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Dactylorhiza aristata (Fischer ex Lindley) Soó x *Coeloglossum viride* (L.) Hartman, a new hybrid of the nothogenus *Dactyloglossum*

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Abstract
Baum, A., and H. Baum (2008): *Dactylorhiza aristata* (Fischer ex Lindley) Soó × *Coeloglossum viride* (L.) Hartman, a new hybrid of the nothogenus *Dactyloglossum*. The finding of a new ×*Dactyloglossum* hybrid from Kodiak Island (Alaska) is reported. Its intermediate morphological properties are shown in detail and checked against its parental species. The intergeneric hybrid is described as ×*Dactyloglossum alutiiqorum.*

Keywords
Orchidaceae, ×Dactyloglossum alutiiqorum, Dactylorhiza aristata, Coeloglossum viride, Kodiak Island, Alaska

In recent times, phylogenetic investigations exert more and more influence on the taxonomy of orchids. Lately, there were such studies made on the genus *Dactylorhiza* that is extremely difficult in classification (Pridgeon et al., 1997; Bateman et al., 1997; Devos et al., 2006). The molecular phylogenetic studies of Pridgeon et al. (1997) and Bateman et al. (1997), as well as Cribb and Chase (2001), resulted in the proposal to integrate *Coeloglossum viride* (L.) Hartman into the genus *Dactylorhiza* as *Dactylorhiza viridis* (L.) R.M. Bateman, Pridgeon and M.W. Chase. Even though the close proximity between both genera is a well established fact, more recent studies by Devos et al., 2006, using different markers and samples, resulted in the proposal to maintain the two genera separated, as also advocated by Tyteca and Klein, 2008, on the basis, among others, of strong morphological and biological peculiarities. Therefore, in the following, the hybrid between *Dactylorhiza aristata* (Fischer ex Lindley) Soó and *Coeloglossum viride*, found for the first time, will be described as a member of the nothogenus *Dactyloglossum* P.F. Hunt and Summerh.

Dactylorhiza aristata (Fischer ex Lindley) Soó x *Coeloglossum viride* (L.) Hartman

On 8 June 2008, we took the chance to visit the Narrow Cape peninsula on Kodiak Island (Alaska). The part of the peninsula, lying between the Kodiak Launch Complex of the Alaska Aerospace Development Cooperation and the coastline is a fairly open and wavy pastureland, traversed by little streams. Its

average elevation is about 30 m above sea level. The southern and western coast has a steep slope into the sea. This hairgrass-mixed forb meadow is interspersed with solitary Sitka spruces (*Picea sitchensis*) and smaller bushes of *Alnus sinuate*. The area is partly overgrown with moss and *Lupinus nootkatensis*, *Geranium erianthum*, *Viola langsdorfii*, *Rubus arcticus*, *Trientalis* sp., *Fritillaria camschatcensis*, *Castilleja* sp., *Epilobium angustifolium*, and a species of *Platanthera* not clearly classified. The terrain is obviously pastured sporadically by both bison and mustangs.

In this open landscape with meadows we saw more than 5000 plants of *Dactylorhiza aristata* partly budding, partly more than half in bloom (Figure 1; page 7). These orchids with their bright reddish purple-coloured flowers were growing all over the plateau either as single plants or in small groups. One plant attracted our attention from a few meters distance as we made comparative studies on different specimens. Its complete shape, as size, phyllotaxis, inflorescence, and colour, contrasted strongly with the plants of *Dactylorhiza aristata*. On closer inspections, this plant showed characteristic features of a *Dactyloglossum* hybrid (Figure 2; page 7). According to reports (U. and D. Rückbrodt, pers. comm.), *Coeloglossum viride* was supposed to appear on Narrow Cape peninsula. Prospecting the area, we found about 10 *C. viride* within a radius of 20 m around the exceptional plant. Flowering specimens of *D. aristata* and *C. viride* grew side by side, few of them at a distance of 5 cm to each other (Figure 3; page 7).

About one third of the hybrid's flowers were open. It had an overall height of 15 cm above ground level. Stem and leaves were pale green like the encountered *Coeloglossum*. The stem was thick, round, not hairy and smoothly wavy. The five leaves were unspotted and spaced alternately up the stem. The third and fourth leaves were nearly half bitten off. The fifth leaf was one quarter bitten off. This obviously happened during the phase of proliferation. Their shape was assessed roughly oval lanceolate to hastate oval. The uppermost leaf reached clearly up to the inflorescence. The two lowermost leaves were intact and hastate oval.

