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Autor: Rajput, Muhammad Tahir M. / Tahir, Syeda Saleha / Husain, Syed Zahoor
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Distribution, typification and synonymy of *Sibbaldia purpurea* Royle (Rosaceae) I

MUHAMMAD TAHIR M. RAJPUT
SYEDA SALEHA TAHIR
&
SYED ZAHOOR HUSAIN

RÉSUMÉ

RAJPUT, M. T. M., S. S. TAHIR & S. Z. HUSAIN (1993). Distribution, typification et synonymie de *Sibbaldia purpurea* Royle (Rosaceae) I. *Candollea* 48: 343-346. En anglais, résumés français et anglais.

Sibbaldia purpurea Royle est largement distribué dans l'Asie du sud-est. Le lectotype est défini. *Sibbaldia pentaphylla* Krause, et *Sibbaldia macropetala* Mur. sont considérés comme des synonymes et les raisons pour le justifier sont discutées. Une carte de répartition est fournie.

ABSTRACT

RAJPUT, M. T. M., S. S. TAHIR & S. Z. HUSAIN (1993). Distribution, typification and synonymy of *Sibbaldia purpurea* Royle (Rosaceae). I. *Candollea* 48: 343-346. In English, French and English abstracts.

Sibbaldia purpurea Royle is widely distributed in South-East Asia. Lectotype is designated. *Sibbaldia pentaphylla* Krause, and *Sibbaldia macropetala* Mur. are placed as synonym, the reasons for establishing the synonym, are discussed, and a distribution map provided.

KEY-WORDS: ROSACEAE — *Sibbaldia purpurea* — Distribution — Typification — Synonymy.

Introduction

Taxonomically *Sibbaldia purpurea* Royle, belongs to family Rosaceae and tribe potentilleae (HUTCHINSON, 1964). It was first established by ROYLE (1935). This species is commonly distributed on alpine slopes, and grows on compact soil, at altitude of over 14000 feet. It is well represented in Nepal, India, Bhutan, Kashmir, and South Western China in Schuan and Yunnau Provinces (Fig. 1). *S. purpurea* Royle is a silvery tomentose perennial herb. The branches are clothed with persistent remains of leaf-bases. The leaves are palmately 5-foliolate, bearing the unisexual and bisexual flowers on the same plant, usually flowers between May and October. The critical examination of the specimens of *S. purpurea* Royle, from different geographical areas on loan from the following herbaria: A, B, BM, E, GH, K, KUH, KYO, LE, RAW and US, provided ample evidence for the need to write this article.

After examination of a vast collection over a wide range of distribution it has been noticed that, most of the characters used in the past by different workers, in separating *S. macropetala* Mur.

