Hiroshi Hara* & Hiroo Kanai*: The discovery of *Tetracentron* in East Nepal**

The genus *Tetracentron* is well-known for its unique characters, especially in having a primitive cambium and a vesselless xylem, and is considered to be significant in discussing the origin and phylogeny of the angiosperms. In 1945 A.C. Smith, I.W. Bailey, and C.C. Nast1) carried out its detailed investigations from taxonomical as well as morphological points of view, and concluded that this monotypic genus represents a unigeneric family, Tetracentraceae. Its living plants have hitherto been reported only from Central and South-West China and northern Burma, although Bailey and Nast suggested that *Tetracentron* and its close allies have an extensive geological record in the Lower Cretaceous or Jurassic in India, and appear to have been widely distributed through Holarctica during preglacial times.

Last autumn, the Second Botanical Expedition to Eastern Himalaya by University of Tokyo was sent to the west side of the Singalila Range in East Nepal, and discovered *Tetracentron* there. On December 3rd of 1963, the members of our Expedition found an unfamiliar tall tree near the top of Bandukay Bhanjang between Yektin and Mai Majuwa about 3000 m in elevation. At that time the tree has already almost shed its leaves, but its long spikes hanging from branches have attracted our special attention. It was a large tree more than 1 m in diameter, but the junior author successfully climbed the tree and collected its branches with spikes. The specimens bear infructescences with ripe seeds, and we could gather some leaves too. Sterile specimens from young trees of the same kind were also collected by Dr. Takasi Tuyama and the senior author at Thakma Khola below Diorali Bhanjang between Helok and Yamphodin about 3100 m in elevation on November 14th.

These specimens are undoubtedly identical with *Tetracentron sinense* Oliver. The wood collected by us at Bandukay Bhanjang was kindly examined by Dr. Shunji Watari and Miss Fumi Yamanouchi, and its anatomical features agree

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well with those reported by previous authors based on Chinese materials. As compared with the typical form, however, the Himalayan plants have larger leaves with a longer caudately acuminated tip, and minute incurved acuminate teeth, and looser infructescences. Although a further study is needed whether they fall within the variation of the plants in China, we wish to describe here the Himalayan plants as a variety as follows:

_Tetracentron sinense_ Oliver in Hooker, Icon. Pl. 19: t. 1892 (1889).

var. _himalense_ Hara et Kanai, var. nov.

Folia ovata vel oblongo-ovata 10–16 cm longa 4–10 cm lata apice caudato-acuminata basi leviter cordata margine minute serrata, serris incurvis calloso-acuminatis. Infructescentiae pendulae 12–18 cm longae sublaxae, fructibus 3–4 mm longis.


_Tetracentron_ is a remarkable addition to the flora of Eastern Himalaya, and
it is expected that the genus will be found also in Sikkim or Bhutan in future. It is also noteworthy that Dr. Makoto Nishida recently reported a new fossil wood, *Tetracentronites japonica* Nishida from the Lower Cretaceous of Choshi Peninsula in middle Honshu of Japan. These data clearly support the view that the group of *Tetracentron* had been extensively distributed at least from Himalaya to Japan up to the early Tertiary.

Fig. 2. Distribution map of *Tetracentron sinense* (●), and var. *himalense* (▲). ○ denotes *Tetracentronites japonica*.

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*Tetracentron* は 1 種で 1 科を代表し、被子植物の中で木に道管を欠く特異な群として知られている。葉はちょっとカツラに似ているが、果実その他の葉をヤマグルマに近い性質をもち、系統上興味ある原始的な一群とみなされている。本植物はこれまで中国中部、西南部、およびビルマ東北部から知られていたが、昨秋東京大学第 2 次インド植物調査隊が、ネパール最東部の海拔 3000 m 内外の山地に生育しているのを発見した。大木はすでにほとんど要出していて、枝から垂れた長い穂が目につき、金井は直径 1 m 以上の樹幹を育ててのぼり、丁度成熟していた果実を探集することができた。若木は他の地点にも見られ、今後注意すればシキムやブータンでも見出される可能性が高い。本種の分布が今回の発見によってかなり西方にのびマラヤ東部にまでおよんだことは注目される。一方西田誠博士が銅子の白亜紀からこの群の化石を報告していることと考え合わせると、本群の植物はおそらく第 3 紀頃までは少なくともマラヤから日本にかけて広く分布していたことが推察される。