The inflorescence was reminiscent of the shape of the blossom of a *Dactylorhiza* flower (more or less botryoidally but not so densely flowered as *Dactylorhiza*). The bracts overtowered the respective flowers. They were light green, hastate lanceolate and the leaf margins were small and narrow toothed. The lower eight of the about thirty flowers were in bloom (Figure 4; front cover). The pollinia were already extracted from the lowermost flower. The colour of the blossoms was a washy light purple-brown on a yellow greenish base (colour mixing of *D. aristata* and *C. viride*). The perianth, lip, and spur were more or less isochromatic, only the colouring around the spur entrance was clearly lighter and without any direct reddish parts. Sepals and petals were forming a hood concealing the column. The petals were a little paler, strap-

shaped with obscure small “hooks” on top and slightly overlapping, hooded by the sepals. The sepals were hastate oval, distinctly veined, forming a complete hood. Their tips were formed as “hooks“, leaning on each other (see the botanical name: “*aristata*”). The lip was slightly trapezoid tongue-shaped and three-lobed. The central lobe was hastate and a little longer than the rounded side-lobes. There is a thickened ridge on the middle lobe up to the entrance of the spur. The margins at the base of the lip were raised and curved to a hollow (as with the labellum of *C. viride*). The colour was as described above but a bit more intensive purple dyed outwards. The lip back was generally paler. The stigma was dichotomous, flanking the spur entrance, bright red-rimmed and adhesive. The anther was dark purple coloured. The pollinia stood exactly parallel and disconnected. They had two separated viscidia and bursiculae (intermediate position between *D. aristata* and *C. viride*). The overall length was ca. 1.4 mm; both had two pollinia. The pollinia were compact, pale grey and dark grey mixed. The caudicles were as long as the pollinia and, after removal, bended forward up to 30° and sideward up to 45°. The dehydration and bending process took about 1.5 minutes. Within that time the skin round the pollen shrunk and the pollen, itself, was released. The entrance of the spur was transverse oval, and obcordate because of the thickened ridge on the lip. Because of the arched labellum the entrance was barely visible, as it is in *C. viride*. The spur, itself, was about ¾ long as the ovary, thick, cylindric, at the end slightly bilobed, and coloured like the lip. This showed exactly the intermediate position between *D. aristata*, and *C. viride*. There was no nectar detected. The ovary was twisted by 180°, pale green and at the tip reddish dyed (Figures 5 and 6; page 8).

×*Dactyloglossum alutiiqorum* A. Baum & H. Baum, **nothosp. nov.** (Figure 2, 4, 5, 6)

TYPE: U.S.A. Alaska: Kodiak Island. Narrow Cape Peninsula, elev. 30 m, hairgrass-mixed forb meadow, northwest of the Twin Lakes Road, 08 June 2008; *Baum & Baum s.n.* (HOLOTYPE: B; ISOTYPE: B).
Because a single plant was found, only 2 flowers were collected to serve as type.
(B: Herbarium of the Botanical Museum Berlin-Dahlem, Freie Universitaet Berlin)

Planta hybrida inter *Dactylorhizam aristatam* et *Coeloglossum viride*. Planta in statu efflorescenti 15 cm alta. Folia caulina 5, alterna, laete viridia, immaculata, ambo folia inferioria acuto-ovalia, cetera lanceolato-ovalia, dimidium distale foliorum deficiens (exesum a *Bisone bisone*). Inflorescentia (non plene florens) 5 cm longa, multiflora (ca. 30 floribus). Bracteae floribus distincte longiores. Flores e viridi dilute fusco-purpurei, colore intermedio inter parentes. Tepala in galeam conniventia. Labellum [trapezoideo-] lingulatum, apice leviter trilobum, lobo medio acuto, lobis lateralibus rotundatis. Calcar

crassus cylindriformis, ovario quarta parte brevior, duplo longior quam in *Coeloglosso viridi*, dimidio minor quam in *Dactylorhiza aristata*. Duo pollinia parallela separata, viscidiis et bursiculis separatis (dispositio inter *Dactylorhizam aristatam* et *Coeloglossum viride* intermedia).

