

A new *Hottarum* (*Araceæ*) from Sarawak

J. BOGNER & M. HOTTA

Summary : A new species of the genus *Hottarum* (*Araceæ*) from Sarawak is described. It is characterized by its long free ligule of the sheath, the curving inflorescence, the complete adnation of the female part of the spadix with the spathe. The adaxial female flowers (i.e., those inserted on the base and along each side of the spadix) having a staminode, but the other female flowers (abaxial) are always without a staminode.

Résumé : Description d'une espèce nouvelle du genre *Hottarum* (*Araceæ*), du Sarawak. Elle est caractérisée par une longue ligule libre de la gaine, l'inflorescence courbée et la partie femelle du spadice complètement adnée à la spathe. Les fleurs femelles adaxiales (c'est-à-dire insérées à la base et le long de chaque côté du spadice) possèdent un staminode, tandis que les autres fleurs femelles (abaxiales) en sont toujours dépourvues.

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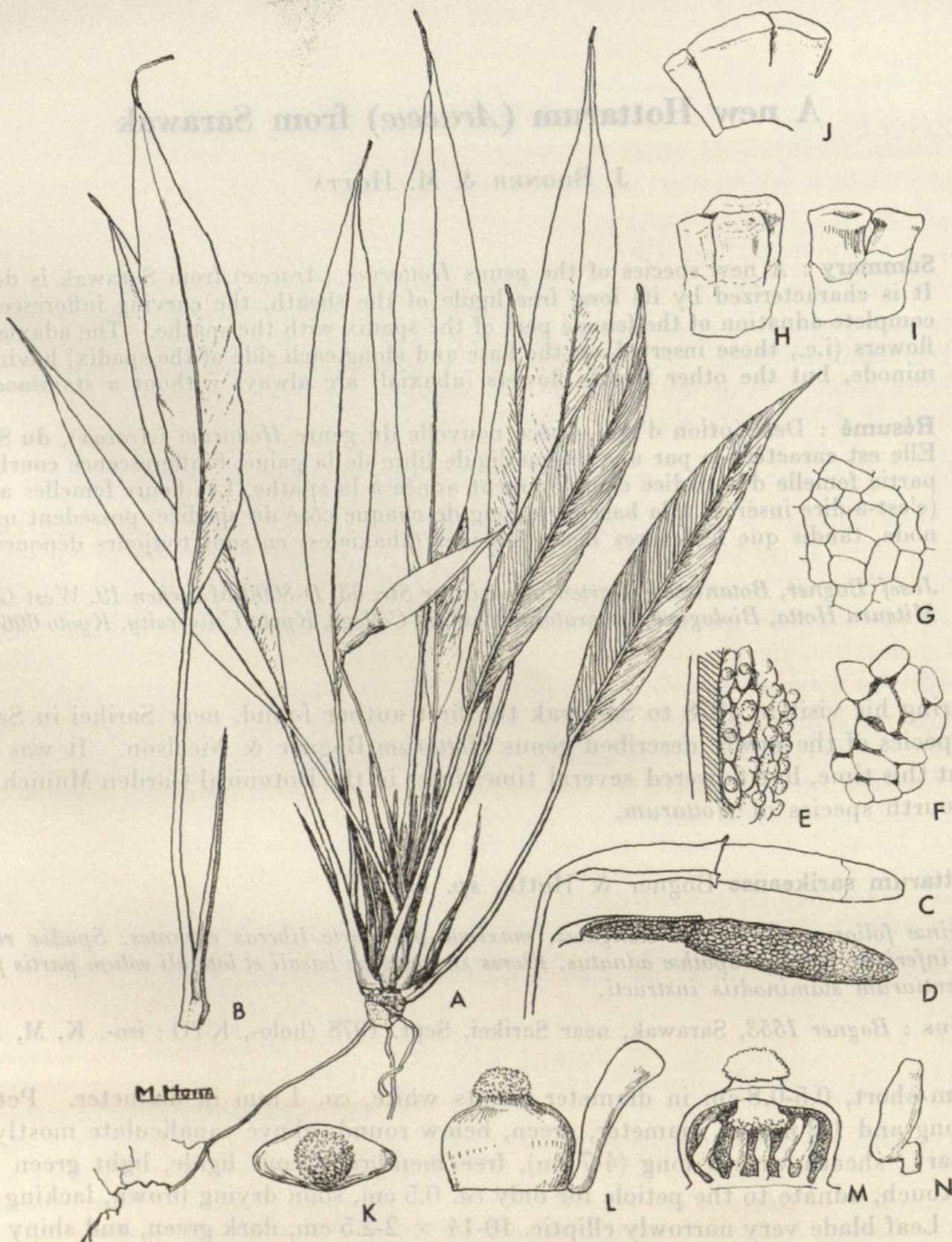
During his visit in 1978 to Sarawak the first author found, near Sarikei in Sarawak, a new species of the newly described genus *Hottarum* Bogner & Nicolson. It was not in flower at this time, but flowered several times later in the Botanical Garden Munich. This is the fourth species of *Hottarum*.

