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Table of Contents

A Decade of *Schismatoglottis* Species

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Figure 1: *Schismatoglottis pseudohatchii* in habitat with the adult leaf lamina banding clearly visible over the fish-bone markings.

Despite the considerable popularity of *Alocasia* and *Colocasia*, the list of horticulturally important aroid species is overwhelmingly comprised of aroids from the American tropics: *Anthurium*, *Philodendron*, *Dieffenbachia*, *Spathiphyllum*, *Monstera* and *Caladium* being pre-eminent. Paradoxically, aside from *Alocasia*, species from the old-world tropics that command horticultural attention, and even there an attention not or hardly addressed by the wholesale commercial trade, tend to be those grown primarily for the inflorescence: notably *Amorphophallus*, *Arisaema* and *Typhonium* although this in no way implies that the foliage of these magnificent Asians is not noteworthy.

However, this heavy Neotropical bias is not for want of exceptionally attractive and mostly easy to grow foliage plants in the Asian tropics. One such genus is *Schismatoglottis*,

Figure 2: Culivated plant of *Schismatoglottis pseudohatchii* showing the numerous leaves that develop in cultivated plants.

Figure 3: Young *ex vitro* plants of *Schismatoglottis pseudohatchii* with the leaf markings beginning to develop; the fish-bone veining is the first to appear.

Despite the considerable popularity of *Alocasia* and *Colocasia*, the list of horticulturally important aroid species is overwhelmingly comprised of aroids from the American tropics: *Anthurium*, *Philodendron*, *Dieffenbachia*, *Spathiphyllum*, *Monstera* and *Caladium* being pre-eminent. Paradoxically, aside from *Alocasia*, species from the old-world tropics that command horticultural attention, and even there an attention not or hardly addressed by the wholesale commercial trade, tend to be those grown primarily for the inflorescence: notably *Amorphophallus*, *Arisaema* and *Typhonium* although this in no way implies that the foliage of these magnificent Asians is not noteworthy.

However, this heavy Neotropical bias is not for want of exceptionally attractive and mostly easy to grow foliage plants in the Asian tropics. One such genus is *Schismatoglottis*, a predominantly old world tropics genus of more than of 150 species of terrestrial herbaceous mesophytes (plants adapted to constant levels of soil and atmospheric moisture), less often rheophytes (adapted to the flood zones of tropical forest streams), very rarely helophytes (swamp plants in full sun), with a primary distribution centred on Borneo.

As might be imagined, any aroid genus with well in excess of one hundred species contains at least some of horticultural merit. *Schismatoglottis* certainly does not disappoint, and although at the present time rather few are in cultivation outside of specialist research collections, botanic gardens and a few enthusiasts, there are many species that would grace any collection where they are more readily available.

Schismatoglottis is presently the focus of a study aimed at resolving issues about its internal relationships. However, the last revision, that of Hay & Yuzammi (2000), set some informal parameters (termed 'Groups') and these are followed here with the addition of species' complexes to provide fine-line delimitation of species complexes.

Asperata Group

The Asperata Group comprises species wit a clumping habit and petioles that are ofte conspicuously and colourfully ornamente with warts, hairs, scales or bristles. Lea lamina are simple or with cordate bases an are usually softly succulent. Very colourfu leaf markings combined with striking petiole make for handsome plants.

Asperata complex

The *asperata* complex contains man handsome species. Of note are *Schismatoglottis pseudohatchii* (**Figs. 1 – 3**)

Figure 5: Detail of the sharkskin texture of the leaf lamina in *Schismatoglottis mira.*

with glossy olive-green leaves with a striking silver fish-bone pattern overlain with silver banding. In juvenile plants (in this instance tissue cultured plants ca. 6 weeks from the flask) the leaf markings comprise just the fish-bone markings (**Fig. 3**) but as plants age the banding becomes conspicuous. Mature plants in cultivation are multi-foliar and exceptionally handsome (**Fig. 2**). In the same group is the aptly-named *S. mira* (**Figs. 4 – 6**) with extraordinary sharkskin-textured emerald green leaves with a conspicuous cream median-band (**Fig. 5**). As with *S. pseudohatchii*, *S. mira* is in tissue culture and flats of the young plants are outstandingly attractive (**Fig. 6**).

Barbata complex

The *barbata* complex differs from the *asperata* complex primarily in having the petioles and one or both surfaces of the leaf

Figure 4: The outstandingly attractive *Schismatoglottis mira* in habitat.

Figure 6: Young *ex vitro* plants of *Schismatoglottis mira*; the leaf texture and markings appear very early in the plants' development.

