Hideaki OHBA*: **New or critical species of Asiatic Sedoideae (7)****

大場秀章*: アジア産マンネングサ亜科の分類学的研究 (7)

(14) On *Rhodiola sexifolia* Fu (Figs. 1 & 2)

Rhodiola sexifolia was described by Fu as a very distinct species based on two Y.W. Tsui collections from Changtsu (E. Tibet) and W. Szechuan, and classified in the ser. Rhodiola of the section Rhodiola (Fu 1965). This species is unique with six-whorled, lobulate leaves which impress me as a similarity to *R. yunnanensis* (Franch.) Fu, which is classified in a different subgenus (Pseudorhodiola) (Ohba 1978). Thus, I have thought *R. sexifolia* to be critical, particularly as concerns its taxonomic position and relationship. However, to make some critical studies on this matter, his description of its flower does not give us entire satisfaction. Recently as I had an oppotunity to examine the authentic specimens (PE), I give some addition and correction to the original description.

A revised description of *Rhodiola sexifolia* Fu. A perennial herb, up to 18 cm high. Rhizomes unknown (but may be thick, covered with scaly radical-leaves in the upper part). Flowering stems (? 1-2 from each apex) uninodal or binodal, ca 18 cm long, 1.5 mm thick, deciduous, simple, terete, nearly smooth. Leaves approximately 6-whorled, sessile, spurless, ascending or spreading, obovate-oblong-obovate, imparilobulate, round at the apex, attenuate-long attenuate at the base, 4-5 cm long, 2-2.5 cm wide, glabrous, lowly mamillate-nearly smooth (the projection less than 0.05 mm long); the lobes 3-4 in each side, ascending, ovate-broadly ovate, obtuse-round at the apex, 3-4 mm long, 6-9 mm wide at the base, nearly entire-sinuonulate along the margin; the sinus between the lobes round-obtuse; the costa and lateral veins not prominent.

Inflorescences terminal, usually 30-40-flowered, bracteate, forming a flaccid compound cyme, ca. 3 cm long, ca 5 cm wide, the axes sparsely papillate (the

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papilla ca 0.1 mm long, pellucid). Bracts leafy, narrowly spathulate-linear-spathulate-linear, 4-6 mm long, 1-1.5 mm wide, round-obtuse at the apex, usually entire along the margin, narrowly cuneate at the base.

Flowers hermaphrodite, 4- or 5-merous, 6-8 mm wide at anthesis, pedicellate; pedicels 3-4 mm long, glabrous, sparsely-commonly papillate (the papilla ca 0.1 mm long). Calyx 4.7-6 mm long, green, glabrous, sparsely papillate, the tube ca 1 mm long, the lobes 3.7-4.5 mm long, 1.2-1.5 mm wide at the base, linear with ovate or triangular-ovate base, round at the apex, entire along the margin. Petals narrowly oblong-lanceolate, 6.5-7.5 mm long, 1.2-1.3 mm wide, entire, acuminate-acute at the apex (the apex itself round), erect at anthesis. Stamens 8-10, erect, filaments linear-filiform, ca 0.5 mm wide at the base, the epipetalous ones 3.2-3.7 mm long, inserted ca 2 mm from the base, the alternipetalous ones 5.5-6 mm long; anthers broadly oblong, basifixed, apiculate at the apex, ca 0.7 mm long, before dehiscence probably deep red-purple. Nectar-scales square-depressed ovate, shallowly retuse-truncate at the apex, 0.4-0.5 mm long, 0.6-0.7 mm wide. Gynoecia 9-10 mm long, ovaries erect at anthesis, basally ca 1 mm connate, ventrally straight, ca 1 mm wide at the middle, tapering upward, the style indistinguishable from the ovary, the placenta marginal. Ovules ca 10 in each locule, ca 0.8 mm long. Seeds elliptic, elongate at the apex, ca 1.5 mm long.

As described above this species which has hermaphrodite flowers is not related at all to the species of section Rhodiola, which is characterized by dioecious nature and treated as the subgenus Rhodiola section Rhodiola in my revised system (Ohba 1978). This species also differs greatly from *Rhodiola yunnanensis* (Franch.) Fu by the hermaphroditic and much larger flowers. In having hermaphroditic flowers, it belongs to the subgenera Primuloides, Crassipedes or Clementsia. *R. sexifolia* apparently belongs to the Crassipedes by the lack of leafy-radical leaves of the Primuloides and long-conical inflorescences of the Clementsia. It has imparilobulate obovate-oblong-obovate leaves with attenuate-long-attenuate base and several features of flowers in common with *R. chrysanthemifolia*, and is difficult to distingush specifically from the latter showing a wide range of morphological variations (Ohba 1980). Thus, I would judge *R. sexifolia* to be a subspecies of *R. chrysanthemifolia*. Subsp. *sexifolia* can be distinguished from other subspecies of *R. chrysanthemifolia* by the combination of some characters given in the following key:

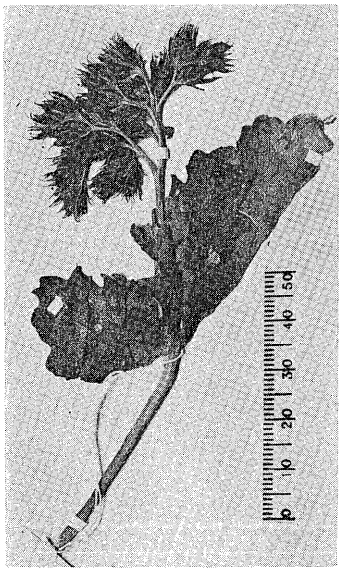

Fig. 1. *Rhodiola chrysanthemifolia* subsp. *sexifolia* (Tsui 5761, PE).