Plant is a hybrid between *Dactylorhiza aristata* and *Coeloglossum viride*. Budding plant 15 cm high. 5 leaves alternately up the stem, pale green, unspotted, the lower ones oval lanceolate, the others hastate oval, half absent (bitten off by *Bison bison*). Inflorescence not fully in bloom, 5 cm, polyanthous (about 30 flowers). Bracts clearly longer than the flowers. Flowers washy light purple brown, colour intermediate between the colours of the parents. Tepals forming a hood. Labellum trapezoid tongue-shaped, three-lobed, central lobe hastate, side-lobes rounded. Spur thick, cylindric, ovary one quarter shorter, twice as long as in *Coeloglossum viride*, and half as long as in *Dactylorhiza aristata*. Two pollinia parallel, disconnected, with separate viscidia and bursiculae (intermediate position between *Dactylorhiza aristata* and *Coeloglossum viride*).

ETYMOLOGY. The nothospecific epithet *alutiiqorum* is dedicated to the Alutiiq. The Alutiiq are the native people of Kodiak Island who certainly may have seen this beautiful flower long before us.

One parent is *Dactylorhiza aristata* var. *aristata*. These plants were not referable to variety *kodiakensis*, described by Luer and Luer f. (1972), because they showed a great variability within this population of more than 5000 individuals. Luer (1975) states that var. *kodiakensis* has spotted leaves, an unspotted cordate to suborbicular lip and a uniform appearance, whereas the examined plants had both spotted and unspotted leaves, and 3-lobed to cordate lips. They displayed a very variable appearance regarding form and colour of the stems, flowers, and leaves.

Coeloglossum viride was recognized as the second parent in the immediate vicinity of the hybrid.
Hybrids between *Dactylorhiza* and *Coeloglossum* appear extremely rarely although the flowering time of both parents is quasi-simultaneous when growing in the same localities. From the structure of both columns, one can infer that they have different pollination mechanisms (Devos et al., 2006; Tyteca and Klein, 2008). Thus chance-pollination should be the only possibility for cross-pollination.

Acknowledgements
We thank Dr. Karl Peter Buttler for the intensive discussions in compiling the Latin diagnosis. We thank Dr. Daniel Tyteca for his helpful comments, for proofreading the English version and for the assistance in obtaining literature. We also thank Dr. Dieter Wenker for critical reading of the manuscript and for

his assistance in literature investigation. Last but not least we thank Dr. Klaus Adolphi for nomenclatural advice in the correct naming of the plant.

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Distinguishing between *Platanthera orbiculata* and *P. macrophylla* (or, "*macrophylla*" means larger leaves than what?)

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Suppose you run across an orchid in mid-summer with a stalk of white flowers and a pair of large round leaves at the base. What are you going to call it, Large Round-leaved Orchid (*Platanthera orbiculata* (Pursh) Lindley) or Goldie's Round-leaved Orchid (*P. macrophylla* (Goldie) P.M. Brown)? Here are a few pointers that we hope will help you decide.

You might look at the large leaves and think "*macrophylla*," but would that be useful? Let's consider what is known about the leaf lengths of each species. In

our 1993 study (Reddoch and Reddoch, 1993), we found that *Platanthera orbiculata* plants had leaves between 5 and 21 cm long, while *P. macrophylla* leaves were 7 to 24 cm long. In other words, the ranges of the leaf lengths of *P. orbiculata* and *P. macrophylla* plants overlap almost completely and, thus, are not diagnostic. We found that the leaf widths of the two species also overlap extensively. So, point number one is this: don't look at the leaves to determine which species is which.

The most reliable and practical character to distinguish the two species is the spur length. The spurs of *Platanthera orbiculata* are less that 28 mm long, while those of *P. macrophylla* are equal to or more than 28 mm long (Ames 1906; Reddoch and Reddoch, 1993). The shapes and orientations of the spurs, as well as the spacings of the flowers, are quite variable in both species and are not diagnostic (Reddoch and Reddoch, 1993). Single flowers of each species are shown in Figure 1 (page 9); Figures 2 and 3 (pages 10 and 11, respectively) show the inflorescences of the type specimens. Figure 4 (page 12) depicts a *P. macrophylla* plant. Photographs of *P. orbiculata* plants are on page 12 and on the back cover of the first 2008 issue of this journal [NOCJ 5(1)].

