

The Taxonomic Position of Two Taxa of *Podocarpium* (Leguminosae) from China

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Podocarpium menglaense C. Chen et X. J. Cui and *P. fallax* var. *densum* C. Chen et X. J. Cui are transferred to *Desmodium*. *Desmodium menglaense* (C. Chen et X. J. Cui) H. Ohashi and *D. densum* (C. Chen et X. J. Cui) H. Ohashi are belonging to the subsection *Podocarpium* of the section *Podocarpium* within the subgenus *Podocarpium*, but the former is classified into the series *Calcarata* and the latter into the series *Podocarpium*. The former is most close to *D. laxum* subsp. *leptopus* (Benth.) H. Ohashi and the latter to *D. podocarpum* DC.

Introduction

Cui, Chen and Wu (1987) described a new species of *Podocarpium* from Yunnan and a new variety of *P. fallax* from Yunnan and Guangxi in China. Their treatment to place these new taxa is, however, incongruent with the recent system of *Desmodium* and its allied genera proposed by Ohashi et al. (1981). Moreover, the new variety differs from *P. fallax* var. *fallax* in further several characters which were not described in the original publication. In the present paper, therefore, I will discuss the taxonomic position of these two taxa including the taxonomic status of the genus *Podocarpium* and *P. fallax* var. *densum*.

Discussion

Recently in China, a part of the subgenus *Podocarpium* (Ohashi 1973) of the genus *Desmodium* is often treated as a distinct genus (Yang and Huang 1979, Yao et al. 1985, Cui et al. 1987). For their recognition of the genus *Podocarpium*, Yang and Huang (1979) based on the evidence on which Ohashi (1973) established the subgenus *Podocarpium*. Mor-

phological differences between the subgenus *Podocarpium* and other subgenera of the genus *Desmodium* are described by Ohashi (1973). Remarkable advanced features of the subgenus among *Desmodium* in ecology as well as in distribution are, also, characterized by Ohashi (1973). According to a phylogenetic analysis of the subgenus by chloroplast DNA study, the subgenus *Podocarpium* is considered to be a monophyletic group (Kajita and Ohashi 1994). Accordingly, the recognition of *Podocarpium* as an entity distinct from other subgenera of the genus *Desmodium* is apparent. On the other hand, however, *Podocarpium* is closely related to the subgenus *Dollinera* (Ohashi 1973), and this is supported by Kajita and Ohashi (1994). The recognition of its rank whether *Podocarpium* is subgenus or genus is, therefore, regarded as a matter of opinion. I think *Podocarpium* is better at present to be kept in the genus *Desmodium* at the rank of subgenus than to be recognized as a genus distinct from *Desmodium*. The circumscription of *Desmodium*, though the present one is founded on the basis of broad comparative studies

on the genera of the tribe Coronilleae in the broadest sense (Ohashi 1971, Ohashi et al. 1981), is of course open to some debate. More natural system of *Desmodium* and its allied genera than the present system is expected to be constructed in future.

Podocarpium menglaense C. Chen et X. J. Cui is entirely different from any known species of the genus *Podocarpium*. Each article of the pods of this species is 3–5.5 cm long and the terminal leaflets are 13–19 cm long. It was placed near *P. leptopus* by Cui et al. (1987). In the genus *Desmodium* it is, therefore, most similar to *D. laxum* DC. subsp. *leptopus* (Benth.) H. Ohashi, because both have evergreen leaves with

the same pattern of venation and glaucous nature in common, and is belonging to the series Calcarata of the section Podocarpium in the subgenus Podocarpium.

Podocarpium fallax var. *densum* C. Chen et X. J. Cui was distinguished from *P. fallax* var. *fallax* in having densely strigose hairs on stems and leaves (Cui et al. 1987). It is most closely allied to *P. fallax* var. *fallax* in general appearances and in having long loment-stipes and sometimes closely clustered leaves below the middle of the stem as in one of the paratype of *P. fallax* var. *densum*, H. T. Tsai 58-9042 in KUN. However, this variety is different from *P. fallax* var. *fallax* in articles of the pod, terminal leaflets and a

