

Catasetum and Cycnoches — Part 4 — The Hydras of Cycnoches

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Imagine a Dr. Jekyll/Mr. Hyde transformation from a lovely, graceful swan to a hideous, writhing hydra, and you have made the transition from the *Eu-Cycnoches* to the *Heteranthes* section of *Cycnoches*! In plant habit, the species of the *Heteranthes* section are not appreciably different from those of *Eu-Cycnoches*; they flower at about the same time; but once they flower, there is no question that they are strikingly different - most of the time! The male flowers of the half-dozen or more *Cycnoches* species constituting the *Heteranthes* section are outlandish. In this regard, they rival the flowers of some *Catasetum* species.



FIGURE 1 — *Cycnoches maculatum* 'Mackay', CBR/AOS
(male flowers) — photo: Richard Clark

The inflorescences bearing male flowers of the *Heteranthes* section are themselves distinct. They are generally longer and more floriferous than the male inflorescences of the *Eu-Cycnoches* section. The inflorescence of *Cycnoches maculatum* pictured in FIGURE 1 is 54 cm (21 inches) long and carries 26 male flowers and 3 buds. With an inflorescence of that length, like many *catasetums*, this plant required elevation for proper development and display of its flowers.

The non-resupinate male flowers of *Cycnoches maculatum* illustrated, having a vertical span of 8.0 cm (3 inches) and horizontal span of 4.0 cm (1 1/2 inches), bear perhaps the greatest resemblance of the *Heteranthes* species to the *Eu-Cycnoches* section. Their greenish sepals and petals, heavily spotted in reddish-purple, are fairly broad and only moderately reflexed. The column on these flowers appears

very much like that found on the male flowers of *Eu-Cycnoches*. It is the lip, not so prominent here, which is so distinctive and unusual. We can suspect as much from the award description for this clone of *Cycnoches maculatum*, which mentions, "... lip shading to white, fingers spotted with purple basally."

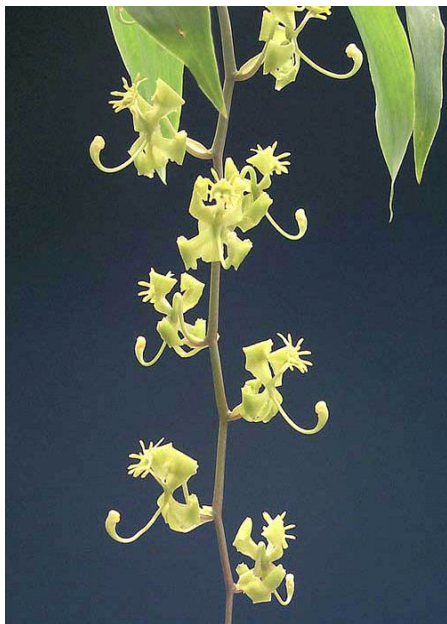


FIGURE 2 — *Cycnoches stenodactylon*
(male flowers) — photo: Greg Allikas

Apparently, the "fingers" of the lip are what John Lindley had in mind when he named and described *Cycnoches pentadactylon* in 1843. But while five is the proper number of fingers for a hand, the lips of the *Cycnoches stenodactylon* flowers pictured in FIGURE 2 in no way resemble anything human!

In the case of *Cycnoches egertonianum*, a species from Central America, a greater folding, curling and reflexing of the sepals and petals have made the lip more visible and dominant (FIGURE 3). With this species, the descriptions by botanical authorities of the very complex lip take on more sinister connotations. Some describe the lip of *Cycnoches egertonianum* as "narrowly clawed" (Bechtel et al., 1981). In the 1952 revision of the genus, *Cycnoches egertonianum* was further divided into two varieties, *van aureum* and *van diana*, based on whether the "marginal teeth" were "forked, rounded, truncate or clavate at the apex." (Alien, 1952)

