

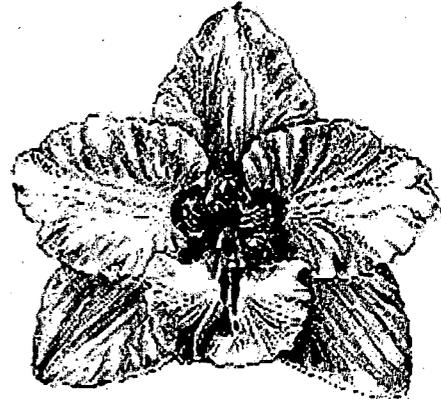
Odontoglossum Alliance Newsletter

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New combinations in *Odontoglossum* and a solution to a taxonomic conundrum.

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When Chase and others transferred orchid genera *Cochlioda* Lindl., *Odontoglossum* Kunth, *Sigmatostalix* Rchb.f., and *Solenidiopsis* Senghas into *Oncidium* Sw., in Lindleyana (Chase *et al.* 2008), based on molecular evidence (Williams *et al.* 2001a, 2001b, Chase *et al.* 2009), a rather strange situation developed, seen from a taxonomic point of view. Many different looking plants (some mistakenly from the distantly related genus *Cyrtorchilum* Kunth) with very different flower morphology ended up in the same genus. In fact, the flowers are so different from each other that it becomes virtually impossible to visually define the genus *Oncidium*, and to separate it from many other genera in the Oncidiinae. In addition, some of the transferred *Odontoglossum* species, such as *Odm. contaypacchaense* D.E.Benn. & Christenson, *Odm. machupicchuense* D.E.Benn. & Christenson, *Odm. pseudomelanthes* D.E.Benn. & Christenson and *Odm. rubrocallosum* D.E.Benn. & Christenson, display all the critical features for belonging in *Cyrtorchilum* and should not have been included in the *Oncidium* transfer at all (a transfer will be made for those that are not synonyms of older names). A plausible explanation why this happened is that no DNA data were analyzed prior to the transfer due to a lack of available plant material. It seems the transfer was made because these orchids were originally described as *Odontoglossum* species, like so many other and similar former "odontoglossums" that now reside in *Cyrtorchilum* (Dalström 2001a).

In any case, and in a matter of speaking, the creation of this *Oncidium* conglomerate puts user-friendly and practical Oncidiinae taxonomy "out of business".

I therefore prefer to treat the visually recognizable species in genera *Cochlioda*, *Odontoglossum* and *Solenidiopsis* as a separate and single genus/clade rather than sinking them into a large “waste-basket” *Oncidium*. This is done in accordance with the same DNA data published by Chase and others, and the nomenclatural transfers were recently made in Lankesteriana (Dalström, 2012). The reason behind combining *Cochlioda*, *Odontoglossum* and *Solenidiopsis* is to avoid having to create several new monotypic genera for species such as *Odm. povedanum* P.Ortiz (Fig. 1E, 3E), and *Odm. tenuifolium* Dalström (Fig. 1F, 3F), due to their apparently separate cladistic “sub-paths”. These latter species display many typical morphological and ecological “odontoglossoid” features and are therefore easiest treated as such. The oldest name for this large complex of species is *Odontoglossum* (Kunth 1816), which has nomenclatural priority.

The “traditional” difference between *Cochlioda* and *Odontoglossum* is based on the bright rose to orange floral colors of *Cochlioda*, that suggest bird pollination (although no actual evidence of bird pollination has been documented, or seen by the author), as opposed to sparsely documented bee pollination for *Odontoglossum* (van der Pijl & Dodson 1966). Another and more distinct morphological difference is the divided stigma of *Cochlioda*, which consists of a single stigma variably divided into two lobes by the “in-bent” rostellum. The stigma of all known *Odontoglossum* species is more or less uniformly rounded.