Hottarum sarikeense Bogner & Hotta, *sp. nov.*

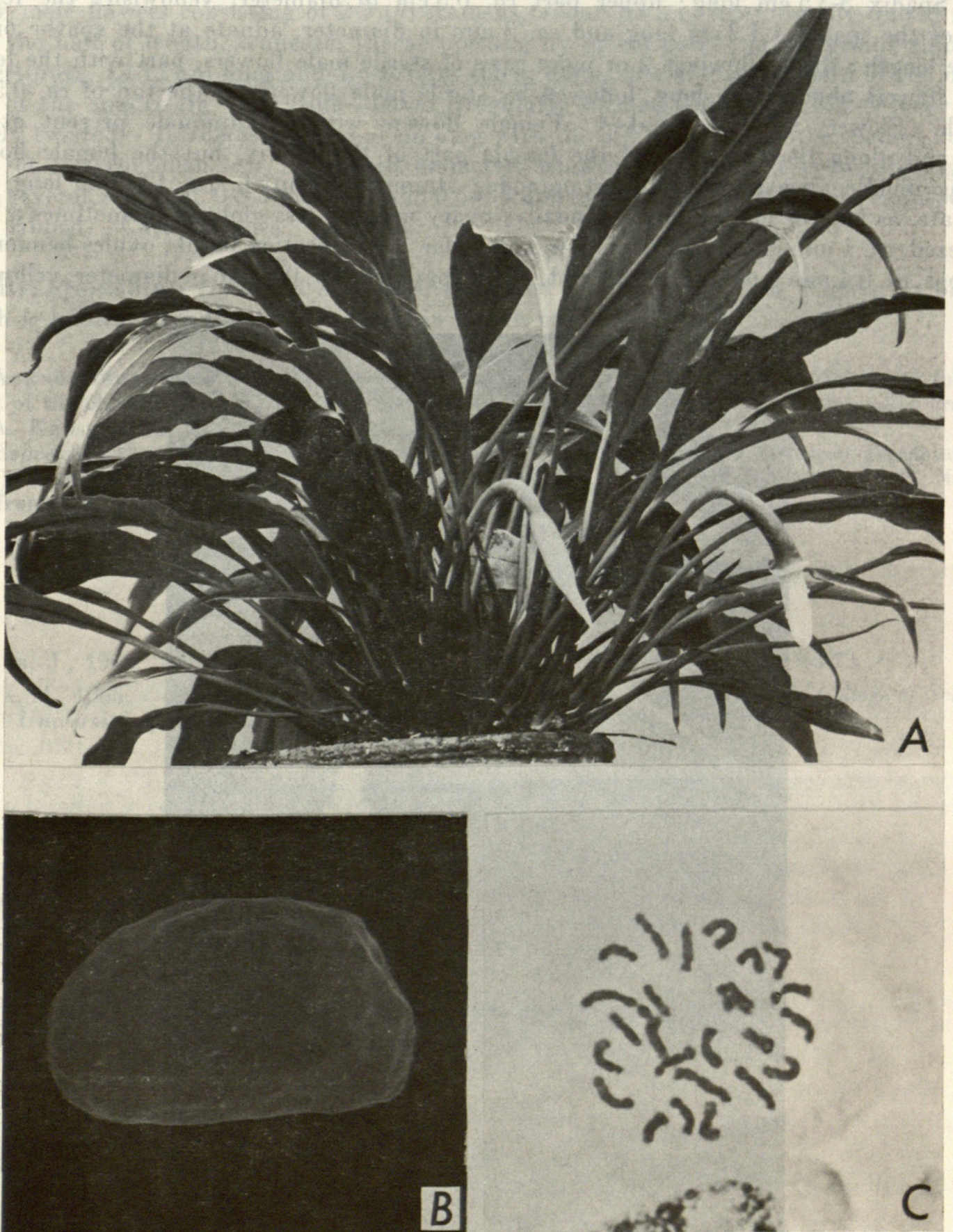
Vaginæ foliorum in ligulas elongatas, maxima pro parte liberas exeuntes. Spadix recurvus, in parte inferiore, feminea spathæ adnatus. Flores in margine basali et laterali solum partis femineæ inflorescentiarum staminodiis instructi.

Typus : Bogner 1553, Sarawak, near Sarikei, Sept. 1978 (holo-, KYO ; iso-, K, M, P, US).

