

Schismatoglottis kotoensis (Hayata) T. C. Huang, J. L. Hsiao &
H. Y. Yeh (Araceae)⁽¹⁾

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ABSTRACT: A new name, *Schismatoglottis kotoensis* (Hayata) T. C. Huang, A. Hsiao et H. Y. Yeh., (Araceae) is proposed for the Flora of Taiwan. Photos of its habitat in nature and detailed line drawings of the floral parts are provided in addition to the description.

KEY WORDS: *Schismatoglottis kotoensis*, Araceae, Lanyu, New combination.

INTRODUCTION

During our recent intensive collecting of plants of Araceae, Mrs. A. Hsiao and N. C. Koo collected four sterile plants of the family on Lanyu Island. The plants flowered after one year in cultivation two of the four plants were identified as *Homalomena philippinensis* Engl., one as *Epipremnum pinnatum* (L.) Engl. and the last as *Schismatoglottis kotoensis* (Hayata) T. C. Huang, J. L. Hsiao & H. Y. Yeh, comb. nov., which is new to the Flora of Taiwan.

To investigate the natural habitat of *S. kotoensis* further, we returned to Lanyu Island on 23-25 September 2000. We found that plants of *S. kotoensis* grow sporadically among populations of *Homalomena philippinensis*, *Alocasia odora* (Lodd.) Spach and *Xanthosoma sagittifolium* (L.) Schott on the forest floor in the valley at Chung-Ai bridge at ca. 50 m elevation, on the moist forest floor at Tienchu, and at the foot of Yeh-Liu mountain at ca. 200 m. We found this species, a taxonomic description of which is presented below, to be a common herb on Lanyu Island.

TAXONOMIC TREATMENT

***Schismatoglottis kotoensis* (Hayata) T. C. Huang, J. L. Hsiao & F. Y. Yeh, comb. nov.**

蘭嶼芋 Plate. 1, Fig. 1

Colocasia kotoensis Hayata, Icon. Pl. Formosan. 5: 247. 1915.

Schismatoglottis calyptata auct. non (Roxb.) Zoll. & Mor.: C. E. Chang, J. Phytogeogr. Taxon. 32(2): 115, f. 3. 1984.

Herbs, monoecious, evergreen, to 0.7 m tall. Stem erect. Rhizome erect (sometimes suberect), to 5 cm long. Petiole 39-55 cm long, glabrous, sheath pale green, 13-17 cm long, 0.8-2 cm wide, without ligule. Leaf blade oblong-triangular, 21-38 cm long, 18-26 cm wide,

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base cordate, apex caudate, tail 3 cm long, glabrous, membranaceous, green, primary lateral veins parallel, to 20 pairs, ascending toward margin; cataphyll green, linear triangular, 7-11 cm long, 1.5-2.5 cm wide at base. Peduncle 7-13 cm long. Inflorescences 1-4. Spathe erect, green, pale green at maturity, constricted at sterile flowers between carpellate and staminate portion; upper part of spathe blade triangular, white, 5 cm long, caducous at anthesis, lower spathe tube green, 3 cm long, persistent. Spadix shorter than spathe, sessile, 4-4.5 cm long, comprising 4 portions: carpellate portion cylindrical, at base of spadix, 2.3-2.5 cm long; staminate portion clavate, at mid portion of spadix; sterile flowers between staminate and carpellate flowers, contiguous with carpellate portion, 1-1.5 cm long; appendage oblong-deltoid, abruptly above staminate portion, 1.3-1.5 cm long, 1-1.3 cm wide. Flowers unisexual, densely arranged, perigone absent; staminate flowers: stamen 1, apically truncate, thecae ellipsoid, connective extended, caudate, filament narrowly quadrangular; sterile staminate flowers at base of fertile staminate flowers; carpellate flowers (gynoecia) ovoid, ovary 1-locular, placentae parietal, ovules many, anatropous, funicle longer than ovule; style short, narrow, stigma subcapitate.