Odontoglossum sanguineum (Rchb.f.) Dalström, synonym: *Oncidium strictum* (Cogn.) M.W.Chase & N.H.Williams, also has rose colored flowers but with a rounded stigmatic surface. This species has an impressive synonymy list and has jumped back and forth between genera *Cochlioda*, *Mesospinidium* Rchb.f. and *Symphoglossum* Schltr. through time. It was transferred to *Odontoglossum* based on molecular evidence (Dalström 2001, Williams *et al.* 2001a), before being lumped into *Oncidium* (Chase & Williams 2008) under the name “*Oncidium strictum*” (from the synonym *Cochlioda stricta* Cogn.), since the name “*Oncidium sanguineum*” was already occupied.

The flowers of *Solenidiopsis* show a similar stigmatic profile as *Cochlioda* (as do the distantly related members of genera *Oliveriana* Rchb.f., and *Systemoglossum* Schltr.), but lack the bright colors, which may indicate a return to a bee pollination syndrome. Traditionally, the three accepted species of *Solenidiopsis*; *S. galianoi* Dalström & Nuñez, *S. peruviana* (Schltr.) D.E.Benn. & Christenson, and *S. tigroides* (C.Schweinf.) Senghas (Fig. 1H, 3H), all have non-resupinate flowers with the lip uppermost, as opposed to *Cochlioda* and *Odontoglossum*, which have normal flowers with the lip lowermost. Otherwise these genera are very similar both vegetatively and in the general flower appearance.

The first known species of *Cochlioda* (*rosea*) was actually described as *Odm. roseum* by Lindley (1845), and later transferred to *Cochlioda* by Bentham and Hooker (1881). Similarly, *Solenidiopsis tigroides* was also originally described as an *Odontoglossum* by Schweinfurth (1945). In other words, the link to *Odontoglossum* has always been strong for these plants. Until very recently it has been possible to separate them as distinct genera though based on combinations of visual features, such as the color, non-resupinate flowers, divided stigma etc.

This is no longer possible due to the discovery of a rather insignificant but highly interesting species from the Machu Picchu sanctuary in Peru; *Oncidium koechliniana* Collantes & G.Gerlach (2011), (Fig. 1I, 3I). Although described as an *Oncidium* due to the recent transfers by Chase and others (Gerlach, pers. comm.), this species displays all the features that justify a placement in an expanded *Odontoglossum* clade. It has flowers less than 1 cm across that present the lip lowermost, like *Cochlioda* and *Odontoglossum*. It has a divided stigma similar to *Cochlioda* and *Solenidiopsis*. The coloration (greenish yellow with brown spots) is very much like an *Odontoglossum* or *Solenidiopsis*. The column has large spotted *Solenidiopsis*-like wings, but also a well developed hood, like *Cochlioda* and species in the *Odontoglossum astranthum* Linden & Rchb.f. (Fig. 1D, 3D) complex. It has a richly pubescent callus like many species in all three genera, a long and branched inflorescence like many *Odontoglossum* species, and long and narrow leaves like some *Odontoglossum* and *Solenidiopsis* species.

Although the exact position in a molecular based cladogram for this small-flowered species is currently unknown, there is little doubt about its nomenclatural status as an (expanded) *Odontoglossum*.

Distinguishing features for *Odontoglossum*:

Higher altitude (rarely lower than 1500 -3000 m), strictly Andean (here including Sierra Nevada de Santa Marta) plants with relatively thin roots and glossy, distinctly compressed (ancipitous) pseudobulbs (except for *Odontoglossum praestans* Rchb.f. & Warsz., which has weakly edged, walnut-shaped pseudobulbs), and generally strongly scented flowers (except for *Odontoglossum crispum* Lindl. and possibly *Odontoglossum nobile* Rchb.f.), with an ovary that continues in a more or less straight line into the base, and to a various extension of the variously elongate column. The lip is generally parallel with the column near the base and with few exceptions connected with the column either by lateral “seams” or by a central and longitudinal ridge (“suture”), and very differently from the main bulk of *Oncidium* species. The column of *Odontoglossum* has a pollinarium with a well developed and elongate stipe, placed on a relatively huge ovate viscidium, sometimes as long as the stipe. The placement and shape of the pollinarium generally presents the viscidium from “above”, and hidden from a frontal view, as opposed to *Oncidium* species where the pollinarium generally consists of a much smaller and rounded viscidium positioned so that it is clearly visible from a front view (See Figures 1-3). There are very few exceptions from this where some Central American *Oncidium* species have developed a similar morphology (and pollination syndrome?), although in these cases, the distinct geographic distribution should make it easy to distinguish the groups. In addition, very few (if any) of these “intermediate” *Oncidium* species display both a “hidden” and “*Odontoglossum*”-shaped ovate viscidium.

