331. MESOZOIC PLANTS FROM THE TETORI SERIES, CENTRAL HONSHU, JAPAN (Part 1)*

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Introduction

In this paper the writer describes a marked species collected from the Tc and Td horizons in the section of Tamodani1). (T. KIMURA, 1957)

In describing this short report, the writer expresses his sincere gratitude for the helps of Dr. H. FUJIMOTO and S. ENDO who kindly guided him during this study.

Description of species

Pteridophyta
Filicales Incertae Sedis

Form-genus Cladophlebus BRONGNIART

Cladophlebus shinshuensis TATEIWA

Plate 25, Figures 1, 2; Text-figure 1.

1929. Cladophlebus shinshuensis TATEIWA, fig. 24.
1940. Cladophlebus shinshuensis Osii, p. 285, pl. XX, figs. 5-6; pl. XXI, figs. 5-7.

Diagnosis:—Frond: Bipinnate, probably large in size, rachis, 2-3 mm. thick measured on impression and traversed by 4 weak ridges on its surface. Pinnae; oblong or obovate in shape, attached to the rachis at a low angle (about 30 degrees) suboppositely, flexible in habit, tapering gradually towards the acuminate apex and overlapping each other laterally. Pinnules; thin in character, set closely together, attached by the lower half of the base or whole of the base, the upper basal edge often making a deep sinus. Variable in shape, mostly long in length and narrow in width, with deeply serrated or lobed margin, each lobe with subacutely or acutely pointed apex.

Reproductive organ is not preserved.

Description of specimens:—Pl. 25, fig. 1 shows three imperfect pinnae which are posterior portion of a frond. Pinnae are very flexible in habit and bending backward at their midcourse. Pinnules are long and narrow, the margin is mostly lobed, each lobe acutely or sub-acutely pointed and acutely directed forward just like the pinnules themselves. Nerves are simple, the mid-nerve is considerably marked, but the secondary nerves are mostly obsolete.

Text-fig. 1 shows a part of pinnule of this specimen.
Text-fig. 1. Cladophlebis shinshensis
TAKEIWA: a part of pinna. ×2. (Td-0001)

Pl. 25, fig. 2 shows the middle portion of frond.

In the ultimate portion of frond, pinnae are very closely set and the margin of pinnule is lobed in the posterior portion and is getting entire towards the ultimate portion.

Remarks:—The writer's specimens are referable to the species figured originally by Takeiwa and described by Oishi (1940) on the same specimens from the Shinshu1) formation in Korea which is younger than the Naktong2) formation regarded as Lower Cretaceous in age.

Characteristic features are recognizable, that is being smaller in the size of pinnules, having strongly serrated or lobed margin and showing simple nervation as seen in the present species, in Japanese Upper Jurassic to Lower Cretaceous fern-like species, namely,

Cladophlebis elegantissima Oishi
C. hakuensis Oishi
C. parvula Oishi etc.

It is difficult to distinguish this species from above mentioned in cases of imperfect specimens and only an isolated pinna.

The occurrence of this species in Japan had been unknown before the writer's present paper.

Horizons:—Tc and Td, in the section of valley Tamodani, the Ryogadani3) alternating bed of sandstone and shale, the Upper Itoshiro4) sub-group, Fukui Prefecture.

Sample number:—Td-9173, Td-9151, Td-9001, Td-9002, Td-9003, Td-9159, Td-9143, Td-9160, Td-9161, Td-9164, Td-9149 and others.

References


1) 青州
2) 洛東
3) 蓋ヶ谷
4) 石巻
Figs. 1.2. *Cladophlebis shinshuensis* Tateiwa.  
1. Posterior pinnæ (Td. Reg. no. Td-0001)  
2. Middle portion of frond (Td. Reg. no. Td. 0002)  
   (Photo. by T. Kimura, all in natural size.)

Figs. a. b. *Cercis* Endoi Suzuki, new species  
Collected by K. Suzuki from the Middle part of Fujitoge formation exposed along upper of the Hara River, about 900 m. northeast of Kobusegawa, Yamato Town, Yama-gun, Fukushima Prefecture, Honshu, Japan.

Fig. c. *Cercis* sp.  
Collected by K. Suzuki, from the lower part of the Fujitoge formation exposed at Shirokozawa Lingite-mine, Yamato Town, Yama-gun, Fukushima Prefecture, Honshu, Japan.

Figures are all natural size.

(The specimens of figs. a-c are stored in the Institute of Earth Sciences, Department of Arts and Sciences, Fukushima University.)