

## THE GENUS *XENOPHYA* SCHOTT (ARACEAE)

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Up to the present time *Xenophya* has been a monotypic genus known only from its type collection. It is closely related to the genus *Alocasia* from which it may be distinguished by its entirely persistent spathe and anatropous ovules. In *Alocasia* the upper part of the spathe quickly withers and is lost and the ovules are suborthotropous.

Schott (Bonplandia 10, 1862, 148) described a Philippine plant as '*Alocasia?* (*Schizocasia*) *portei*'. *Schizocasia* cannot be considered as validly published here because the author did not accept the name (Art. 34, ICBN). *Xenophya* Schott (1863) was published by Schott and placed in the tribe *Zomicarpeae* of the subfamily *Aroideae*. Engler (in DC., Monogr. Phan. 2, 1879, 495) included *Schizocasia portei* as representing a monotypic genus but changed his mind in the *Additamenta* on page 645 and transferred the species back to *Alocasia*. Again, '*Schizocasia*' was not validly published because the author did not accept the name. In the same publication Engler (p. 526—7) accepted *Xenophya* in the *Zomicarpeae* but expressed his great uncertainty about the placement of the genus. The genus *Schizocasia* was finally established by Engler (Bot. Jahrb. 1, 1880, 185—6) based on a Papuan species, *S. acuta*. In this publication Engler comments how similar his plant is to *Xenophya* but it differs by the micropyles of the ovules of *Schizocasia* facing out and facing in in *Xenophya*. Finally, Engler (Pflanzenr. Heft 73 1920, 60) continued the placement of *Xenophya* in the *Zomicarpeae* but said in a note that it would be better placed in the *Colocasioideae* (where *Schizocasia* is placed). In the same publication Engler (Pflanzenr. Heft 71, 1920, 115) in his discussion of *Schizocasia* said that *Schizocasia* appears to be very similar to *Xenophya* but differs in the facing of its ovules and above all in its staminate flowers.

These two characters have kept *Xenophya* and *Schizocasia* apart. The question is whether these characters are real. The inflorescence of the type specimen of *Xenophya brancaefolia* is very young and utterly distorted by pressing and drying. In Schott's herbarium (W, as *Schott Aroideae* Nr. 3676) is a drawing prepared for Schott by Nickelli which is carefully detailed and was made from the type specimen. This drawing (not the type) has been the basis for *Xenophya's* characteristics. The drawing shows very peculiar dumb-bell shaped, free 'stamens' with two thecae each. Such stamens (unknown elsewhere in the family) cannot be demonstrated on the type specimen because of its youth and distortion. All other specimens available to me show the typical synandria of the *Colocasioideae*. It appears that Nickelli took artistic license to draw details that he could not see.

Engler said that the ovules in *Xenophya* have their micropyles turned toward the inside of the ovary. This is very sketchily shown on the drawing. Nothing is left of pistillate flowers on the type. In subsequent collections the ovules point out, by and large, but this appears to be variable according to the number of ovules in the ovary and how

they push against each other. Even Engler (Pflanzenrich Heft 71, 1920, 115—119) illustrated *Schizocasia* with ovules facing in (fig. 26) and facing out (fig. 27). It appears that Engler over-interpreted the sketchy drawing of the ovules and much over-emphasized the importance of the character.

One striking item of the general aspect of *Xenophya brancaefolia* and *Schizocasia acuta* should be mentioned. Both show a peculiar overtopping of the leaf apex by the upper lateral lobes. This is a very striking character that I came to associate with *Schizocasia acuta*, a fairly common species of western New Guinea. When I saw this on the type of *Xenophya brancaefolia* I suspected that closer study would show them to be the same species.

To summarize, macroscopically the type species of *Xenophya* and *Schizocasia* are identical and microscopically their supposed differences turn out to be based on details of a drawing which are not demonstrable on the type. In short, I can find no reason to maintain *Xenophya* and *Schizocasia* as separate genera and adopt the oldest name, *Xenophya*, for the genus.