Concerning the taxonomic status of a small group of species, such as *Onc. chrysomorphum* Lindl., and *Onc. tipuloides* Rchb.f., etc., that seem to “wobble” between *Odontoglossum* and *Oncidium* depending on which molecular cladogram is studied, it is uncertain at this time how to best handle them. Some DNA sequenced samples in this group (herbarium specimens) are misidentified, and others consist of flowers in silica gel only, which are not easily verified. An attempt to rehydrate these latter specimens is under way in order to confirm the identity of the sequenced specimens and to give them a stable home in the “DNA trees”.

List of transferred species:

Odontoglossum galianoi (Dalström & P. Nuñez) Dalström. *Solenidiopsis galianoi* Dalström & P. Nuñez, Selbyana 23: 197. 2002. *Oncidium galianoi* (Dalström & P. Nuñez) M.W.Chase & N.H.Williams, Lindleyana 21(3): 24. 2008. TYPE: Peru. Cuzco: Province of Paucartambo, District of Challabamba, the Biosphere Reserve of Manu, between Pillahuata and Nueva Esperanza, alt 2800-3200 m, 18 Feb. 2001, P. Nuñez, W. Galiano, E. Suclli, A. Rodriguez & F. Carazas 28694 (holotype, CUZ).

Odontoglossum koechlinianum (Collantes & G.Gerlach) Dalström. *Oncidium koechliniana* Collantes & G.Gerlach. Orchideenjournal Heft 2: 79-81. 2011. TYPE: Peru. Cusco: Province of Urubamba, District of Machu Picchu, Quebrada Alccamayo, alt. 2500 m, 11 Dec. 2003, Moisés Quispe & Carmen Soto 148. Flowered in cultivation at Inkaterra, Machu Picchu (holotype, USM).

Odontoglossum mixturum (Dalström & Sönnemark) Dalström. *Cochlioda mixtura* Dalström & Sönnemark. Selbyana 22(2): 135. 2001. *Oncidium mixturum* (Dalström & Sönnemark) M.W.Chase & N.H.Williams, Lindleyana 21(3): 25. 2008. TYPE: Bolivia. Chapare, along road between Cochabamba and Villa Tunari, in wet cloudforest at 2000 - 2100 m, Mar. 7, 1998, S. Dalström & J. Sönnemark 2342 (holotype, SEL).

Odontoglossum noezlianum Mast., Gard. Chron., III, 8: 570. 1890. *Cochlioda noezliana* Rolfe, Lindenia 6: 55, pl. 262. 1891. *Oncidium noezlianum* (Rolfe) M.W.Chase & N.H.Williams, Lindleyana 21(3): 25. 2008. TYPE:

Peru. J. Nötzli s.n. (holotype, specimen unknown; illustration in original publication). *Cochlioda densiflora* Lindl., Fol. Orch. 4 (*Cochlioda*): 1. 1853; [non *Odontoglossum densiflorum* Lindl. = *Cyrtochilum densiflorum* (Lindl.) Kraenzl. Notizbl. Bot. Gart. Berlin-Dahlem 7:99. 1917]. *Mesospinidium densiflorum* (Lindl.) Rchb.f., Gard. Chron. 12: 393. 1872. TYPE: Peru. Amazonas: Chachapoyas, Mathews s.n. (holotype, K-L; isotype, BM, W). *Cochlioda miniata* L.Lind., Lindeniana, 12: 71, pl. 562. 1896. *Oncidium miniatum* (L.Lind.) M.W.Chase & N.H.Williams, Lindleyana 21(3): 25. 2008. TYPE: Peru[?], L. Linden s.n. (holotype specimen unknown; illustration in original publication). *Cochlioda floryi* Rolfe, Orchid Rev. 19: 144. 1911. *Oncidium floryi* (Rolfe) M.W.Chase & N.H.Williams, Lindleyana 21(3): 24. 2008. TYPE: Peru. H. A. Tracy s.n. (holotype, specimen unknown). *Cochlioda beyrodtiana* Schltr., Orchis 13: 5. 1919. *Oncidium beyrodtioides* M.W.Chase & N.H.Williams, Lindleyana 21(3): 22. 2008. TYPE: Peru. O. Beyrodt s.n. (holotype, B, destroyed; photo at F, SEL).