Van der Fiji and Dodson, however, note in their book, *Orchid Flowers I Their Pollination and Evolution*, that these varieties of *Cycnoches egertonianum* are in fact each pollinated by a separate species of bee. Because of this they conclude, "These allies of *Cyc. egertonianum* are unquestionably distinct species and are maintained as such by the exclusiveness of their pollinators. When carefully examined distinguishing morphological characters between the kinds can be found in male flowers." (van der Fiji and Dodson, 1966, page 66) For this reason, readers will find *Cycnoches aureum*, *Cyc. diana* and *Cyc. densiflorum* appearing in the literature (Gregg, 1975) as additional species of the *Heteranthae* section. The Royal Horticultural Society, on the other hand, considers *Cycnoches aureum* as a syno-

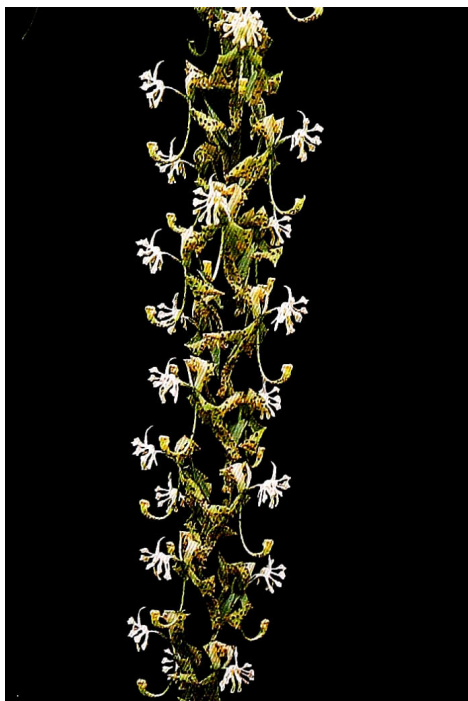
nym for *Cynoches egertonianum* in its hybrid registrations (the Royal Horticultural Society, 1980).

On this basis, the flowers pictured in FIGURE 3, labeled as *Cynoches egertonianum*, might very well be identified as quite another species — depending on which authority is consulted! Certainly, to consider the very dissimilar flowers, and inflorescences, illustrated in FIGURES 3 and 4 as different clones of the same species does require a stretch of the imagination. Clearly, another revision of the genus is overdue (Gregg, 1983).

In any event, the male flowers of *Cynoches egertonianum* 'Cabrillo' illustrated in FIGURE 4, awarded an AM/AOS, are "almost black", according to the description for the award. The dark lip color of these flowers seems more in keeping with

Below, FIGURE 3 —
Cynoches egertonianum (male flowers)

Photo: William H. Moore, M.D.



Above, FIGURE 4 —
Cynoches egertonianum
'Cabrillo' AM/AOS
Photo: Richard Clark

their bizarre nature than the white lip color of the flowers in FIGURE 3. After all, we are talking about the "dark side" of the genus *Cynoches*! Surely, the flowers illustrated have nothing but evil intentions. For their bee pollinator this is just the case. When a male bee of a particular species lands on the lip, attracted to its odor, he has to grapple, like Hercules, with its many projections. The weight of the insect brings it and the lip within contact of the end of the long column, which, when disturbed, releases the pollinarium (van der Fiji and Dodson, 1966). Unlike Hercules, the bee loses his battle with this "hydra".



FIGURE 5 —
Cycnoches densiflorum
 (male flowers, *above*; hermaphroditic flowers, *below*)

The lips of the hermaphroditic flowers exhibit “knobby projections”, remnants of the “fingers” found on the lips of normal male flowers (Gregg, 1975). These hermaphroditic flowers are probably not functional, either as males or females (Gregg, 1983).

Photo: Katherine B. Gregg

At the time *Cycnoches egertonianum* 'Cabrillo', AM/AOS was awarded, it carried 21 male flowers and 1 hermaphroditic flower on one inflorescence, and two female flowers on another, unfortunately not pictured. These female flowers were green, not black, and had a natural spread of 6.0 cm (2 1/2 inches), four times that of the male flowers (1.5 cm, 1/2 inch). The hermaphroditic flower had an intermediate natural spread of 2.7 cm (1 inch).