#### XENOPHYA

*Xenophya* Schott, Ann. Mus. Lugd.-Bat. 1 (1863) 124; Engler in DC., Monogr. Phan. 2 (1879) 526; Engler, Pflanzenr. Heft 73 (1920) 60.

*Schizocasia* Engler, Bot. Jahrb. 1 (1880) 185; Engler, Pflanzenr. Heft 71 (1920) 115; Bunting, Bailey 10 (1962) 112.

Type species: *Xenophya brancaefolia* Schott.

Plant herbaceous, caulescent, erect with terminal leaves. Sap milky. Petiole fleshy, dark to light green, sometimes variegated; sheath persistent. Leaf membranous, ovate to lanceolate in outline, sinuately lobed or deeply pinnatifid; base subtruncate; apex acute to shortly acuminate; venation basically of the colocasioid type with 6—9 primary lateral veins and the basal vein bifurcating, the secondary and tertiary veins undifferentiated. Inflorescences paired in leaf axils. Peduncles erect. Spathe entirely persistent, the short lower part separated from the narrow upper by a constriction. Stipe absent to obscure. Spadix in four parts, pistillate with many pistils, sterile with aborted pistils grading into aborted synandria, staminate with synandria, and an appendix nearly equalling or exceeding the length of the rest of the spadix. Pistillate flower naked with obscurely 3—4-lobed, sessile stigma, unilocular with 6—10 basal, anatropous ovules. Staminate flower a naked, diamond-shaped synandrium of 10—24 thecae. Fruit a fleshy berry with 2—5 ovoid seeds ca. 4 mm in diameter.

Distribution: Moluccas (Halmahera), West Irian and Territory of New Guinea through New Ireland.

#### KEY TO THE SPECIES

1. Leaf-blade ovate, deeply pinnatifid; staminate flower (synandria) with 20—24 thecae.

1. *X. brancaefolia*

1. Leaf-blade lanceolate with sinuate lobes; staminate flowers (synandria) with 10—11 thecae.

2. *X. lauterbachiana*

1. *Xenophya brancaefolia* Schott, Ann. Mus. Lugd.-Bat. 1 (1863) 124.

*Schizocasia acuta* Engler, Bot. Jahrb. 1 (1880) 186. — *Alocasia acuta* Hall. f., Bull. Herb. Boiss. 6 (1898) 605.

*Schizocasia acuta* var. *angustipartita* Engler, Bot. Jahrb. 1 (1880) 186. — *Alocasia acuta* var. *angustipartita* Engler in Lorentz, Nova Guinea 8, 2 (1910) 251.

*Alocasia acuta* var. *tigrina* Hall. f., Bull. Herb. Boiss. 6 (1898) 606. — *Schizocasia acuta* var. *tigrina* Engler, Pflanzenr. Heft 71 (1920) 119.

*Typification: Xenophya brancaefolia: Zippel s.n., holotype in L, isotype in L.*

*Schizocasia acuta, Alocasia acuta: Beccari, P.P. 663, holotype in FI.*

*Schizocasia acuta* var. *angustipartita, Alocasia acuta* var. *angustipartita: d'Albertis s.n., holotype in FI.*

*Alocasia acuta* var. *tigrina, Schizocasia acuta* var. *tigrina: Hallier s.n., holotype in M (not seen), isotype in BO.*

Plant to 2 m tall. Stem dark brown, to 8 cm thick. Internodes short, to 2 cm long. Petiole 35—80 cm long; sheath 8—50 cm long. *Leaf-blade* ovate, usually deeply pinnatifid with elongate and narrow pinnae, 23—70 cm long and 20—60 cm wide; base truncate to subcordate; apex acute to shortly acuminate, commonly overtopped by a lateral pinna. Peduncle 9—15 cm long. *Spathe* 10—18 cm long, upper portion green but turning yellow and red, lower portion 3—4 (ultimately to 8 in fr.) cm long. *Spadix* white to rose, 10—18 cm long; pistillate portion 1—2 cm long (in fl.) with many pistils; sterile portion 1.5—3 cm long; staminate portion 2.5—4.5 cm long; appendix 4—9.5 cm long. Fruit orange to red.

