

A new Homalomena species (Araceae) from Vietnam

Authors: Bogner, Josef, and Nguyen, Van Du

Source: Willdenowia, 38(2) : 527-531

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: <https://doi.org/10.3372/wi.38.38212>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

JOSEF BOGNER & VAN DU NGUYEN

A new *Homalomena* species (*Araceae*) from Vietnam

Abstract

Bogner, J. & Nguyen, V. D.: A new *Homalomena* species (*Araceae*) from Vietnam. – Willdenowia 38: 527–531. – ISSN 0511-9618; © 2008 BGBM Berlin-Dahlem.
doi:10.3372/wi.38.38212 (available via <http://dx.doi.org/>).

Homalomena vietnamensis from Vietnam is described as a species new to science and illustrated. It belongs to *H.* sect. *Homalomena* and differs from other species mainly by having leaf blades with a truncate to obtuse base, a non-constricted, rather thick spathe and a slender, subcylindric staminode in each female flower. A chromosome number of $2n = 38$ was counted in root tip mitoses.

Additional key words: aroids, *Homalomena vietnamensis*, taxonomy, chromosome number, palynology

Introduction

During an expedition carried out by Josef Bogner, Peter Boyce, Mary Sizemore and Van Du Nguyen in 1997 a sterile *Homalomena* species was collected in the Bach Ma National Park in central Vietnam. Living plants brought back to Germany flowered later in cultivation in the Botanic Garden Munich regularly but the plants were indeterminable with the existing Floras (Hô 2000; Gagnepain 1942; Li 1979) and the last monographic study of the genus (Engler 1912).

When in the years 2004 and 2007 the second author studied aroids from Vietnam in the Paris Herbarium (P), he found four collections of this new species made by E. Poilane already in 1939 and he provisionally annotated them as “*Homalomena ovatifolia*” on the sheets. Poilane’s specimens were collected in the Thua Thien-Hue, Quang Nam and Khanh Hoa provinces of Vietnam. These specimens, however, are not mentioned by Gagnepain (1942). The species with the character combination of broadly ovate leaf blades with a truncate base, a rather thick and non-constricted spathe and the staminode of each female flower being slender and more or less subcylindric is different from all species known from Vietnam and from the neighbouring countries China, Laos, Cambodia or Thailand. Therefore it is described as new to science in the present contribution.



Fig. 1. *Homalomena vietnamensis* – A: habit of a flowering plant; B: lower part of the plant with two inflorescences, the younger one still erect and the other turned downwards after anthesis; C: single leaf, note the truncate base, the mucronate apex and the glossy upper side of the blade. – Plant cultivated at the Botanic Garden Munich from the same wild source as the holotype. – Photographs by G. Gerlach.

Homalomena vietnamensis Bogner & V. D. Nguyen, **sp. nov.** (*H.* sect. *Homalomena*)

Holotypus: Cultivated from the sterile wild source “Vietnam, Thua Thien-Hue province, Bach Ma National Park, 1997, *Bogner 2810*”, flowering herbarium specimen prepared on 22.7.2008, *Bogner 2810a* (M).

Differt a speciebus ceteris vietnamsibus lamina foliorum basi truncata vel obtusa; spathae pro rata crassa non constricta; staminodio gracili subcylindrico vel leviter clavato in quoque flore femineo.