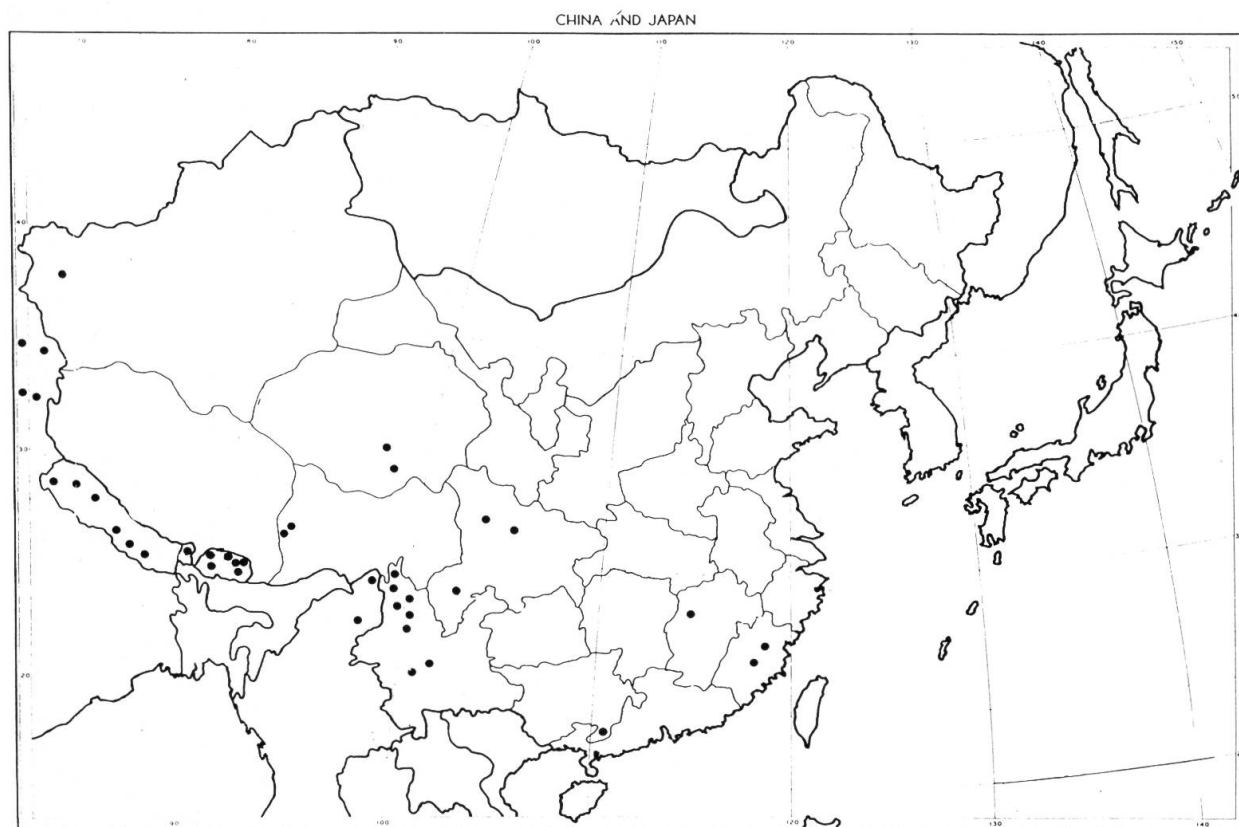


Fig. 1. — Map showing the distribution of *Sibbaldia purpurea* Royle.

and *S. pentaphylla* Krause as a separate taxa from *S. purpurea* Royle, are mostly variable, and appears to fall within the range of variation, hence we feel no justification in recognizing them as separate taxa. It is suggested here to treat *S. purpurea* Royle as a legitimate name with synonyms as follows:

***Sibbaldia purpurea* Royle**, Ill. Bot. Himal., 2: 208 (1835). **Iconotype**: Tab. 40, Fig. 3, Royle, L. C. (A!). **Synonyms**: *Potentilla purpurea* J. D. Hooker, Fl. Brit. India 2: 347 (1879). Type not cited, Hooker transferred Royle *Sibbaldia purpurea* to genus *Potentilla*.

***Sibbaldia pentaphylla* J. Krause**, Feddes Repert. Beih., 12: 410 (1922). **Syntypes**: ost Tibet Ta tsien lu steinige Natten, Sudsudwestlich des passes Gila, collector? 1661 (not seen); Ta Tsien lu-dawa Dschungku, Gibiet des Dshara auf dem Grat der westlichen Parallelkette 4730 m, collector? 1776 (not seen).

***Dryadanthe pentaphylla* (Krause) Murav.**, Acta Inst. Bot. Sci. USSR. 1, 2: 240 (1936). Muravjova transferred Krause *Sibbaldia pentaphylla* to genus *Dryadanthe*.

***Sibbaldia macropetala* Mur.**, Acta Inst. Bot. Sci. USSR 1, 20: 235 (1936). **Type**: China prov. Kansu orientalis montes Tschogola II.VI.1885. G. N. Potanin (LE). **Syntype**: J. F. Rock 4996, 1922 (A!).

Material and methods

The study material of *Sibbaldia purpurea* was loaned from the following herbaria, A, B, BM, E, GH, K, KUH, KYO and US. A distribution map was developed by using the entire material available from the above cited herbaria. In the citation of specimen examined, only a few specimens from each country are cited.

