



**Citation:** Kartini Saibeh (2022) A new species of *Schismatoglottis* (Araceae) from Sabah, Malaysian Borneo. *Webbia. Journal of Plant Taxonomy and Geography* 77(2):267-270. doi: 10.36253/jopt-13274

**Received:** June 18, 2022

**Accepted:** September 24, 2022

**Published:** December 15, 2022

**Copyright:** © 2022 Kartini Saibeh. This is an open access, peer-reviewed article published by Firenze University Press (<http://www.fupress.com/webbia>) and distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Data Availability Statement:** All relevant data are within the paper and its Supporting Information files.

**Competing Interests:** The Author(s) declare(s) no conflict of interest.

**Editor:** Peter C. Boyce

## A new species of *Schismatoglottis* (Araceae) from Sabah, Malaysian Borneo

KARTINI SAIBEH

Faculty of Tropical Forestry, Universiti Malaysia Sabah, Sabah, Malaysia  
E-mail: k\_saibeh@ums.edu.my

**Abstract.** *Schismatoglottis mons* Kartini is described as taxonomically novel species assigned to the Asperata Complex. *Schismatoglottis mons* is a highland mesophytic species found at c. 718 m a.s.l. most like lowland *Schismatoglottis gillianiae* P.C. Boyce and *Schismatoglottis shaleicola* P.C.Boyce & S.Y.Wong.

**Keywords:** Araceae, Malaysian Borneo, Schismatoglottideae, Schismatoglottis.

### INTRODUCTION

The first informal Asperata Group was proposed by Hay in Hay and Yuzammi (2000). Boyce and Wong (2014) proposed a modified informal taxon, the Asperata Complex, defined within the Asperata Group and defined by asperate to coarsely granulate petioles, a petiolar sheath with the wing extended into a free ligular portion, erect inflorescences in which the spathe limb irregularly crumbles and breaks away at or after staminate anthesis, and erect infructescences with a persistent lower spathe with an unconstructed terminal orifice and with thickened walls remaining white beyond fruit maturity. Low et al. (2018) demonstrated, at broadest sense (i.e., Hay, 2000), that the Asperata Group is very diverse and heterogeneous, but nested within are several well-supported clades delineated both molecularly and by consistent characteristics.

Currently the Asperata Complex (sensu Low et al. (2018) comprises 11 species which are six mesophytes (*Schismatoglottis asperata* Engl., *S. scortechini* Hook.f., *S. sejuncta* A.Hay, *S. shaleicola* P.C.Boyce & S.Y.Wong, *S. tahubangensis* A.Hay & Herscovitch, *S. zainuddinii* Kartini, P.C.Boyce & S.Y.Wong, and four are rheophytes (*Schismatoglottis crypta* P.C.Boyce & S.Y.Wong, *S. gillianiae* P.C.Boyce, *S. jelandii* P.C.Boyce & S.Y.Wong, and *S. tegorae* P.C.Boyce & S.Y.Wong) and here a new, mesophytic species, *S. mons* Kartini.

Until now three species of the Asperata Complex has been recorded in Sabah. *Schismatoglottis tahubangensis* recorded from Tahubang River along route to Marak-Parai (Hay and Herscovitch, 2003) and *S. zainuddinii* found in Tawau Hills Park, Tawau (Kartini et al. 2017)

**Key to Sabahan species of the *Schismatoglottis Asperata* Complex**

- 1a. Petiolar sheath broader at the base extended into fleshy ligule. Tawau Hills Park, Tawau.....  
.....*Schismatoglottis zainuddinii*
- 1b. Petiolar sheath only at the extreme base extended into a narrowly triangular ligule ..... 2
- 2a. Papery ligule, peduncle short c. 3 cm long, creeping or decumbent. Tahubang River, Ranau.....  
.....*Schismatoglottis tahubangensis*
- 2b. Fleshy ligule, peduncle long c. 9 cm long, suberect. Mensalong Forest Reserve, Kota Marudu.....  
.....*Schismatoglottis mons*

***Schismatoglottis mons* Kartini, sp. nov.**

**Type:** Malaysia, Sabah, Kota Marudu, Mensalong Forest Reserve 06°13.915'N 116°46.261'E, 30 July 2019 *Kartini Saibeh 2708* (holotype BORH!).

**Diagnosis**

The inflorescence of *Schismatoglottis mons* is most similar to that of rheophytic *S. gillianiae*. However, *S. gillianiae* has a very short peduncle (c. 2-3.5 cm long), fleshy persistent ligular petiolar sheaths and narrowly oblanceolate leaves whereas *S. mons* have long peduncle c.10 cm, a marcescent free ligular petiolar sheath and ovate to oblong-ovate leaves. *Schismatoglottis mons* differs from mesophytic *S. shaleicola* by the inflorescence peduncle up to 10 cm long, the yellow spadix, a slender cylindrical appendix about twice as long as remainder of spadix, pink sterile interstice.