Odontoglossum peruvianum (Schltr) Dalström. *Solenidium peruvianum* Schltr. Repert. Spec. Nov. Regni Veg. Beih. 9: 113. 1921, illustration in Mansf., Repert. Spec. Nov. Regni Veg. Beih. 57: t. 129, nr. 507. 1929. *Solenidiopsis peruviana* (Schltr.) D.E. Benn. & Christenson, Brittonia 46: 44. 1994. *Oncidium peruvianoides* M.W.Chase & N.H.Williams, Lindleyana 21(3): 26. 2008. TYPE: Peru. Loreto: near Moyobamba, Filomeno s.n. (holotype, B, destroyed; lectotype: Tabula 129, 507. *Solenidiopsis flavobrunnea* Senghas, Orchidee (Hamburg) 40(6): 205. 1989. *Oncidium flavobrunneum* (Senghas) M.W. Chase & N.H. Williams, Lindleyana 21(3): 24. 2008. TYPE: Peru. Piura: near Huancabamba, ca. 2600 m, B. Wurstle s.n. BGH Nr. 0-18778 (holotype, HEID).

Odontoglossum roseum Lindl. in G.Benth., Pl. Hartweg.: 151. 1845. *Cochlioda rosea* (Lindl.) Benth. & Hook. f., Notes on Orchideae, J. Linn. Soc. 18: 327. 1881. *Mesospinidium roseum* (Lindl.) Rchb. f., Gard. Chron. 12: 392. 1872. *Oncidium roseoides* M.W. Chase and N.H. Williams, Lindleyana 21(3): 26. 2008. TYPE: Ecuador. Loja: Quebradas de Las Juntas, T. Hartweg 57 (holotype, K-L).

Odontoglossum tigroides C.Schweinf. Amer. Orchid Soc. Bull. 14: 22, Fig. 167. 1945. *Solenidiopsis tigroides* (C. Schweinf.) Senghas, Orchidee (Hamburg) 37(6): 274. 1986. *Oncidium tigroides* (C. Schweinf.) M.W. Chase & N.H. Williams, Lindleyana 21(3): 27. 2008. TYPE: Peru. Huánuco: Yanano, about 2000 m, May 1923, Macbride 3840 (holotype, AMES, isotype, AMES). *Solenidiopsis rhombicalla* D.E. Benn. & Christenson, Brittonia, 46(1): 44. 1994. *Oncidium rhombicallum* (D.E. Benn. & Christenson) M.W. Chase & N.H. Williams, Lindleyana 21(3): 26. 2008. TYPE: Peru. Amazonas: Bongara, km 358 along road from Olmos to Jumbilla, 1450 m, July 1965, D.E. Bennett et al. 2066 (holotype, AMES; isotype, AMES).

Odontoglossum vulcanicum (Rchb.f.) Dalström. *Mesospinidium vulcanicum* Rchb.f., Gard. Chron. 12: 393. 1872. *Cochlioda vulcanica* (Rchb.f.) Benth. & Hook.f., J. Linn. Soc. 18: 327. 1881. *Oncidium vulcanicum* (Rchb.f.) M.W.Chase & N.H.Williams, Lindleyana 21(3): 27. 2008. TYPE: Ecuador. Tungurahua: R. Spruce 6243 (holotype, W; isotype, K-L, K).

Excluded species (*nomen nudum*):

Cochlioda chasei D.E. Benn. & Christenson, Brittonia 46: 26 (1994). *Oncidium chasei* (D.E. Benn. and Christenson) M.W. Chase and N.H. Williams, Lindleyana 21(3): 22. 2008. TYPE: Peru. Amazonas: Bóngara, reportedly from Rio Nieva above 1700 m, 20 Nov. 1987, M. Arias ex D. Bennett & M. Chase 4080 (holotype, USM in original publication, but no type exists there!).