Platanthera orbiculata and *P. macrophylla* are recognized as distinct species (Reddoch and Reddoch, 1993; Sheviak, 2003). This distinction, which Ames (1906) demonstrated early on, was confirmed using modern statistical methods (Reddoch and Reddoch 1993) and recent DNA work (Hapeman and Inoue 1997). *Platanthera orbiculata* is an especially variable species. The variations of it are continuous and, thus, there is no justification for recognizing varieties (Reddoch and Reddoch 1993; Sheviak 2003).

The geographical distributions of *Platanthera orbiculata* and *P. macrophylla* are quite different. *Platanthera orbiculata* has a transcontinental distribution. It occurs in all ten Canadian provinces and one territory, and extends south in the west to northern Oregon and in the east to Tennessee and North Carolina. By contrast, *P. macrophylla* is an eastern species that occurs from the Atlantic Provinces and New England to the western Great Lakes. We are not aware of any records west of Michigan or south of Pennsylvania (Reddoch and Reddoch, 1993, reviewed 2009).

Given that the ranges of leaf sizes of the two species are almost the same, why did Goldie make a point of large leaves by giving the name "*macrophylla*" to his new species? Firstly, back in 1822, he did not have a range of specimens to work with and he had to use what he had in hand. Secondly, when he described *Platanthera macrophylla* (as *Habenaria macrophylla*), he compared it to Pursh's brief 1814 description of *P. orbiculata*, but he apparently had not seen any specimens. We deduce this because he erroneously applied the name of *P. orbiculata* to some very small-leaved plants of the then-undescribed *P. hookeri* (Torrey) Lindley that he had collected in "Montreal & Vermont". Thus, when

Figures to accompany '*Dactylorhiza aristata* (Fischer ex Lindley) Soó x *Coeloglossum viride* (L.) Hartman, a new hybrid of the nothogenus *Dactyloglossum*' by Angelika Baum and Heinz Baum (page 1). Images: Heinz Baum. **1.** Habitat of ×*Dactyloglossum alutiiqorum*. **2.** ×*Dactyloglossum alutiiqorum*. **3.** *Dactylorhiza aristata* and *Coeloglossum viride*.

Figures to accompany '*Dactylorhiza aristata* (Fischer ex Lindley) Soó x *Coeloglossum viride* (L.) Hartman, a new hybrid of the nothogenus *Dactyloglossum*' by Angelika Baum and Heinz Baum (page 1). Images: Heinz Baum.

5. Flower of ×*Dactyloglossum alutiiqorum* (Front view).

6. Flower of ×*Dactyloglossum alutiiqorum* (Side view).

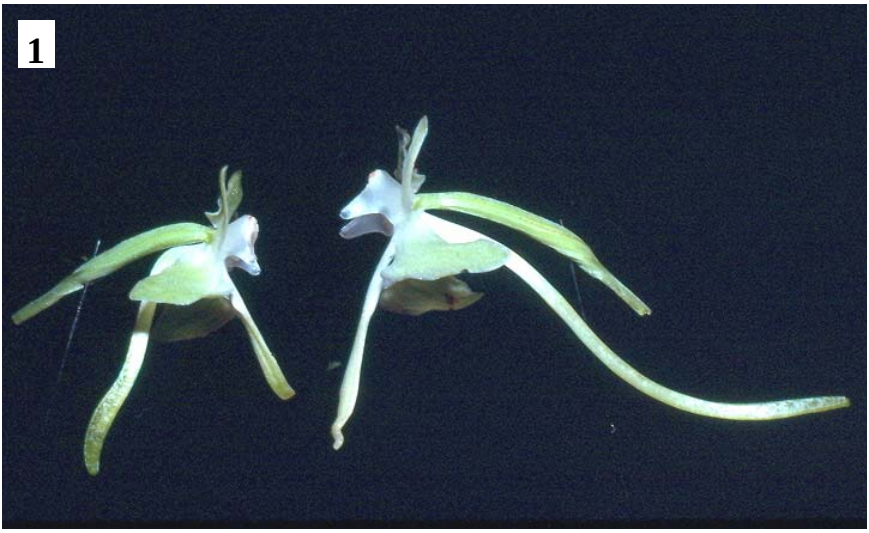
Figures to accompany 'Distinguishing between *Platanthera orbiculata* and *P. macrophylla* (or, "*macrophylla*" means larger leaves than what?)' by Joyce M. Reddoch and Allan H. Reddoch (page 5). Images: Allan H. Reddoch.