**Description**

Moderately robust mesophytic herb to c. 30 cm tall. *Root* densely covered with short soft minute hairs, c. 0.3 cm diam. *Stem* condensed, suberect, becoming epigeal, to c. 2 cm diam., obscured by leaf bases, usually red; pleionanthic. *Leaves* several together (6-10) with roots emerging from their bases; petiole 9-15 cm long, D-shaped in cross-section, usually shorter than the length of the blade, verruculose-pubescent, erose on each side on the adaxial face, dark green, dark red sometimes more than half length, sheathing only at the extreme base with the sheath extended into a narrowly triangular, fleshy ligular portion 2-4 cm long, marcescent, emerging leaves pink; blade ovate to oblong-ovate, rather leathery, 14-26 cm long x 5-7 cm wide, glossy medium green adaxially, paler abaxially, the base retuse

to narrowly truncate or less narrowly cordate, the tip acute to obtuse and shortly apiculate; midrib abaxially prominent; abaxial primary lateral veins conspicuous, crowded, c. 15 on each side, alternating with lesser interprimaries, diverging at c. 45-60°; secondary venation almost all arising from the midrib; tertiary venation indistinct. *Inflorescence* solitary to two or more together, with a sweet floral scent at anthesis, strongest during pistillate anthesis; peduncle 9-10 cm long, subtended by two or more broad membranous cataphylls; Spathe c. 12 cm long, sub-cylindrical, tapering; lower spathe c. 2 cm long, slightly creamy pinkish and greenish, spathe limb differentiated from the limb by colour but no obvious constricting separating them; limb c. 10 cm long, apiculate for c. 4 mm, pale pink to creamy, opening wide than crumbling and breaking away at late staminate anthesis. Spadix sessile, shorter than the spathe, c. 10 cm long; pistillate flower zone 1-2 cm long, oblique insertion, 0.5-1 cm diam. at base, faintly conoid; pistils crowded, creamy, squat mushroom-shaped, c. 1 mm diam.; stigma sessile, discoid to irregularly polygonal, centrally impressed, papillate, wider than ovary; interstillar staminodes few, white, scattered among the pistils, slightly taller than the pistils, c. 0.8 mm diam., the tops depressed in the middle; sterile interstice c. 2-3 mm long, pinkish, isodiametric with top of female and base of male zones, 2-3 whorls of irregularly polygonal sterile stamens c. 1 mm diam., interspersed with a few interstillar staminodes; staminate flower zone 0.8-1 cm long, cylindrical; stamens pinkish, crowded, truncate with the thick connective slightly elevated above the thecae, more or less rectangular to triangular from above; appendix yellow, about twice the length of the rest of the spadix, widest shortly above the base and there somewhat wider than male zone, then gradually tapering to a narrow blunt tip; staminodes of appendix more or less flat-topped, irregularly polygonal, c. 1 mm diam., crowded.

**Etymology**

*Mons*, Latin meaning mountain, and referring to the occurrence of the species at altitude.

**Distribution**

*Schismatoglottis mons* occurs in the Mensalong Forest Reserve, Kota Marudu at c. 718 m a.s.l. Populations are small and scattered.

**Ecology**

Terrestrial in wet hill forest on steep slopes on soils derived from Middle Eocene sandstone sediments [Crocker Formation], c. 720 m a.s.l.



**Figure 1.** *Schismatoglottis mons* – A: flowering plant in habitat; B: inflorescence at onset of pistillate anthesis (spathe artificially removed); C: pistillate zone (spathe artificially removed); D: inflorescence at late of pistillate anthesis (spathe artificially removed); E: spathe limb irregularly crumbling and breaking away after staminate anthesis; F: marcescent ligular petiolar leaf sheath – All from *Kartini BORH 2708*. – All photographs by Kartini Saibeh.

#### Notes

The Mensalong Forest Reserve was formerly part of Lingkabau Forest Reserve located in the Kota Marudu, Sabah. The reserve shares approximately 5 km of its boundary in the west with the Kinabalu National Park.

*Schismatoglottis mons* is the second recorded species of *S. asperata* Complex occurring above 700 m. *Schismatoglottis tahubangensis* known only from the type was recorded at c. 1,100 m.

## ACKNOWLEDGMENTS

This study was carried out under the Heart of Borneo (HoB) scientific expedition to Mensalong Forest Reserve, Kota Marudu, Sabah organized by Forest Research Centre of Sabah Forestry Department (Ref. No.: JPHTN/PPP:EK 44/12/Jld.5 (205)) between 29<sup>th</sup> July and 4<sup>th</sup> August 2019.

## REFERENCES

- Boyce PC, Wong SY. 2014. Studies on Schismatoglottideae (Araceae) of Borneo XXXVIII: Three novel *Schismatoglottis* species, and notes on the *Schismatoglottis* Asperata Complex. *Webbia*. 69(2): 225–238.
- Hay A, Herscovitch. 2003. A New Species of *Schismatoglottis* (Araceae) from Sabah, Malaysia. *Garden's Bulletin Singapore*. 55 (2003): 27–30
- Hay A, Yuzammi. 2000. Schismatoglottideae (Araceae) in Malesia I – *Schismatoglottis*. *Telopea*. 9(1):1–177.
- Kartini S, Boyce PC, Wong SY. 2017. Studies on Schismatoglottideae (Araceae) of Borneo LV: New *Schismatoglottis* species from Tawau Hills, Sabah. *Nordic Journal of Botany*. 35(6): 719–723
- Low, Boyce PC, Wong SY. 2018. Naming the chaos: generic delimitation in Schismatoglottideae (Araceae). *Webbia*. 73(1): 1-100.