This appears to be a confused concept based on a drawing of *Odontoglossum tigroides* and a lost "*Cochlioda*" specimen. According to Bennett (pers. comm.) no dried specimen was ever made. According to Chase (pers.

comm.), no living material was ever introduced to horticulture by him. According to Christenson (pers. comm.), the type specimen was actually deposited at MOL, Lima, but no such dried or alcohol preserved specimen exists there either (Trujillo pers. comm., and pers. obs.). See Dalström (2001) for further discussion.

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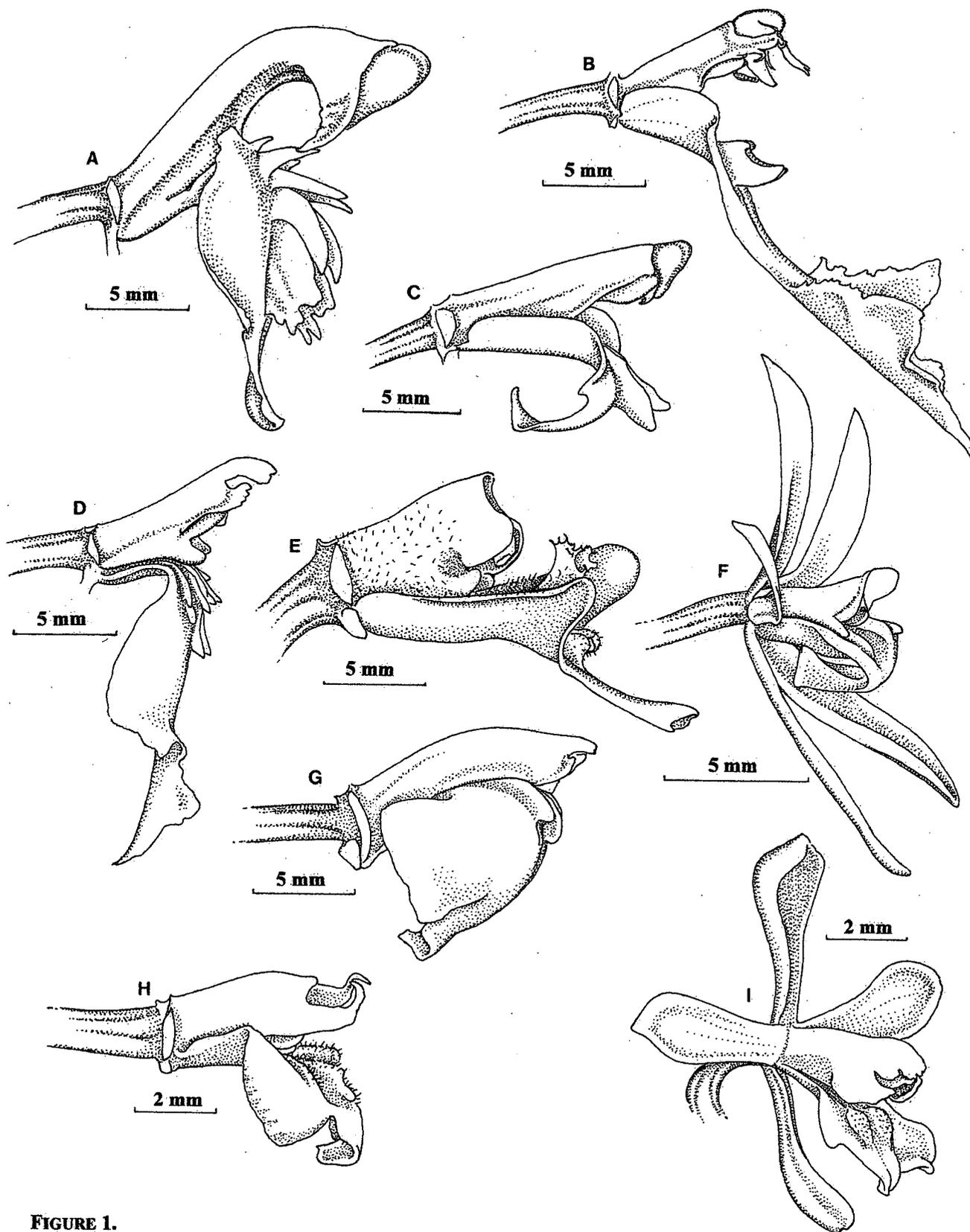


FIGURE 1.

