalpur.

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EXPLANATION OF PLATE 1

1, 2. *Cladophlebis* sp. cf. *C. longipennis* Seward.
Nos. 28950 and 28949. $\times 1$.

3, 4. *Cladophlebis* sp. Nos. 29245 and 29228.
 $\times 1$.

5. *Coniopteris hymenophylloides* (Brongniart)
Seward. No. 5904. $\times 1$.

6. *Coniopteris* sp. cf. *C. hymenophylloides* (Brong-
niart) Seward. No. 5905. $\times 1$.

7. *Sphenopteris* sp. No. 5918. $\times 1$.

8-11. *Onychiopsis psilotoides* (Stokes & Web).
Nos. 29294 (Fig. 8), 29300 (Figs. 9 & 11) and
29295 (Fig. 10). $\times 1$.



1



3



5



6



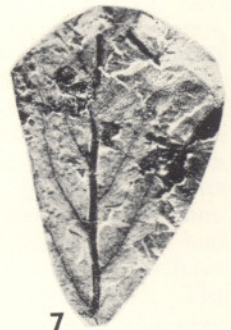
2



4



8



7



9



10



11