

ON THE IDENTITY OF *CLEMATIS HEDYSARIFOLIA* DC.

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ABSTRACT

The identity of *Clematis hedysarifolia* DC. and *Cl. naravelioides* O. Kuntze is discussed, and an attempt is made to show how the confusion between these two plants originated.

INTRODUCTION

After the publication of my short note on the subject in this Bulletin (3: 13, 1962) Dr. A. S. Rao showed me his note, that appears in the present number on the "Type locality of *Clematis hedysarifolia* DC."; it is clear from the evidence adduced by Dr. Rao that *Cl. hedysarifolia* DC. is a Bombay plant. But I considered that the mistake made by O. Kuntze in his monograph on the genus *Clematis* needs some explanation. This led me to study the literary references; my findings are given in these pages.

ORIGINAL DESCRIPTION

Clematis hedysarifolia A. P. DC. was first described in DC. Syst. Nat. 1: 148, 1818, in these terms (translation mine): "*Clematis* with paniculate flowers, leaves ternately cut, segments ovate-lanceolate acuminate subentire glabrous, 5-nerved from the base. Habitat in East India near Daogown in rocky places. A. P. Hore, one to two feet high, scandent (saw a dry specimen in the Banks herbarium). Scandent, glabrous; branches terete, striate, pale; leaves all ternately cut, the petiole twisting, long, the segments petiolulate, subequal, ovate-lanceolate, at the base scarcely or not at all subcordate, acuminate, entire or marked with 1-3 large teeth on either side, ashy-green, of the same colour on both faces, 5-nerved from the base, for the rest reticulate; peduncles axillary, the lower ones paniculate, many-flowered, the higher ones trifid, the top ones simple one-flowered in threes; bracts ovate-oblong, acute, below the origin of the branches and a little below the middle of the pedicels; buds ovoid, villous-canescens outside; sepals 4, ovate-oblong; ovaries very villous, ending in a short bearded tail."

THE BEGINNING OF CONFUSION

This first description was published in 1818. At about that time a plant was taken from India to London and put under cultivation in a hothouse; the plant flowered, and was named *Clematis hedysarifolia* by Edwards in the Botanical Register 7: t. 599, February, 1822. Unfortunately the plant was not the same species as that described by De Candolle a few years previously, a fact that could easily have been ascertained by checking with the specimen in the Banks' collection in the British

Museum; this comparison, however, does not seem to have been done. When De Candolle came



FIG. 1. *Clematis hedysarifolia* DC. reproduced from Edwards' Botanical Register, t. 599, Febr. 1822.

to write his *Prodromus*, in vol. 1, page 6 (1824) he gave a shortened description which substantially is the same as that of 1818, but in this second description, he added a reference to Edwards' table 599 in the Botanical Register; it is clear that he did not check the accuracy of Edwards' figure. This seems to be the beginning of the confusion on the identity of *Clematis hedysarifolia*, a confusion that

culminated in O. Kuntze's assigning the plant to Burma and China and re-naming the Bombay plant *Clematis naravelioides* O. Kuntze.

Edwards' Botanical Register vol. 7, t. 599, 1822, lists and figures a plant under the name of *Cl. hedysarifolia*; in the description, the author first gives a summary of De Candolle's original description and then gives his own fuller description in Latin with some comments and a full translation in English. The comments are of interest. "It is from a sample gathered by Mr. Hore at Rangoon in the Birman Empire, and deposited in the Banksian Herbarium, that this species has been published by M. De Candolle under the above title. Of the immediate source from whence the plant has found its way here we are not aware, but should think from the botanic garden of Calcutta, now become the depository from which the plants of the most distant and sequestered quarters of India are daily transmitted to this country. The drawing was made at the Nursery of Messrs. Colvill, in the King's Road, Chelsea, where the plant is cultivated in the hothouse and flowers about October. We do not believe that it is yet in any other collection."

The description of the plant given by Edwards is as follows: "*Hedysarifolium* is a suffrutescent evergreen climber: branches roundish, thinly sprinkled with very fine soft hairs. Leaves decussately opposite, with wide intervals between the pairs, outspread, ternate: common petiole purplish, slightly hairy, an inch and a half long or more, sometimes (especially in the leaves next the flowers) tendril-like and prehensile: leaflets coriaceous, cinereously green, petioled, ovately oblong, entire, taper-pointed, 3-nerved. Panicles terminal and axillary pendulous, elongatedly thyrsiform, many-flowered, branchlets stiff, decussately opposite and wide apart: pedicles slender, villous, bearing two small opposite abortive buds below their middle. Flowers white, furred on the outside, about $\frac{2}{3}$ of an inch in diameter. Petals 4, ovally oblong, equal, obtuse, cruciately rotate, caducous. Stamens cream-coloured, upright, about $\frac{1}{4}$ shorter than the petals, many, smooth: filaments compressedly filiform: anthers of the same colour, linearly oblong, upright with a short obtuse point and a flattish receptacle. Pistils longer than the stamens, greenish; germens with long upright hair; styles thrice shorter than these, bare, recurved and spreading."