*Distribution:* Halmahera to northeastern New Guinea.

*Ecology:* Lowland tropical rainforest to 120 m in dense shade and often in wet places.

*Remarks:* A distinctive but variable species from which varieties have been segregated on the basis of variegation of the petiole (var. *tigrina*) and the narrowness of pinnae (var. *angustipartita*). In the wild I have seen these variations in the same population and do not feel they warrant taxonomic recognition.

**2. *Xenophya lauterbachiana* (Engler) Nicolson, comb. nov. — *Schizocasia lauterbachiana* Engler, Bot. Jahrb. 25 (4 Mar. 1898) 26.**

*Alocasia wavriniiana* Masters, Gard. Chron. ser. 3, 21 (23 Apr. 1898) 241, fig. 89.

*Typification: Schizocasia lauterbachiana: Lauterbach 632, holotype in B (not seen).*

*Alocasia wavriniiana: no specimen known, Gard. Chron. ser. 3, 21 (1898) 241, fig. 89.*

Plant to 1 m tall. Stem to 4 cm thick. Petiole 30—35 cm long; sheath to 30 cm long. *Leaf-blade* lanceolate with sinuate lobes, 25—30 cm long, 5—12 cm wide; base truncate to subhastate; apex acute. Peduncle 9 cm long. *Spathe* to 15 cm long, lower portion 2.5—4 cm long. *Spadix* 21 cm long; pistillate portion 1—1.5 cm long, greenish; sterile portion 2 cm long, white; staminate portion 3—3.5 cm long, white; appendix 5.5—16 cm long, white.

*Distribution:* Northeastern New Guinea to New Ireland.

*Ecology:* Primary lowland rainforest up to 700 m.

*Remarks:* This species was reported to be introduced into cultivation from the Celebes by Micholitz but this is probably an error since Micholitz did not visit the Celebes and did visit many parts of New Guinea.

#### EXCLUDED SPECIES AND NAMES

*Schizocasi portei* (Schott) Engler in Beccari, Malesia 1 (1883) 295. = *Alocasia portei* Schott, Bonplandia 10 (1862) 148. As is explained in the second paragraph of this paper *Schizocasia portei* was not validly published in 1862 or 1879, as usually cited. Although inadvertent, it apparently was first published in 1883.

*Schizocasia regnieri* Linden & Rodigas, Illustr. Hort. 34 (1887) 17, t. 6. = *Alocasia portei* Schott.

*Schizocasia sanderiana* (Bull) Engler, Bot. Jahrb. 25 (1898) 26. = *Alocasia sanderiana* Bull, Catal. (1894) 8; Kew Bull. 1895 (App. 1) (1895) 32.

## IDENTIFICATION LIST

In this list are enumerated all collections that can be assigned to the species treated. The numbers refer to the species number in this paper, i.e. 1 = *X. brancaefolia*, 2 = *X. lauterbachiana*. Types are indicated by '(T)' after the collection number.

*Aet & Idjan* 601: 1; *d'Albertis s.n.* (T): 1; *Beccari PP* 663 (T): 1; *Beguin* 1923: 1; *Darbyshire & Hoogland* 8168: 1; *Hallier s.n.* (T): 1; *Kalkman* 3527: 1; *Lauterbach* 632 (T): 2; 975: 1; *Ledermann* 8349: 1; 8378: 2; *Nicolson* 1395: 2; 1401, 1574, 1575: 1; *Peekel* 56: 2; *Pleyte* 616: 1; *Pulle* 200: 1; *von Roemer* 44, 316: 1; *van Royen* 3481: 1; *Schlechter* 13796, 17706, 18531: 1; *Versteeg* 1686: 1; *White NGF* 10277: 1; *Zippel s.n.* (T): 1.