Pollen grains are monosulcoidate, subspheroidal, 20-23 μm wide; with obscurely rugulato-verrucate exine. Flowering is September to October.

Sterile flowers (staminodia) above the carpellate flowers and below the appendage are found in the spadix of cultivated plants. Sterile carpellate flowers are rarely found among the fertile carpellate flowers in wild plants. These two features are not constant.

Plants of *S. kotoensis* are common on Lanyu Island on moist forest floor and in valley forests at 50-200 m. They grow in patch, sometimes they are associated with *Homalomena philippinensis*, *Alocasia odora* (Lodd.) Spach and *Xanthosoma sagittifolium* (L.) Schott.

Specimens examined: TAITUNG county, Lanyu Isl., Chung-Ai bridge, T. C. Huang, A. Hsiao & H. Y. Yeh 17968 (TAI), A. Hsiao & Y. C. Kou s. n. in 1999 (TAI), Tenchu, T. C. Huang, A. Hsiao & H. Y. Yeh 17977 (TAI), Ye-Liu Mt. Foot, T. C. Huang, A. Hsiao & H. Y. Yeh 17993 (TAI); Aug. 1914, Y. Shimada (Y. Tashiro?) s.n. (photo of Holotype).

About 120 species of *Schismatoglottis* were reported by Mayo *et al.* (1997) from tropical Asia (Brunei, Cambodia, China, Indonesia, Myanmar, Laos, Malaysia, Papua New Guinea, the Philippines, Solomon Is., Thailand, Vietnam and the Malay Archipelago), Vanuatu and tropical America (Brazil, Colombia, French Guiana, Guyana, Peru, Surinam, Venezuela). One species is now known from Taiwan.

DISCUSSION

Schismatoglottis kotoensis is characterized by having a persistent lower spathe tube, the carpellate portion 1/2 the length of the spadix, a caudate apex of the anther connective, an oblong-deltoid appendage and sterile flowers between the staminate and carpellate flowers.

Chang (1984) was the first taxonomist in Taiwan to report the plants of *Schismatoglottis calyptrata* (Roxb.) Zoll. & Mor. in Botel Tobago but he stated that "Though I have not seen the type of *S. calyptrata*, from the literature and the specimens from the Philippines one can identify this species. With the photograph (Ohashi, 1981) and the detailed original description it is believed better to consider *Colocasia kotoensis* Hayata as conspecific with *S. calyptrata*".

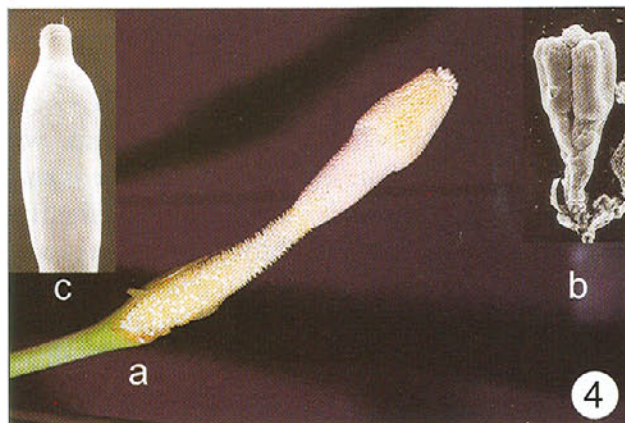


Plate 1. *Schismatoglottis kotoensis* (Hayata) T. C. Huang, J. L. Hsiao & H. Y. Yeh. 1: habitat; 2: flowering plant; 3: spadix after fall of upper segment of spathe blade; 4: spadix. a. without spathe, b. staminate flower, c. pistil; 5: rhizome.