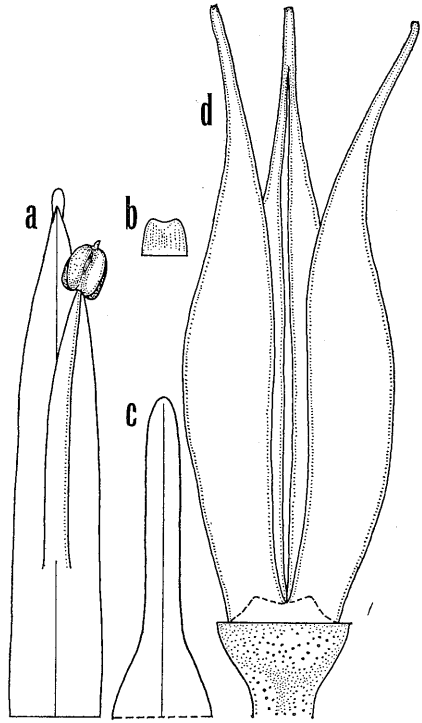

Fig. 2. Floral parts of *Rhodiola chrysanthemifolia* subsp. *sexifolia*. a: petal with stamen. b: nectar-scale. c: calyx-lobe. d: ovaries. All ×10.

1. Leaves scattered throughout the flowering stem. Petals usually oblanceolate, 5-7×1.2-2 mm ..... subsp. *sacra*
1. Leaves ±aggregate or verticillate. Petals linear-lanceolate-narrowly oblong-lanceolate, 5.5-7.5×1.1-1.3 mm 2
   2. Leaves ±aggregate in the apical part of the flowering stem. Calyx-lobes ovate-triangular-ovate, 1.5-2.5×1.3-1.5 mm, smooth .... subsp. *chrysanthemifolia*
   2. Leaves approximately 6-whorled. Flowering stems uni- or bi-nodal. Calyx-lobes linear with ovate-triangular-ovate base, 3.7-4.5×1.2-1.5 mm, papillate ..... subsp. *sexifolia*

Rhodiola (subgen. Crassipedes) *chrysanthemifolia* (Lév.) Fu in Act. Phytotax. Sin. Addit. 1: 127 (1965)—H. Ohba in Journ. Fac. Sci. Univ. Tokyo, Sect. III, 12: 380 (1980) (Further synonyms were cited).

subsp. **sexifolia** (Fu) H. Ohba, stat. nov.

Rhodiola sexifolia Fu in Act. Phytotax. Sin. Addit. 1: 123 (1965).

Specimens examined. Tibet. Chamdo: Changtu, Bagun ad Tsunnidoma, In declivibus montis (Y.W. Tsui 5711, PE—Holotype, the photograph only). Szechuan. Western Szechuan (Y.W. Tsui 5761, PE).

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Fu, S.H. 1965. Species et combinationes novae Crassulacearum Sinicarum. Act. Phytotax. Sin. Addit. 1: 111-128. Ohba, H. 1978. Generic and infrageneric classification of the Old World Sedoideae. Journ. Fac. Sci. Univ. Tokyo, Sect. III, 12: 139-198. —— 1980. A revision of the Asiatic Sedoideae. Part 1. Ibid. 337-405.

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Fu, S.H. 先生が記載された *Rhodiola sexifolia* を改めて検討した。その結果，Crassipedes 亜属の *R. chrysanthemifolia* (Lév.) Fu と同種であることが判った。変異性に富む同種の中で，葉が1あるいは2段だけに付き，しかも6輪性すること，萼片に乳頭状突起を生じること等を特徴として，亜種として区別できると考えられる。それに必要な学名の変更を行った。

□奥本裕昭（編訳）：**聖書の植物** 190 pp. 1981. 八坂書房 ¥2,400. これは H.N. Moldenke と A.L. Moldenke の Plants of the Bible (1952) に載っている230種の植物中で同定の確実なものや，なじみの深い種類，81種をとり挙げてのべたもので，種々な論議を簡単にとり上げ，終りに関係した植物名を列挙し，6種に上る専門書から適宜に図を拾っている。最後に聖書植物の研究として10ページ程，聖書のなりたち，聖地の概要，聖書植物研究小史を述べてあるのも全体の要領をつかむにふさわしい。

（前川文夫）