The *Heteranthes* section of *Cycnoches*, like the *Eu-Cycnoches* section, is capable of producing male, female or hermaphroditic flowers. Unlike *Eu-Cycnoches*, the male flowers and female flowers of the section *Heteranthes*, as the statistics above indicate, differ radically from each other. In fact, the “sexual dimorphism” of these species is so extreme it is hard to believe that both types of flowers can be produced by the same plants.

FIGURE 6 — *Cycnoches densiflorum*
 (male flowers, *left*; female flowers, *right*)
 Photo: Katherine B. Gregg



Katharine B. Gregg, in her study, "The Effect of Light Intensity on Sex Expression in Species of *Cynoches* and *Catasetum* (Orchidaceae)", found that the *Heterantheae* species *Cynoches densiflorum* produced substantial numbers of female flowers in bright shade as well as full sun, while *Cyc. dianae* and *Cyc. aureum* produced few or no female flowers in either full sun or partial shade. Evidently, other factors, such as plant vigor, also play a role in determining the sex of the flowers produced (Gregg, 1975). Photographs from this study, generously provided by Ms. Gregg, illustrate male, hermaphroditic and female flowers. These photographs reveal the amazing Dr. Jekyll/Mr. Hyde transformation *Cynoches* species of the *Heterantheae* section are capable of performing – from hydras back to swans again! (FIGURES 5-7)

Remarkably enough, though the male flowers of the *Heterantheae* section of *Cynoches* look nothing like the male flowers of the *Eu-Cynoches* section, the female flowers of *Heterantheae* section are remarkably similar – to both the male and female flowers of *Eu-Cynoches*! Their short and thickened columns, however, give their sexual identity away (FIGURE 7).

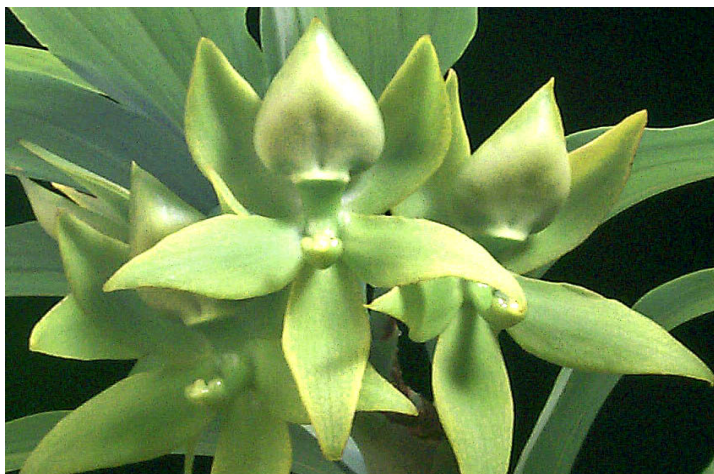


FIGURE 7 — *Cynoches stenodactylon* (female flowers)
Photo: Greg Allikas

The fact that the male and female flowers of these species are so disparate naturally caused botanists and taxonomists a great deal of confusion, something anyone who has grown these species can fully understand. Consider the case of *Cynoches warscewiczii* 'Jan's Swan', awarded a CBM/AOS in 1975, pictured in the previous article of this series having 6 female flowers with the classic swan form. This plant was exhibited by the same grower some three years later and awarded an HCC/AOS with 17 male flowers on one very long inflorescence. These flowers were very heavily spotted with reddish-brown, and had sepals and petals which were considerably reflexed – not typical traits of the male flowers of *Cynoches warscewiczii*. Could this plant in fact be a member of the *Heterantheae* section of *Cynoches*?

This unpredictable, protean nature of species in the *Heterantheae* section of *Cynoches* carries over into their hybrids. *Cynoches* Pistachio Moon, an intersectional cross of the *Heterantheae* species *Cyc. egertonianum* and the *Eu-Cynoches* species *Cyc. haagii*, was registered by Jones and Scully, Inc. in 1978.