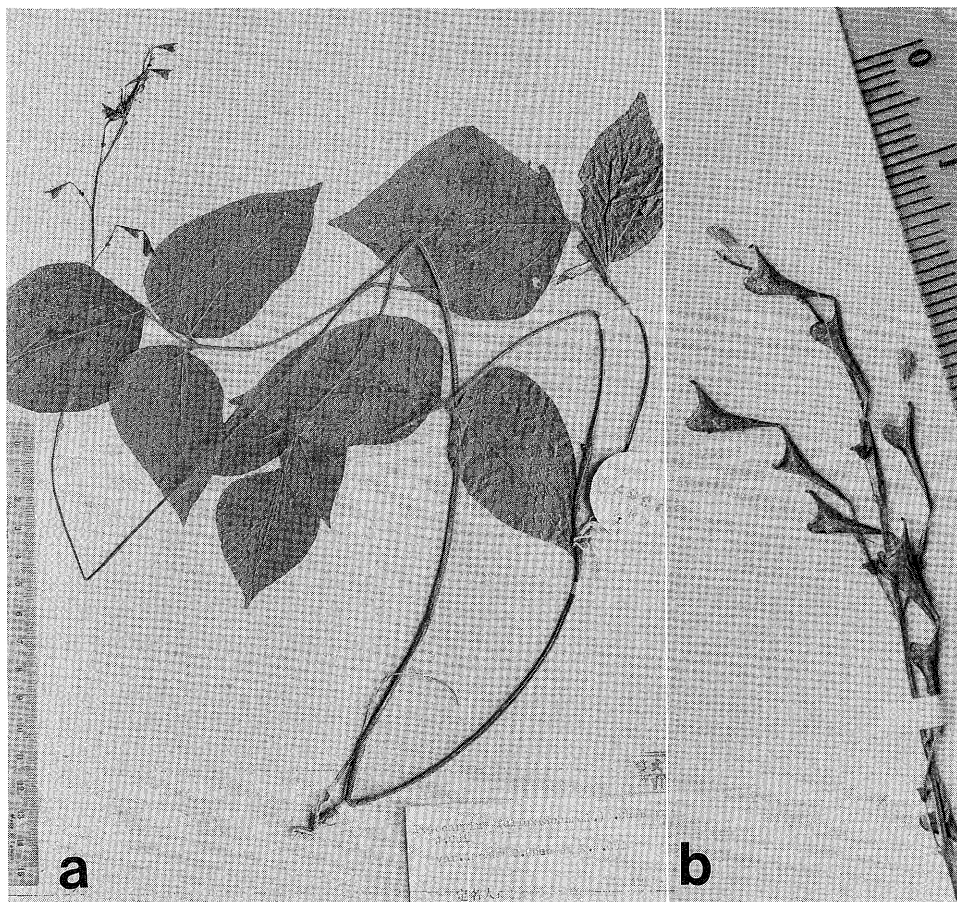


Fig. 1. a. Lectotype of *Podocarpium fallax* var. *densum*, Feng 13574 (KUN). b. Loments of *Desmodium densum*, Tsai 58-9042 (KUN).

pattern of branching (Fig. 1a). The articles of var. *densum* are oblique narrow-triangular which is similar to those of *P. laxum* (Fig. 1b), while those of *P. fallax* var. *fallax* are not so oblique and shorter and broader than the articles of var. *densum*. The terminal leaflets of var. *densum* are broadly ovate, while those of *P. fallax* var. *fallax* are broadly to normally rhombic-ovate. One of the type specimens of var. *densum* branches at the base of main stem. Also, a specimen, H. T. Tsai 58-9042 (KUN), shows a same pattern of branching, though the apical part of the main stem of this plant seems to be cut off probably before the lateral branch produced. This branching pattern differs from that of *P. fallax* var. *fallax* and *P. podocarpum* but is similar to that of reproductive shoots of *P. laxum*. From these facts var. *densum* is clearly distinguishable from *P. fallax* var. *fallax* as well as other similar species of *Podocarpium*. Moreover, the feature of indumentum of var. *densum* is the most remarkable difference from not only *P. fallax* var. *fallax* but also *P. podocarpum*. *Podocarpium fallax* var. *densum* is, therefore, regarded to be at the rank of species. In the genus *Desmodium*, *P. fallax* var. *fallax*, *P. podocarpum* and *P. laxum* are correspond to *D. podocarpum* subsp. *fallax*, *D. podocarpum* subsp. *podocarpum* and *D. laxum*, respectively. *P. fallax* var. *densum* is considered as distinct from these taxa.

Taxonomic treatment

1. *Desmodium menglaense* (C. Chen et X. J. Cui)

H. Ohashi, comb. nov.

Podocarpium menglaense C. Chen et X. J. Cui in Acta Bot. Yunnan. **9**: 305 (1987). Type: China, Yunnan. Mengla, Menglun, alt. 620 m. G. D. Tao 009050 (YUTBI).

2. *Desmodium densum* (C. Chen et X. J. Cui) H.

Ohashi, comb. et stat. nov.

Podocarpium fallax (Schindl.) C. Chen et X. J. Cui var. *densum* C. Chen et X. J. Cui in Acta Bot. Yunnan **9**: 306 (1987). Lectotype (designated here, Fig. 1a): Marlipo: Tung-ting, 600–800 m. K. M. Feng 13574 (KUN-Lectotype and isolectotype).

There are two sheets of the type of *Podocarpium fallax* var. *densum* in KUN. One of them has a simple stem with two leaves, while the other has a branched stem with a lateral branch at the base and four leaves. I wish to select the latter syntype as the lectotype (Fig. 1a).

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大橋広好：中国産ヌスビトハギ属 2 種の分類学的
位置

中国では、現在一般に採用されている範囲のヌスビトハギ属 *Desmodium* (Ohashi et al. 1981) を 2 つに分割して、*Podocarpium* (ヌスビトハギ亜属の一部で、ヌスビトハギ、オオバナヌスビトハギ、フジカンゾウなどが含まれる) と *Desmodium* (*Podocarpium* を除いた *Desmodium*) の 2 属を認める意見がある。*Podocarpium* 属は *Dollinera* 亜属に明らかな関連があるので (Ohashi 1973, Kajita and Ohashi 1994), 私は現在のヌスビトハギ属の体系を採用しておきたい。そこで、1987年に中国で発表された *Podocarpium menglaense* C. Chen et X. J. Cui と *P. fallax* var.

densum C. Chen et X. J. Cui とをヌスビトハギ属 *Desmodium* (Ohashi et al. 1981) に移し、それらのヌスビトハギ属内での分類学上の位置を定めた。*D. menglaense* (C. Chen et X. J. Cui) H. Ohashi は *D. laxum* subsp. *leptopus* (Benth.) H. Ohashi に、*D. densum* (C. Chen et X. J. Cui) H. Ohashi は *D. podocarpum* DC. にそれぞれ最も近縁である。したがって、両種とも *Podocarpium* 亜属の中では *Podocarpium* 節 *Podocarpium* 亜節に属し、前種は *Calcarata* 列に、後種は *Podocarpium* 列に分類される。