Figure 1 (this page). Single flowers of *Platanthera orbiculata* (left) and *P. macrophylla* (right).

Figure 2 (page 10). Inflorescence of type specimen of *Platanthera orbiculata* (lectotype 1063/81-1 at the Royal Botanic Gardens Herbarium, Kew). The spurs on this specimen average 19 mm long, and the leaves average 7.6 cm long.

Figure 3 (page 11). Inflorescence of type specimen of *Platanthera macrophylla* (holotype 1063/81-2 at the Royal Botanic Gardens Herbarium, Kew). The spurs on this specimen average 30.5 mm long, and the leaves average 14 cm long.

Figure 4 (page 12). *Platanthera macrophylla*, Gatineau Park, Quebec.




2
orbiculata
CENTIMETERS
INCHES
Cat. No. 9-010
FISHER SCIENTIFIC
EDMONTON
MONTREAL
TORONTO
VANCOUVER
Printed in Canada


3
CENTIMETERS
INCHES
Cat. No. 9-016
FISHER SCIENTIFIC
EDMONTON
MONTREAL
TORONTO
VANCOUVER
Printed in Canada

Figure (below) to accompany 'Farewell to Florida's Maxillarias' by Chuck McCartney (page 15). Images: Mark Whitten.

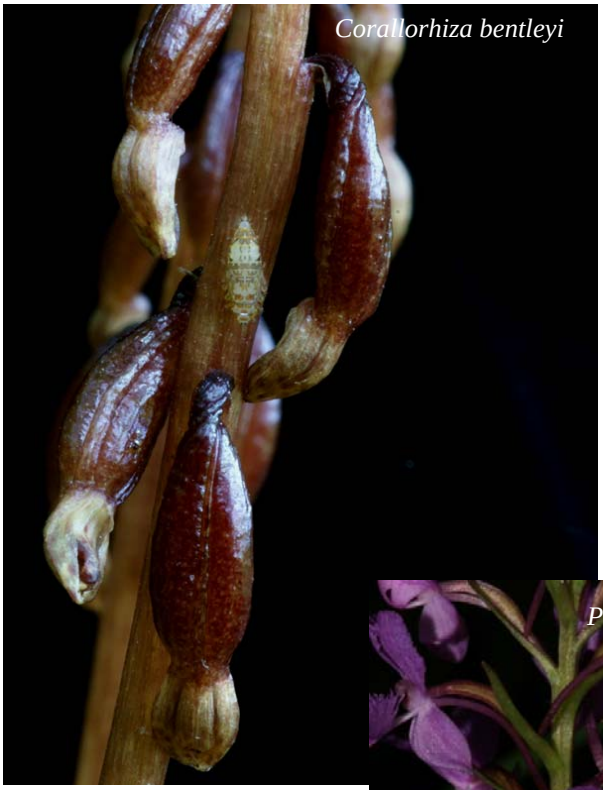
Figure 1 (below). No matter whether it's known by its old name of *Maxillaria parviflora* or it's new designation of *Camaridium micranthum*, both names of this orchid refer to the small flowers that peek out only slightly from the bracts at the base of the pseudobulb.

Figures to accompany 'Farewell to Florida's Maxillarias' by Chuck McCartney (page 15). Images: Mark Whitten.

Figure 2 (this page). The small blooms of *Maxillaria parviflora*/ *Camaridium micranthum* emerge one per flower stalk from the bracts at the base of the plant's pseudobulb.

Figure 3 (below). The pseudobulbs of Maxillaria parviflora/ Camaridium micranthum are spread out at wide intervals along a bract-sheathed rhizome.

Photos to accompany ‘Four in the Morning: Part II’ by Tom Sampliner (page 19). Images: Tom Sampliner.



Goldie described his new species, he compared its leaves to small *P. hookeri* leaves and not to *P. orbiculata* leaves of any size. As a result, his use of the species name "*macrophylla*" has caused confusion for almost two centuries.