Figure 8: *Schismatoglottis ciliata* in habitat showing the erect leaves and the litter-trapping.

Figure 7: *Schismatoglottis cilata* in a variegated form in Sarawak.

Figure 9: Detail of the petioles and newly emerging leaf in *Schismatoglottis ciliata*. Note the coarse nature of the 'hairs'.

species most often seen in cultivation is *S. ciliata* (**Figs. 7 – 9**) a species widespread in Borneo with often conspicuously variegated leaf laminae held erect on conspicuously white-bristly petioles (**Fig. 9**). In the wild *S. ciliata* is frequently found growing in deep peat deposits in heavy shade with the erect growth habit functioning as a litter-trap (**Fig. 8**) with numerous roots entering the accumulated humus around the petioles bases. *Schismatoglottis ferruginea* (**Figs. 10 – 11**) is similar but with the petiole and leaf lamina hairs much softer in texture.

Perhaps the most remarkable species in the *barbata* complex is *S. pyrrhias* (**Figs. 12 – 14**), a species from limestone in remote areas of central Sarawak. The deep green glossy leaves are carried on plum-purple petioles covered in dense white bristles (**Fig. 13**), while the backs of the leaf laminae are jade-green with all veins thickly covered with cherry-red bristles (**Fig. 14**). Although very rare in cultivation, these plants have proven to be very easy, albeit slow, to maintain in cultivation.

Gamoandra complex

The *gamoandra* complex is interesting in that aside from *S. gamoandra* itself almost all of the species are new to science.

Figure 10: *Schismatoglottis ferruginea* in Sabah.

Schismatoglottis gamoandra (**Figs. 15 – 19**) is a rosette-forming dwarf species from central Sarawak with thin stiff leaves held flat on the ground on short petioles (**Fig. 15**). The leaf texture is like thin aluminium sheeting while the lamina colours continue the metallic theme in being pewter-grey with, in some clones, the middle of the leaf burnished into a dull silver band (**Fig. 16**). The whole leaf is made further striking by the raised chessboard venation (**Fig. 17**). For such a diminutive species the inflorescences are large and held almost erect in the middle of the leaves (**Fig. 18**). As can be seen from **Fig. 19,** the generic name *Schismatoglottis* is derived from the Greek *schisma, schismatos* (separating) and *glôtta* (tongue) and refers to the variously deciduous spathe limb that is a feature of *S. gamoandra* and most other species. *Schismatoglottis gamoandra* is also in tissue culture (**Fig. 20**).

Figure 13: *Schismatoglottis pyrrhias* detail to show the plum-coloured petioles with the white 'hairs'.

Figure 11: *Schismatoglottis ferruginea* in close-up to show the much finer and softer 'hairs'as compared with *S. ciliata*.

Figure 12: *Schismatoglottis pyrrhias* in cultivation.

Figure 14: *Schismatoglottis pyrrhias* leaf lamina, rear view, to show red 'hairs'.

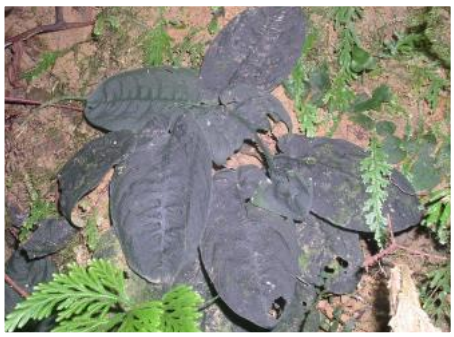

Figure 15: *Schismatoglottis gamoandra* in habitat with the leaves pressed close to the ground, a diagnostic feature.

Figure 16: *Schismatoglottis gamoandra* in one of the variegated forms.

Figure 17: *Schismatoglottis gamoandra* leaf venation detail to show the chess-board-like raised veins.

Figure 22: *Schismatoglottis erecta* showing the climbing habit.

Figure 23: *Schismatoglottis erecta* inflorescence at late female anthesis.

Multiflora Group

The Multiflora Group is readily recognized by the petioles with the greater proportion of the petiolar sheath free-ligular. Leaf laminae are simple and usually plain green in a variety of shades from deep olive to vibrant emerald but this is made up for by the often striking venation patterns, especially on the leaf underside.

Erecta complex

Schismatoglottis erecta (**Figs. 21 – 24**) and its all allies are distinctive by the slender, erect stems and long, willowy deep green leaves. They comprise one of a few small distinct alliances of *Schismatoglottis* that exhibit a climbing habit, the stems rooting onto nearby vertical surfaces. Inflorescences in *S. erecta* are nodding and intriguingly

Figure 20: Young *ex vitro* plants of *Schismatoglottis gamoandra*; already the leaf markings and distinctive venation are well-developed.