Plant herbaceous, adult specimens 50-60 high. *Stem* erect, 20-30 cm high and 1.8-2 cm in diam., only old long stems decumbent, old stems covered with dry, brown leaf remnants; internodes short (c. 0.5 cm long); roots 2-3 mm in diam., branched (second order roots much thinner); upper stem portion with several subhorizontally spread leaves. *Petioles* 25-35 cm long, near base 0.7 cm and near apex 0.5 cm in diam., mid green, most of its length terete, distally on upper side slightly flattened at a length of 3-5 cm, non-geniculate. *Leaf sheath* 13-18 cm long and well developed, persistent (as long as the leaf is alive) and in the middle 1-2 cm broad, apex of sheath acute. *Leaf blade* broadly ovate, 17-20 cm long and 13-18 cm wide (nearly as broad as long) [only juvenile leaves somewhat narrower and with an obtuse base], base (of adult leaves) always truncate to obtuse (never cordate!), apex cuspidate with a (3-)4-5 mm long mucro, blade above dark green and glossy, underneath more or less light green and not glossy; venation parallel-pinnate, 6-7(-8) primary lateral veins on each side of the strong mid vein and with a distance of 1-2 cm from each other, sunken above and prominent underneath, second order veins thinner and parallel between the primary ones, third order veins much thinner and very close to each other. *Cataphylls* 8-15 cm long, light green with reddish tinge. *Inflorescences* shorter than petioles, 1-3 in a sympodium. *Peduncle* 12-14 cm long and 0.4-0.5 cm in diam., terete and somewhat thicker below spathe, ± greenish and reddish tinged, peduncle first erect, after anthesis bent (and turned downwards). *Spathe* (6.5-)7-8 cm long and c. 2 cm in diam. in the middle, non-constricted, thick, ending in a 3-4 mm long mucro, dark green outside and very light green to whitish inside, convolute and closed after anthesis. *Spadix* 3-3.5 cm long, cylindric (only nearly half the length of the spathe), with a stipe c. 2 mm long and 4 mm in diam., greenish white; *female zone* 1.3-1.5 cm long and 0.7 cm in diam.; *male zone* 1.5-1.8 cm long and c. 0.7 cm in diam., slightly ellipsoid, cream-coloured, apex blunt, fertile to the apex. *Flowers* unisexual, naked. *Female flowers* densely arranged; gynoecium ovoid, c. 2 mm tall, with one much shorter staminode each; ovary 1.1-1.2 mm in diam., greenish white, usually with 3 parietal placenta, ovules hemianatropous, many; style attenuate, 0.5-0.6 mm long, of the same colour as the ovary; stigma discoid, 0.6-0.7 mm in diam., ± as broad as style, whitish brown; staminode slender, subcylindric to slightly clavate, 1-1.1(-1.2) mm long, whitish. *Male flowers* consisting of usually (2-)3-4 free stamens, often somewhat irregularly arranged; stamen truncate, c. 1 mm tall, subrectangular in view from above, c. 1 mm long and 0.7-0.8 mm wide; between female and male flowers two rows of single stamens or staminodes (some very similar to stamens but lacking thecae); pollen grains inaperturate, ellipsoid, 20-22 µm long and 15-17 µm wide, exine smooth (psilate).

Remarks. – Cut stems and petioles smell of anis (*Pimpinella anisum* L.).

Etymology. – The new species is named after its home country Vietnam. The provisional name “*Homalomena ovatifolia*” nom. ined. was used on the herbarium sheets because of its leaf shape, but has been dropped because of its easy confusion with the existing *H. ovalifolia* (Schott) Engl. (Engler 1912).

Chromosomes. – $2n = 38$; counted in root tip mitoses of plants cultivated in the Botanic Garden Munich, from the same wild source as the holotype.

Distribution and ecology. – *Homalomena vietnamensis* is so far known from the southern North Central Coast (Bac Trung Bo) region (province Thua Thien-Hue) and the South Central Coast