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Farewell to Florida's Maxillarias

Chuck McCartney
Hollywood, Florida

Say goodbye to Florida's maxillarias – at least as we know them.

The orchid genus *Maxillaria,* first described in 1794 by Hipolito Ruiz and Jose Antonio Pavon in their *Prodromus Florae Peruvianae et Chilensis,* is traditionally made up of about 580 species of mostly epiphytes from the New World tropics. The genus name comes from the Latin word *maxilla,* meaning jawbone, referring to base of the flower's lip, which looks like a protruding chin.

Over the years, three species of *Maxillaria* have been reported growing in the wild in Florida:

Maxillaria crassifolia: The plant we have long known by this name is still found in Southwest Florida's fabled Fakahatchee Strand. It is sometimes called the Hidden Orchid because its small yellow flowers emerge only slightly from the fan of thick, fleshy leaves and leaf-like bracts that surround the tiny pseudobulb. The species name refers to the thickness of the leaves.

Maxillaria parviflora: Roger L. Hammer reported that while exploring deep within the Fakahatchee Strand in January of 1975, he found a plant of a *Maxillaria* obviously different from *Maxillaria crassifolia*. This one produced clearly visible, flattened and somewhat oblong pseudobulbs scattered along an elongate, bract-sheathed rhizome. Each pseudobulb had a single folded, lanceolate, slightly leathery leaf to about eight inches long. When a plant of this orchid from the Fakahatchee later flowered in cultivation, it was seen to produce small yellowish flowers that emerged in clusters from bracts at the base of the pseudobulbs, although each bloom was borne on its own separate flower stalk. This basal flowering habit with one flower per stem is typical of maxillarias. Eventually, Hammer's plant was identified as *Maxillaria conferta*, a species of the Antilles and Central and South America, although this name later was emended to *Maxillaria parviflora*. This apparently was a waif population and although a herbarium specimen was made to verify its presence in Florida, the tiny colony appears to have perished when its host tree crashed into the water of the swamp. The orchid has not been seen again in Florida for several decades, despite diligent searching.

Maxillaria sanguinea: In February of 1947, a *Maxillaria* species was reportedly found in the Pinecrest area of the Big Cypress Swamp. Based on vegetative characteristics, it was tentatively identified as *Maxillaria sanguinea*, which was surprising because this species is known only from Panama and Costa Rica. However, this "find" was almost immediately branded a hoax and is still considered so because no other plants of such an orchid have been reported from Florida.

Now all these *Maxillaria* species will cease to exist in Florida – at least as maxillarias.

DNA research currently is turning traditional plant classification systems on their head, and these genetic studies of plant relationships are especially active in the orchid family. Mark Whitten, Ph.D., an orchid scientist with the Florida Museum of Natural History at the University of Florida in Gainesville, has focused his DNA research on the Maxillariinae, the orchid subtribe that includes *Maxillaria* and related genera, including some familiar to veteran orchids growers, such as *Mormolyca* and *Trigonidium*, and more obscure groups like *Chrysocycnis*, *Cryptocentrum*, and *Pityphyllum*.

Whitten's research, along with that of his colleagues, has found that the traditional grouping of species in the genus *Maxillaria* is "polyphyletic," a scientist's way of saying that all the species grouped together under this name aren't really so closely related genetically. These DNA studies have shown that "*Maxillaria*" is really made up of 17 distinct groups. Writing in the botanical journal *Lankesteriana* (Vol, 7, No. 3, 2007), Whitten and his fellow scientists have proposed raising these groups to the generic level or, in some cases, re-

turning them to the generic level.

Under Whitten's system, Florida's extant species, *Maxillaria crassifolia*, would be moved to the resurrected genus *Heterotaxis*, a group first proposed by the great English orchidologist John Lindley in 1826. Lindley's type species for the genus was *Heterotaxis crassifolia*.

As if the switch in generic name weren't enough, taxonomists now say the species epithet also should be changed, so our *Maxillaria crassifolia* would become *Heterotaxis sessilis*, resurrecting a 1788 Olof Swartz epithet from the time when that Swedish botanist called this plant *Epidendrum sessile*. That epithet predates Lindley's *crassifolia* name by 38 years and, because of the rules of orchid nomenclature, the *sessile* epithet has priority, although the gender ending must be changed to *sessilis* to match the gender of the genus name.