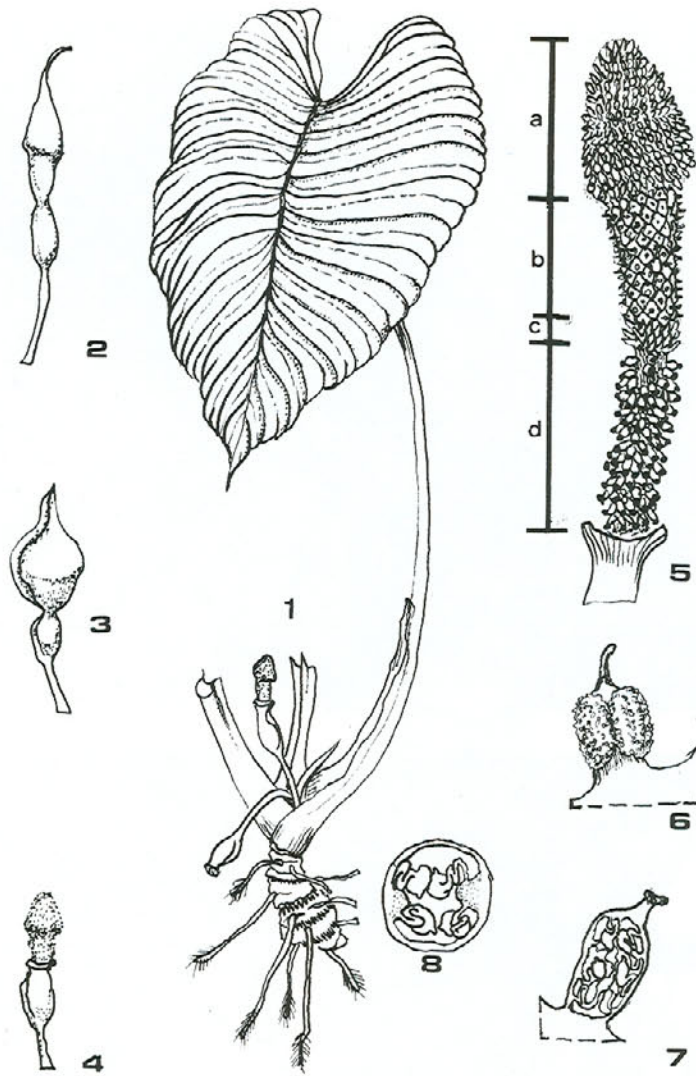


Fig. 1. *Schismatoglottis kotoensis*. 1: habit; 2: immature inflorescence; 3: spathe blade open; 4: mature spadix after fall of spathe blade; 5: spadix without spathe (a: appendage; b: staminate flowers; c: sterile flowers; d: carpellate flowers); 6: staminate flower; 7: carpellate flower; 8: cross section of ovary showing parietal placentation.

When Zollinger and Moritzi (Zollinger, 1845-6) described *S. calyptrata* (Roxb.) Zoll. & Mor., they mentioned that the plant was conspecific with *Calla calyptrata* Roxb. which possessed the following characteristics: *Flores masculi in spadicis obconici parte superiori (nec cum faemineis mixtis); spathae articulatae pars superior decidua*. Apparently, *S. calyptrata* has an obconical appendage, which is distinct from the oblong-deltoid appendage or oblong appendage (Chang, 1984) of *Colocasia kotoensis*. A new name for *Colocasia kotoensis* is thus necessary and the new combination, *Schismatoglottis kotoensis* (Hayata) T. C. Huang, J. L. Hsiao & H. Y. Yeh, is proposed here.

Li (1979) described *S. calyptrata* from mainland China with a cylindrical appendage. The cylindrical appendage does not fit the original description of *S. calyptrata* by Zollinger and Moritzi (1845-6). Further study of the plants called *S. calyptrata* (Roxb.) Zoll. & Mor. in mainland China is here suggested.

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摘 要

蘭嶼芋(天南星科)之新組合名首次報告於此。本文提供本種之分類特徵描述並附上生育地照片及花部特徵繪圖。

關鍵詞：蘭嶼芋、天南星科、蘭嶼、新組合名。

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