Fig. 1 in Dr. A. S. Rao's paper is a photograph of the type sheet in the British Museum; Fig. 1 in the present paper reproduces plate no. 599 of Edwards' Botanical Register. Comparison of the two figures at once shows that we are dealing with two different plants. The plant shown in Edwards' plate has leaflets that are acute, and very clearly

3-nerved at the base, all the nerves uniting into a strange sort of intramarginal nerve which is very distinctly shown in the plate; stems are smooth; details of the flowers are too meagre to draw any conclusion, but in the description the stamens are said to end in a 'short, obtuse point'.

Hooker and Thomson in *Flora Indica*, page 7 (1855), give about the most complete, and correct, description of the plant published up to that date; they remark that the leaflets leathery and very abundantly reticulately nerved, the filaments produced into a sort of subulate process beyond the anthers; branches are said to be sulcate, puberulous when young, glabrous when adult. When giving the habitat or locality of this species, Hooker and Thomson mention "Pegu, Hore! in the British Museum; in the Concan mountains Law! (we have seen it alive)." The specimen from the British Museum here mentioned is that of *Hove*, not of *Hore*, and does not come from Pegu, but from near Bombay, as shown by Dr. A. S. Rao in his paper; how the plant came to be attributed to Pegu is not clear. The conclusion of Hooker and Thomson is this: "We have examined the original specimen of *C. hedysarifolia*, DC., in the British Museum, it is not in flower, but appears identical with the Bombay plant." It should appear identical with the Bombay plant, since it actually is the Bombay plant!

O. KUNTZE'S MONOGRAPH

It is clear that O. Kuntze in his monograph in Verh. Bot. ver. Prov. Brandenb. 26: 83-202, 1885, was misled by the plate in Edwards' Botanical Register, which he consistently refers to as 'Bot. Mag. t. 599'. On page 151-152 he describes what he considers to be *Clematis hedysarifolia*; the following is the translation of his diagnosis: "Leaves coriaceous, glabrous, more rarely subglabrous, entire; sepals oblong obtuse or acute, anthers linear or partly oblong with a short obtuse apiculum, the inner ones or all equal to the filament or longer Bot. Mag. t. 599." Kuntze gives some additional remarks on the species: "*Cl. hedysarifolia* DC. Syst. 1, 148, has, according to Bot. Mag. t. 599 (which is cited in this connection by DC. in his *Prodromus*) blunt short connectives and ternate leaves, which as a rule are not wrinkled; this corresponds to the widely distributed, purely ternate and as a rule perulate climbing race of *Cl. recta* in Indochina, mentioned by Bentham in *Flora Hongkongensis* as *Cl. meyeniana* (emend.). What Hooker f. and Thomson have described in *Flora Indica*. . . (the plant named by me *Cl. naravelioides*) has pinnate, wrinkled and coarsely serrate leaves in the main stem, short sepals longitudinally drawn with wide tapering connectives and lateral anthers. Referring to the flower, therefore, I consider Bot. Mag. t. 599

is authoritative for this species, and the citation of Hooker and Thomson in the *Flora of British India* giving *Cl. hedysarifolia* is out of place here, for it is not De Candolle's plant, but the one which I have named *Cl. naravelioides* O. Kuntze."

On page 119 of his monograph, O. Kuntze describes the Bombay plant under the name of *Cl. naravelioides* O. Kuntze; this is a translation of the description: "Cauline leaves pinnate; leaflets coriaceous, rugose, subglabrous, ovate or cordate, acuminate, generally grossly dentate; flowers paniculate or the uppermost axillary ternate solitary; sepals ovate acute tomentose on the outside, glabrous inside (purple?), not revolute; filaments broad; carpels sometimes twisted spirally.—East India, tropical and subtropical region: Concan, Belgaum, Khasia."

CONCLUSION

From the evidence adduced in these pages it seems clear that *Clematis hedysarifolia* DC. is a Bombay plant; its type comes from just south of Bombay; the name *C. naravelioides* O. Kuntze is to be relegated to the synonymy. The nomenclature of our Bombay plant is as follows:

Clematis hedysarifolia DC. Syst. 1: 148, 1818, et Prodr. 1: 6, 1824, excl. citatione Bot. Reg. t. 599; Hook. f. & Thom. Fl. Ind. 7, 1855; Santapau in Rec. Bot. Surv. India 16(1): 1, 1953 et ed. 2, 16(1): 1, 1960; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: t. 12, 1961; (non O. Kuntze, 1885). *C. naravelioides* O. Kuntze in Verh. Bot. ver. Prov. Brandenb. 26: 119, 1885; Santapau in Rec. Bot. Surv. India 16(1): 1, 1960, et in Bull. Bot. Surv. India 3: 13, 1961 (1962).