**FIGURE 8 — *Cycnoches* Pistachio Moon
'The Prophet', HCC/AOS
Cyc. (eger-tonium x haagii) (female flower)**

One clone of this hybrid, *Cyc.* Pistachio Moon 'The Prophet', was awarded an HCC/AOS, bearing four flowers and one bud on one inflorescence. The illustration for this award (FIGURE 8) leaves us in suspense. The single flower pictured is clearly a female flower, as indicated by the short and thick column. This is further supported by the fact that the inflorescence carried comparatively few flowers, another feminine trait. But what would the male flowers of such a hybrid look like? Would they be much the same in form as the flower pictured, and the *Cyc. haagii* parent, or would they take on a tentacled and contorted form more in keeping with *Cyc. eger-tonianum*?

Intergeneric hybrids involving *Cycnoches* and *Catasetum* likewise have an element of uncertainty. *Catanoches* Rebecca Northen, a hybrid between the perfect-flowered *Catasetum roseum* and the unisexual *Cycnoches chlorochilon*, was registered by John Furrow in 1973. It combines the non-resupinate position and the pink, fringed lip of *Catasetum roseum* with the broad, green sepals and petals of *Cycnoches chlorochilon*. But do these flowers have functioning male and female parts, or are they unisexual; and does the inflorescence emerge from the base of the pseudobulb, as in *Catasetum*, or from the apex, as is the case with *Cycnoches*? Other recent *Catanoches* hybrids leave plenty of room for speculation. Their names are often as offbeat as their flowers, for example: *Ctnchs.* Crazy Creature (*Cyc. chlorochilon* X *Ctsm.* Orchidglade—Jones & Scully, Inc., 1978) and *Ctnchs.* Fantasy (*Ctsm. saccatum* X *Cyc. chlorochilon* — Rod McLellan Co., 1978).

Catasetums and *Cycnoches* can also be crossed with *Mormodes*, a related genus of Central and South American species often called "the Goblin Orchids." With such a common name, you need but imagine the wildest shapes and forms to begin to understand this genus! The 20 or so *Mormodes* species are very similar in plant habit to *catasetums* and *cycnoches*, but their flowers are bisexual, or perfect, not unisexual (Dodson, 1975). These strangely formed, often weird flowers are produced on inflorescences which arise from the middle of the pseudobulbs (FIGURE 10).



FIGURE 9 — *Mormodes colossus* 'Teague' AM-CBM/AOS
Photo: Beaufort B. Fisher

This trait can be seen in the intergeneric *Cycnodes* Ginger Snap (*Cycnoches chlorochilon* X *Mormodes colossus*), registered in 1966 by Alberts & Merkel Bros., Inc. This cross has produced flowers of a unique character, blending the non-resupinate position and darker coloration of the *Mormodes* parent with the fuller form and larger size of the *Cycnoches* parent (FIGURE 10). The clone of *Cycd.* Ginger Snap illustrated in FIGURE 11, awarded an AM/AOS, exhibited 6 flowers with a natural spread of 3 1/8 inches (8 cm). The round, flat, richly colored lips on these flowers certainly bear out the name of the hybrid!



FIGURE 10 —
***Cycnodes* Ginger Snap**
'Discovery' HCC/AOS



FIGURE 11 — *Cynodes* Ginger Snap 'Eureka' AM/AOS

Many crosses of *Catasetum*, *Cynoches* and *Mormodes* have recently been registered. While hobbyists cannot always expect conventional "good looks" from these hybrids, they can certainly expect the unexpected!

Though the temptation is to give the fascinating genus *Mormodes* "equal time" in an article of its own, this will have to mark the end of our examination of the plants and flowers which constitute the subtribe *Catasetinae*. Next month begins a discussion of the culture of these wonderfully unusual and unpredictable orchids. — 84 Sherman Street, Cambridge, Massachusetts 02140.

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