Kazuo Suzuki*: A contribution to the taxonomy of the genus
Epimedium (Berberidaceae) in Japan

Results of the biosystematic studies in Epimedium reported earlier (Suzuki 1978, 1981) necessitate the formal description of a new subspecies of E. trifoliatobinatum and the transfer of plants generally called E. kitamuranum to a subspecies of E. diphyllum.

Epimedium trifoliatobinatum (Koidz.) Koidz. subsp. maritimum K. Suzuki, subsp. nov. (Fig. 1)

Different a subsp. trifoliatobinato foliis saepius biennibus bifoliolatis, foliolis pergamentaceis majoribus marginibus paucisetosis.

Plant in flower 15-30 cm high. Rhizome valid ascending, 3-4 mm thick. Leaves basal and cauline, often biennial, bifoliolate; petiole sparsely pilose; leaflets ovate, the tip acute, the margin sparsely spinous-serrate, the base deep cordate with rounded or acute lobes, those of the lateral leaflets very unequal, membranous but firm in texture, above green glabrous, beneath light-green pubescent with short hairs, 3-10 cm long, 2-5 cm broad. Flowering stem bearing one 2-(4)-6 foliolate leaf; inflorescence raceme or narrow paniculate, almost glabrous, 4-7-(10) flowered. Pedicels 1-2 cm long. Flowers white or mauve, 2.5-3 cm across. Inner sepals narrowly ovate, horizontally spreading, 8 mm long, 4 mm broad. Petals short-spurred, with distinct petaloid rounded laminae 5 mm deep and slender tapering subulate spurs 10 mm long. Stamens included, 5 mm long; anthers 4 mm long. Capsule 10 mm long.

Type: K. Suzuki 7569-30, Isl. Shimanoura, Nobeoka City, Miyazaki Pref., Kyushu, Japan (MAK).

Distribution: Shikoku (Kochi Pref.), Kyushu (Oita and Miyazaki Pref.s.).
Habitat: On rocks or on margins of copse facing the sea in islands.
Nom. Jap.: Shiomi-ikarisô (nom. nov.)
Representative specimens. Shikoku. Kochi Pref.: Okinoshima, Sukumo City

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Fig. 1. *Epimedium trifoliobinatum* subsp. *maritimum* (type, K. Suzuki 7569-30).
Epimedium trifoliatabinatum is easily discernible from other Epimedium species by short spurred flowers and trifoliatabinate leaves (Suzuki 1978, 1981). It is not a hybrid type but a morphologically and ecologically distinct species, though the fact that E. trifoliatabinatum has some morphological features intermediate between E. diphyllum and E. grandiflorum suggests the hybrid origin of E. trifoliatabinatum (Maekawa 1955; Suzuki 1978). Two subspecies should be recognized in this species by the following reasons. Subspecies maritimum, which is here described, is different from subsp. trifoliatabinatum in having bifoliate ramifications, scanty serrations of leaf-margin and usually biennial and hardened leaves. These two taxa are, however, similar in floral characters, spur length and others, that should be regarded as significant components of the mechanism which externally assures reproductive isolation. The habitat of subsp. trifoliatabinatum is localized exclusively in serpentine regions, while subsp. maritimum is located on the slopes facing the sea. The difference of ecological preference between the two taxa is quite significant for diagnosis. The above ecological difference suggests that they may represent ecotypic variants of one species (Suzuki 1981). Bienniality and hardening of the leaf as found in subsp. maritimum might be related to the habitat which is on sunny and dry maritime regions. In addition, the two subspecies are allopatrically distributed: subsp. trifoliatabinatum in inland regions of Shikoku; subsp. maritimum in islands of Shikoku and Kyushu. Consequently, their separation at the subspecies level seems to be warranted.

Individuals in Misaki, Ehime Pref. approach subsp. maritimum morphologically and ecologically (Suzuki 1978), but are closer to subsp. trifoliatabinatum in several morphological features; serration number, ramification of leaves and others.

Epimedium diphyllum (Morr. et Decne.) Lodd. subsp. kitamuranum (Yas-
manaka) K. Suzuki, stat. nov.


Type: Yamanaka s.n., May 5, 1951, Sanuki-fuji (Mt. Iino), Prov. Sanuki (Kagawa Pref.) (KYO).

Distribution: Northeastern Shikoku (Kagawa and Tokushima Pref.s.).

Habitat: By the edge of the evergreen oak and/or pine forest.


Plants referred to subsp. *kitamuranum* are restrictedly distributed in northeastern Shikoku which corresponds to the easternmost area of the distributional range of subsp. *diphyllum*. Only three localities as indicated in the above enumeration of the representative specimens are known (cf. Suzuki 1978). The habitat of subsp. *kitamuranum* is similar to that of subsp. *diphyllum*, though the former prefers somewhat drier places which are in the evergreen oak and/or pine forest. Subspecies *kitamuranum* is morphologically related to the northern type of subsp. *diphyllum* but is different in the hairy upper surface of leaves, constant trifoliolatobinate ramification and almost acute leaflet apices (Suzuki 1978, 1981). These two taxa are almost identical in floral features, and their close relationship in pollination system is evident. Further, these two taxa are identical in having the first leaf (that appearing just above the cotyledon) with bifoliate ramification, while the first leaf is simple in the other species of *Epimedium*. Considering these similarity, plants referred to subsp. *kitamuranum* and those to subsp. *diphyllum* may not be so greatly differentiated as can be treated as independent species, and may be treated to be different at the subspecies level. As described in a previous paper (Suzuki 1978), hybridization between *E. diphyllum* and *E. grandiflorum* might be related to the origin of subsp. *kitamuranum*. *E. trifoliobinatum* is different from subsp. *kitamuranum* by having short spurred petals and no hair on the upper surface of leaves, though they are similar in leaf ramification and leaflet apex shape.

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References


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Dassanayake, M. D. & F. R. Fosberg (ed.): *A Revised Handbook to the Flora of Ceylon*. Vol. II. 24 × 15 cm. 511 pp. 1981. Ameind Publ. Co., New Delhi. ¥7,500. 1980年に出版された第1巻につづく第2巻である。これには10科の植物が載せられている。順に上げると、ヤシスガラ科、ラン科、ノウゼンカズラ科、ウキサ科、フシモ科、トベ科、ウサクラ科、ヤマモガサ科、ヒルギ科、ジンチョウゲ科である。10科といってもラン科以外は種類数が少なく、殆ど図がないので専門家以外はあまり興味を引きそうにないが、ラン科は380頁を占め、1種類ごとにきれいな全形図とくわしい解剖図がつけられていて、東アジアのラン科を調べるのには貴重な資料を呈供している。コクランやカクラン、キンギサンソウ、ネジバナなど広分布種を除いて日本との共通種は殆どないが、日本との共通種が多数あるのは意外である。クモラン属、オニノヤガラ属、オサラン属、イモネガラ属、ヨウララン属、クモキリソウ属、シュスタン属などセイヨンから64属知られているうち29属是共通である。ランの好きな人々には非常に参考になる本である。ラン科は野生種のみを扱っているが、他の科では栽培種も同格に載せている。したがってセイヨンに野生しないニューヨーク属も多数の種類が記録されている。産業上からはこれも大切なことであるが、種名の活字体を変えるとかして扱ってくれると使用上便利であろう。

(山崎 敬)