Result and discussion

In the original description ROYLE (1835) did not cite any type collection. While obtaining information on type of *Sibbaldia purpurea* we have received one specimen from Kew, which was in the type folder of *S. purpurea*. On this sheet 13 elements are mounted, 6 which are mounted on the upper portion of the sheet were collected from North Chamb at an altitude of 12-13000 feet, by Thomas Thomason who worked with J. D. Hooker in collecting plants from British India. Two labels are placed on the lower portion of the sheet, which are in fact not in Royle handwriting. Because Royle has not mentioned the type, hence it will be erroneous to consider Kew specimens. However, Royle; description was provided with a coloured illustration of this species. Therefore plate 40, figure 3 in Royle's book entitled "Illustrations of the Botany and other branches of the Natural history of the Himalayan mountains and of the Flora of Cashmere" is designated as iconotype (A!).

After examining a large number of collections from different herbaria, over a wide range of distribution, it is not possible to maintain *Sibbaldia macropetala* Mur. and *Sibbaldia pentaphylla* Krause we are unable to find any difference on the basis of which *S. macropetala* Mur. can be separated from *S. purpurea*. In describing *S. macropetala* Muravjova (1936) provided a key for separating *S. purpurea* Royle and *S. macropetala* Mur., which is reproduced here as:

Flores dioici, Petala pallido-purpurea, oblonga; foliorum

Petioli usque ad 2 cm longi *S. purpurea* Royle

Flores hermaphroditi, petala atropurpurea cordata; foliorum

Petioli 2-5 cm longi *S. macropetala* Mur.

In the original description of *S. purpurea*, Royle mentioned that *S. purpurea* is a polygamous species, bearing unisexual and bisexual flowers on the same plant. According to MURAVJOVA (1936), the flowers of *S. purpurea* are dioecious, which is not the case. Moreover, in *S. purpurea* the petals are obovate, with round to slightly emarginate apices, and is quite clear from Royle's original description and the accompanying illustration. According to Muravjova petals are oblong in *S. purpurea*, which is again not the case. The other characters viz: dark purple versus pale purple, petiole up to 2 cm, versus 2-5 cm, cannot be maintained, because of the continuous variation. Moreover, we have examined a specimen (*J. F. Rock 4996*, A!) cited by Muravjova in his original description of *S. macropetala*, are unable to find any difference in this and other specimens of *S. purpurea* Royle.

Another species *S. pentaphylla* Krause was separated from *S. purpurea* Royle on the basis of 4-merous flowers, with yellow petals in the latter and 5-merous flowers with purple petals in the former. In *S. pentaphylla* flowers are not always 4-merous, but sometimes 5-merous flowers are found even on a single shoot, and same is noticed with the colour of the petals. We observed that the specimens from China have both 4 and 5-merous flowers. In *S. purpurea* there is great variation in the size of plant and the density of hairs. Variation has also been noticed in the size and apex of the petals, the apex ranging from obtuse-rounded to emarginate. There is also a great variation in habit of *S. purpurea* from densely compact moss-like to normal plant. Plants collected from Sikkim are more moss-like or compact; this could be due to the altitude which might be the governing factor. The specimens collected from 15000-16000 ft. high are densely tomentose, with shiny hairs, both staminate and perfect flowers are found in this species.

Selected specimen examined

Bhutan: Me La Ludlow, *Sherriff & Hicks 20749* (E 13194); Mangde Chu, *Bowers Lyon 3418* (BM). **China:** Szechuan, west slopes of Mt. Mitzuga, Muli territory, *Rock 24038* (A, B, M, US 53318); Sikang Tapoashan, *Harry Smith 11205* (A, BM); Tibet, mountains and West of the Kaakerpo, Dokerly and Yundshi, S.E. of Tibet, *Rock 23157* (A, BM, E, US 1512771); Unnan Eastern flank of the lichiang Range, *George Forrest 6011* (BM, E, K). **India:** Punjab, Tehri-Garhwal, *Duthei 1073* (BM, K); Sikkim, *J. D. H. s.n.* (A, BM, K). **Kashmir:** Bangar Kishgtar dist., Ludlow & Sheriff 9279 (BM); **Nepal:** Lumjung Himal., *Stainton, Sykes & Williams 6306* (A, BM, & E), Jumla Polunin, *Sykes and Williams 4576* (A, BM, E).

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