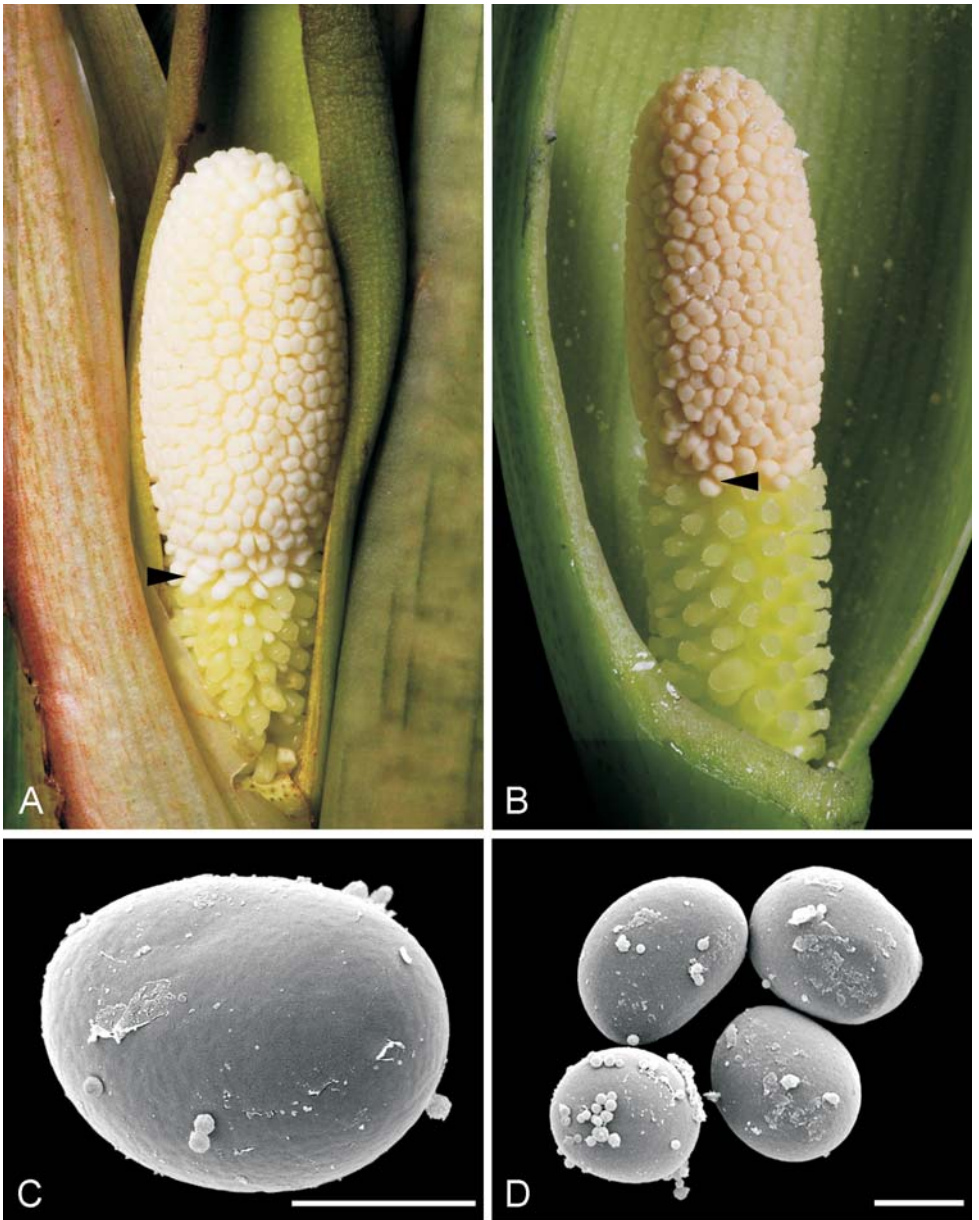


Fig. 2. *Homalomena vietnamensis* – A: young spadix, spathe artificially opened; note the single stamens and staminodes between the female and male flowers (arrow); B: spadix after anthesis, spathe partly removed; note the diameter of the spathe wall (left), further the single stamens and staminodes between the female and male flowers (arrow); C: single pollen grain; note the smooth (psilate) exine; D: a few pollen grains; note the variability of the shape. – From plants cultivated at the Botanic Garden Munich from the same wild source as the holotype; photographs A-B by G. Gerlach, Munich; SEM micrographs C-D by H. Halbritter, Vienna, scale bars = 10 μm .

(Nam Trung Bo) region (provinces of Quang Nam and Khanh Hoa) of Vietnam. The species grows in the evergreen forest on the floor with leaf litter in deep shade. In cultivation the plants flowered in December, January, April and May.

Additional specimens seen. – VIETNAM: THUA THIEN HUE: Phu Loc – Bach Ma, 26.4.1939 (flowering), *E. Poilane* 29756 (P). – KHANH HOA: Go Oi, 1939, *Poilane* 3155 (P). – QUANG NAM: Between Lang Moi and Mang Tra, 1939, *Poilane* 31748 (P); Tra Mi, 1939, *Poilane* 31591 (P).

Relationship. – All known species of *Homalomena* from Vietnam (as well as from Laos, Cambodia and southern China) have ovate leaf blades with a cordate base, except *H. pierreana* Engl. from N Vietnam, the leaves of which have an obtuse base as in our species but lanceolate instead of ovate blades. In this species, moreover, the single staminode of the female flowers is a very short and cylindric instead of subcylindric to slightly clavate and 1-1.1(-1.2) mm long as in our species. In the new flora of Vietnam by Hô (2000) further five species are listed: *H. cochinchinensis* Engl., *H. gigantea* Engl., *H. occulta* (Lour.) Schott, *H. pendula* (Blume) Hook. f., *H. tonkinensis* Engl., all with a cordate base of their leaf blades and a clavate staminode in each female flower.

Acknowledgements

I like to thank very much Dr H. Roessler, München, for the translation of the diagnosis into Latin, Dr G. Gerlach, München, for his photographs, Mrs E. Vosyka, München, for the count of the chromosomes, Dr H. Halbritter, Wien, for the SEM micrographs of the pollen grains and Mr P. C. Boyce, Kuching (Sarawak, Malaysia) and Anna Haigh, Kew, for their comments.

References

- Engler, A. 1912: *Araceae-Philodendroideae-Philodendreae, Homalomeninae* und *Schismatoglottidinae*. – In: Engler, A. (ed.), *Das Pflanzenreich* **55**. – Leipzig.
- Gagnepain, F. 1942: *Aracées*. – Pp. 1075-1096 in: Lecomte, H. (ed.), *Flore générale de l'Indo-Chine* **6**. – Paris.
- Hô, P.-H. 2000: *Araceae*. – Pp. 334-367 in: Hô, P.-H., *Cây co Việt Nam* [An illustrated flora of Vietnam], ed. 3, **3**. – Ho Chi Minh.
- Li, H. 1979: *Araceae*. – In: Wu, C. Y. & Li, H., *Flora republicae popularis Sinicae* **13(2)**. – Beijing.

Addresses of the authors:

Josef Bogner, Augsburg Str. 43a, D-86368 Gersthofen, Germany.

Nguyen Van Du, Institute of Ecology and Biological Resources, 18 Hoang Quoc Viet, Nghia Do, Cau Giay, Hanoi, Vietnam.