Figure 18: *Schismatoglottis gamoandra* inflorescence at female anthesis, with the spathe limb gaping slightly.

Figure 19: *Schismatoglottis gamoandra* inflorescence at male anthesis, the spathe limb already more-or-less shed.

Figure 21: *Schismatoglottis erecta* in bud.

Figure 24: *Schismatoglottis erecta* inflorescence at male anthesis, the spathe limb has began to break away from the lower spathe and the pollen has been released in strings.

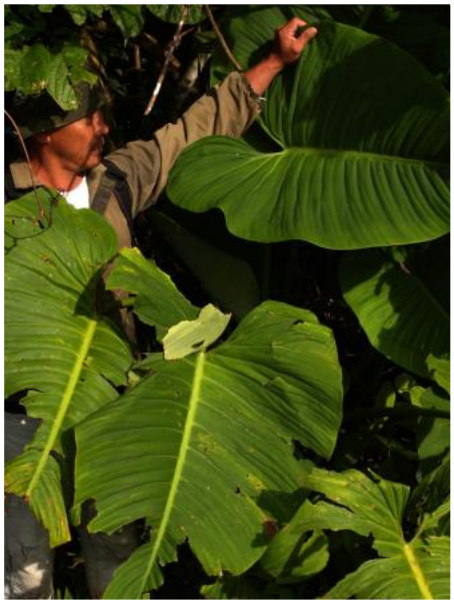

Figure 25: *Schismatoglottis corneri* in habitat in Sarawak. This is a small plant.

Figures 26–30: *Schsimatoglottis motleyana* in various leaf forms.

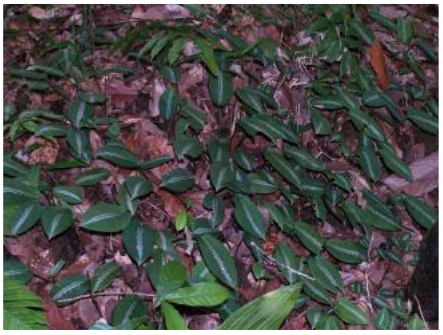

Figure 31: Colony-forming habit of *Schismatoglottis motleyana*.

shaped, and a pleasing combination of pale browns, green and deep mahogany and are produced in some numbers on mature plants. In common with many other species in the Multiflora Group, pollen is released in strings rather in the manner of toothpaste being squeezed from the tube.

Corneri Group

The Corneri Group comprises a single species, *S. corneri* (**Fig. 25**), that is the largest in the genus, with *Alocasia*-like succulent grey-green leaves that can reach over 3 m tall and produces clusters of large inflorescences resembling in shape and size white and jade walking sticks. For a long time *S. corneri* was considered to be endemic to Sabah and the Indonesian Anambas Islands but has recently been found in Sarawak, where this photograph was taken.

Figure 34: Distinctive nodding inflorescences carried on wiry peduncles are characteristic of *S. longifolia*.

Figure 32: *Schismatoglottis longifolia* with strap-shaped leaves and a distinctive silver median band.

Calyptrata Group

Species closely allied to *S. calyptrata* have shoots with numerous lateral buds on the rhizome and are colony-forming plants in the wild. Large colonies tend to be colonial and form extensive carpets of uniform leaves (**Fig. 31**).

Schismatoglottis motleyana (**Figs. 26 – 31**) is a variable species, with a wonderful range of leaf markings. It has great potential as a landscaping groundcover plant and also makes a striking specimen in a large container.

The widespread (one of only three *Schismatoglottis* species co-present in West Malaysia and Borneo) but never abundant *S. longifolia* (**Figs. 32 – 35**) often has the strap-

Figure 35: The cup-shaped fruiting spathes of *S. longifolia* are also diagnostic.

Figure 33: *Schismatoglottis longifolia* in a much rarer leaf form.

like leaves with a silver median band (**Fig. 32**), or with the petiole strikingly contrasting in colour to the lamina (**Fig. 33**), has the spathe limb barely opening and then persistent after anthesis before gradually degrading and falling while still clasping the spent parts of the spadix. The clustered, nodding inflorescences and cup-like infructescences are diagnostic for this species.

References

Hay, A. & Yuzammi. 2000. Schismatoglottideae (Araceae) in Malesia I – *Schismatoglottis*. *Telopea*, 9(1): 1 – 177.