Maxillaria parviflora will get a double set of new names, too. Based on his DNA research, Whitten has proposed restoring the 1824 Lindley generic name *Camaridium*, and *Maxillaria parviflora* falls into that group. However, the name combination *Camaridium parviflorum* already exists for a different species, so when *Maxillaria parviflora* is moved to *Camaradium*, it requires a new species name as well. Mario Blanco of the University of Florida and Lankester Botanical Garden in Costa Rica has created the name *Camaridium micranthum* for this small-flowered species (see images on pages 12 and 13, and on back cover). So if this orchid is ever refound in Florida, this is what it would be called.

Maxillaria sanguinea – the purported third *Maxillaria* species for Florida – would go into the new genus *Maxillariella* proposed in 2007 by Mario Blanco and German Carnevali, along with such species as *Maxillaria tenuifolia* and *Maxillaria variabilis* that have been cultivated for many years by orchid growers.

All this changing of names sounds confusing – and it is. But as Whitten and other orchid scientists working in the field of DNA studies said at the 19th World Orchid Conference in Miami in January 2008, they feel that out of the current chaos in orchid nomenclature will come a new stability as these proposed phylogenetic regroupings become accepted. Amateur orchidists can only hope so, although some are pessimistic that this new stability will come in their lifetime!

NOTES:

1. This article was originally printed in the October 2008 issue of the American Orchid Society's *Orchids* magazine. Reprinted with permission.

2. An accompanying article by Chuck McCartney follows on page 18.

Some Other Recent Orchid Name Changes

Chuck McCartney

Lorne Heskha's beautifully illustrated cover story on the Small Round-Leaf Orchid in the January issue of the American Orchid Society's *Orchids* magazine used the botanical name *Amerorchis rotundifolia* for this monotypic boreal species that many of us first learned as *Orchis rotundifolia*. However, no mention was made about the recent proposal to return this orchid to the genus *Platanthera*, where it was assigned by John Lindley in 1835. This is surprising because the AOS subscribes to nomenclature as used in the treatment of the Orchidaceae on the website *World Checklist of Selected Plant Families* maintained by the Royal Botanic Gardens at Kew in England (http://apps.kew.org/wcsp/qsearch.do).

Besides *Amerorchis* being transferred back to *Platanthera*, here are some other taxonomic changes on the Kew website we North American native orchid enthusiasts should be aware of:

1. The genus *Listera* has been lumped into the Eurasian saprophytic genus *Neottia*. Based on DNA research, *Listera* species are now considered simply photosynthetic members of *Neottia*.

2. The five accepted species of the genus *Pteroglossaspis* have been lumped into the large African-centered genus *Eulophia*. Prior to this, our native *Eulophia alta* was considered the only member of this genus in the Western Hemisphere. (This was, of course, before the discovery of the newly naturalizing southern Asian *Eulophia graminea*.) Now, with the transfer of *Pteroglossaspis* to *Eulophia*, there are three members of the latter genus considered native to the New World: *Eulophia alta*, North America's Eulophia (formerly *Pteroglossaspis*) *ecristata*, and *Eulophia* (formerly *Pteroglossaspis*) *ruwenzoriensis*, which occurs in Brazil, Argentina, Uruguay and Paraguay, in addition to eastern tropical Africa. The Kew website wisely ignores the highly questionable new "species" *Pteroglossaspis pottsii.*

3. Two of Florida's leafless orchids – the legendary Ghost Orchid (*Polyradicion lindenii*) and tiny *Harrisella porrecta* – have been transferred to the genus *Dendrophylax*. The transfer required a change in the spelling of the *Harrisella* species epithet to agree in gender with *Dendrophylax*, so it becomes *Dendrophylax porrectus*.

4. Although it seems counterintuitive, the Kew website maintains the tiny circumboreal species *Hammarbya paludosa* as a monotypic genus separate from *Malaxis*.