Stem short, 0.5-0.8 cm in diameter ; roots white, *ca.* 1 mm in diameter. Petiole 6-12 cm long and 1-2 mm in diameter, green, below round, above canaliculate mostly in its upper part ; sheath with a long (4-7 cm), free membranaceous ligule, light green with a reddish touch, adnate to the petiole for only *ca.* 0.5 cm, soon drying brown, lacking on old leaves. Leaf blade very narrowly elliptic, 10-14 × 2-2.5 cm, dark green, and shiny above, underneath lighter green, base cuneate, apex acuminate to caudate and 1.5-3 cm long ; venation parallel, middle vein very strong, 5-6 lateral veins of first order on each side, lateral veins of second order thinner and 0.5-0.8 mm from each other. Peduncle 7-8 cm long and *ca.* 1.5 mm in diameter, lighter green than the petiole ; spadix and spathe curved and down turned. Spathe constricted, 5-6 cm long ; lower part 1.5-2 cm long and light green, persistent ; upper part white, shed during anthesis, ending in a 0.5-0.8 cm long



Pl. 1. — *Hottarum sarikeense* Bogner & Hotta : A, Habit $\times 0.55$; B, leaf with free ligule of the sheath $\times 0.55$; C, inflorescence with lower part of the spathe $\times 1$; D, spadix $\times 1$; E, female part of the spadix $\times 5.5$; F, lower sterile male part of the spadix, view from above $\times 5.5$; G, apical sterile part of the spadix, view from above $\times 5.5$; H, I, side view of sterile male flowers $\times 14$; J, side view of staminodes from apical part of the spadix $\times 14$; K, pistil, view from above $\times 16.5$; L, pistil with staminode, side view $\times 16.5$; M, pistil, ovary in cross-section $\times 16.5$; N, ovule $\times 33$. All figures from pickled or dried material of *Bogner 1553*. Drawing Mitsuru Hotta.



Pl. 2. — *Hottarum sarikeense* Bogner & Hotta : **A**, Habit, with two inflorescences, one with the whole spathe and the other with the lower part of the spathe (upper part shed already) $\times ca. 0.4$; phot. J. BOGNER ; **B**, pollen grain $\times 3800$; phot. M. GRAYUM ; **C**, Chromosomes $\times 2550$; phot. N. JACOBSEN. All from *Bogner 1553*.

tip. Spadix 3-3.5 cm long; upper part *ca.* 0.5 cm in diameter, yellowish; the female part of the spadix 1-1.2 cm long and *ca.* 3 mm in diameter, adnate at the spathe on its whole length; then followings 2 or more rows of sterile male flowers, part with the fertile male flowers about 1 cm long, followed by sterile male flowers on the top of *ca.* 0.5 cm length. Flowers unisexual, naked. Female flowers with a staminode present at the base and along the two sides of the female part of the spadix, but the female flowers in the middle always without a staminode; staminode whitish, *ca.* 1.2 mm long, subcapitate, as long or longer than the pistils; ovary more or less globular, sometimes a little squeezed, *ca.* 1 mm in diameter, whitish, unilocular; placentation basal; ovules hemiorthotropous, *ca.* 0.4 mm long; stigma discoid, sessile, papillose, *ca.* 0.4 mm in diameter, yellowish-



Pl. 3. — **Hottarum sarikeense** Bogner & Hotta : Inflorescence with the lower part of the spathe only and this partly removed, showing the female part of the spadix too $\times 1.6$; phot. J. BOGNER. From Bogner 1553.

whitish. Stamínodes at the base of the male part of the spadix 1.5-1.8 mm long, truncate ; fertile male flowers consisting of 2-3 (4) stamens, about 1.5 mm long, basally united more than the half of length, truncate, thecae opening by apical pores ; pollen grains ellipsoid, inaperturate, 13-17 μ m long and 7.5-9.5 μ m thick, exine smooth ; staminodes of the upper part of the spadix (in view from above) irregularly formed, round, curved or very irregularly twisted. Infructescence *ca.* 3 cm long with the dry male part of the spadix ; berries more or less roundish, *ca.* 1.5 mm in diameter, whitish-green with a brownish stigma ; seeds several, ellipsoid, 0.8-1 mm long and 0.5-0.6 mm in diameter, whitish, with endosperm ; testa ribbed. Chromosomes : $2n = 26$.

RELATIONSHIP : *Hottarum sarikeense* is related to *H. kinabaluense* Bogner (in press), which is known from the Mt. Kinabalu in Sabah only.

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LITERATURE

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HOTTA, M., 1965. — Notes on Schismatoglottidinae of Borneo, I. *Memoirs of the College of Science, University of Kyoto*, Series B, 32 (1) : 19-30.

CARACTÈRES MORPHOLOGIQUES ET AFFINITÉS

En étudiant le genre *Macropanax* j'ai pu constater que les caractères décrits par Miquel et d'autres étaient incomplets ; c'est pourquoi une description plus adéquate est présentée ici (cf. p. 37).

Par ses feuilles composées-palmées et son ovaire biloculaire, le genre *Macropanax* pourrait se confondre avec des genres voisins :

— *Nothopanax* Miq., qui a aussi des fleurs à pédicelle articulé, mais s'en distingue aisément par les styles libres complètement ou au moins dans la moitié supérieure, les fruits en général comprimés, l'albumen uniforme.



Bogner, J. and Hotta, M. 1983. "A new Hottarum (Araceæ) from Sarawak."

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