Four in the Morning: Part II

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Camp Caesar had been great and it was now well into the afternoon. We were approaching that golden portion of the light of day when photography can be at its most dramatic. We would now cross the West Virginia border over into Virginia to meet another orchid nut who was going to take us to a roadside bog near Monterey along Route 250. Frankly the parcel was well hidden from view from the vantage point of the road. Little did the passerby know what botanical treasures were inside. Usually such condition helps protect the vegetative denizens. Once safely in the bog, our attention was immediately caught by the presence of a good number of northern or purple pitcher plants, *Sarracenia purpurea*. It is always a pleasure to find these handsome and fascinating carnivorous plants. Even more intriguing was the history of these particular specimens. It seems that our host was responsible for their presence because in l992 he took part in a rescue and brought a mere seven plants into their new home here. Obviously the plants were appreciative as they had multiplied in great number and joined fellow carnivore the round-leafed-sundew, *Drosera rotundifolia*, as masters of the sphagnum hummocks. Of orchid interest was the presence of a fair number of mostly fruiting stage club-spur orchids, *Platanthera clavellata*. It is somewhat disconcerting to us lay folk to think that a number of taxonomists are talking about moving this species into *Gymnadeniopsis*. I guess change is never easy for us old-timers.

The bog held a further pleasant surprise for us. A few blooming stalks of the late variety of small purple fringed orchid, *Platanthera psycodes* (page 14), still swayed in the breeze. All showed browned areas so they were not the most desirable photographic specimens. Nevertheless, it is always a pleasure to encounter them.

All too soon it was time to bid adieu to our Virginia friend and head back to the border. Straddling that border is Lake Buffalo Recreation Area. This beautifully forested parcel has for us another raison d'etre; that being orchids. For me, it would provide another first. This was home to a population of Bentley's Coral Root Orchid, *Corallorhiza bentleyi* (page 14). It is one thing to have familiarity with a plant via textbook or perhaps an image received by e-mail or an actual photograph. However this is a far cry from the total sense experience when you encounter in situ an orchid species for the first time. In fact, it can be overwhelming. One tries to get a good accurate impression for the species. At the same time one tries to learn the habitat. Then one must sort out the various manifestations of the new encounter; robust from the depauperate, singles versus clusters, blooming versus vegetative and other dichotomies you can think

of. I always conclude that the first visit is always so overwhelming that it does not always provide a clear window into each of these areas. Often, the attempt to photograph is of mixed result as well. I have always found that until I have a good sense as to what the species is all about resulting from several encounters, my photographic results are often wanting in some respect. Think about your experiences. Have you also found your first observation of a species, while exciting and memorable, is not always everything you would have hoped for? Perhaps one of you will come up with an excellent protocol for encountering a species for the first time. Until then a better plan would be to hold off on the photography and first spend time getting the feel for the entire orchid population.

The sloped forest seemed overly dry. We were immediately adjacent to the main vehicular road ascending toward Buffalo Lake. The leaf litter probably helped maintain some moisture. Scattered on the slope were the tawny stalks of the coral root. There were both singles and some clusters; Most seemed to be holding on in good condition. I suppose prime condition had been during the conference field trip day; but we who had been hosts had not been able to leave our sites to go field tripping. Today's visit would do just fine for me. I eagerly took both film and digital records of what I was seeing. This species sure has a character all its own. Most specimens, but not all, had a shiny coating as if some one had sprayed them with lacquer. In recognition of this trait we affectionately dubbed the species the lacquered orchid. Another trait was the 'jewelicious' quality of the lightest colored floral parts. I use the term to indicate the glistening quality of the thin tissue, especially the whites and tawny colors that seemed to flash color as if they were miniature diamonds. Also very prominent to my eye was the sheathing basal stem bract that seemed more impressive than in most other coral roots. Compared to others in the genus, both the sepals and petals seemed more uniform and simpler in configuration. Like others in the genus, the dappled light of the forest caused them to appear and disappear from view as you approached.

One can always read what each stage of an orchid bloom will look like. For a valuable and lasting impression, it is always better to see each for yourself in the field. One observation the current stage gave us was a fanciful spider-web-covering most of the stalks were draped with. It would be interesting to discover what species of spiders were involved and what particular attraction the orchids held for them.

I was so busy with the coral roots I had no time for other species. Now began the long journey homeward bound; dropping folks off at their respective rendezvous points. It left me at my vehicle transferring my belongings past 1:30 am. It was a long, lonely stormy evening drive back to Cleveland. I did not dare stop as I concluded any relaxation would allow fatigue to take over. After all, this journey of firsts was not to end until 24 hours were up and still countin'.

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