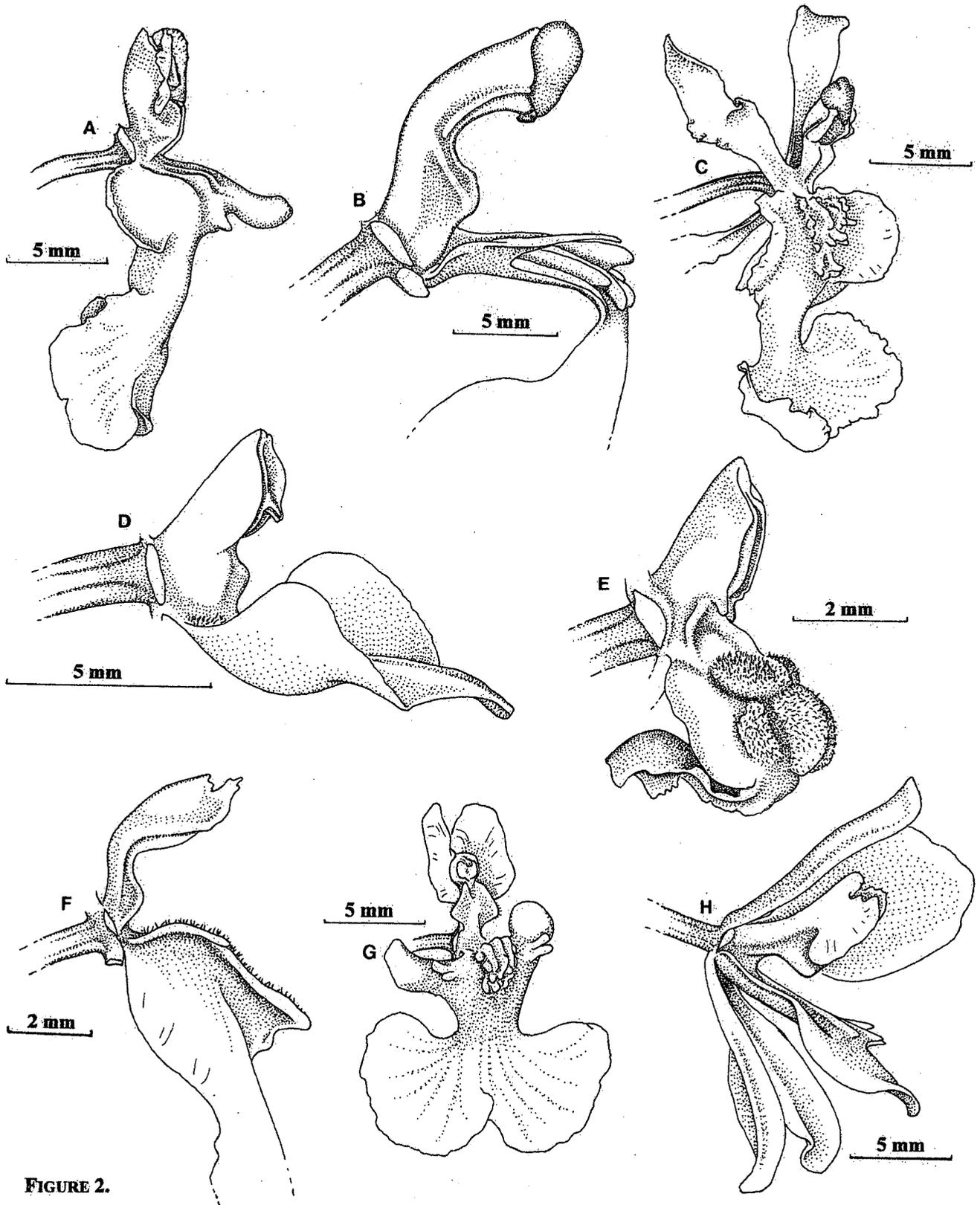


FIGURE 2.

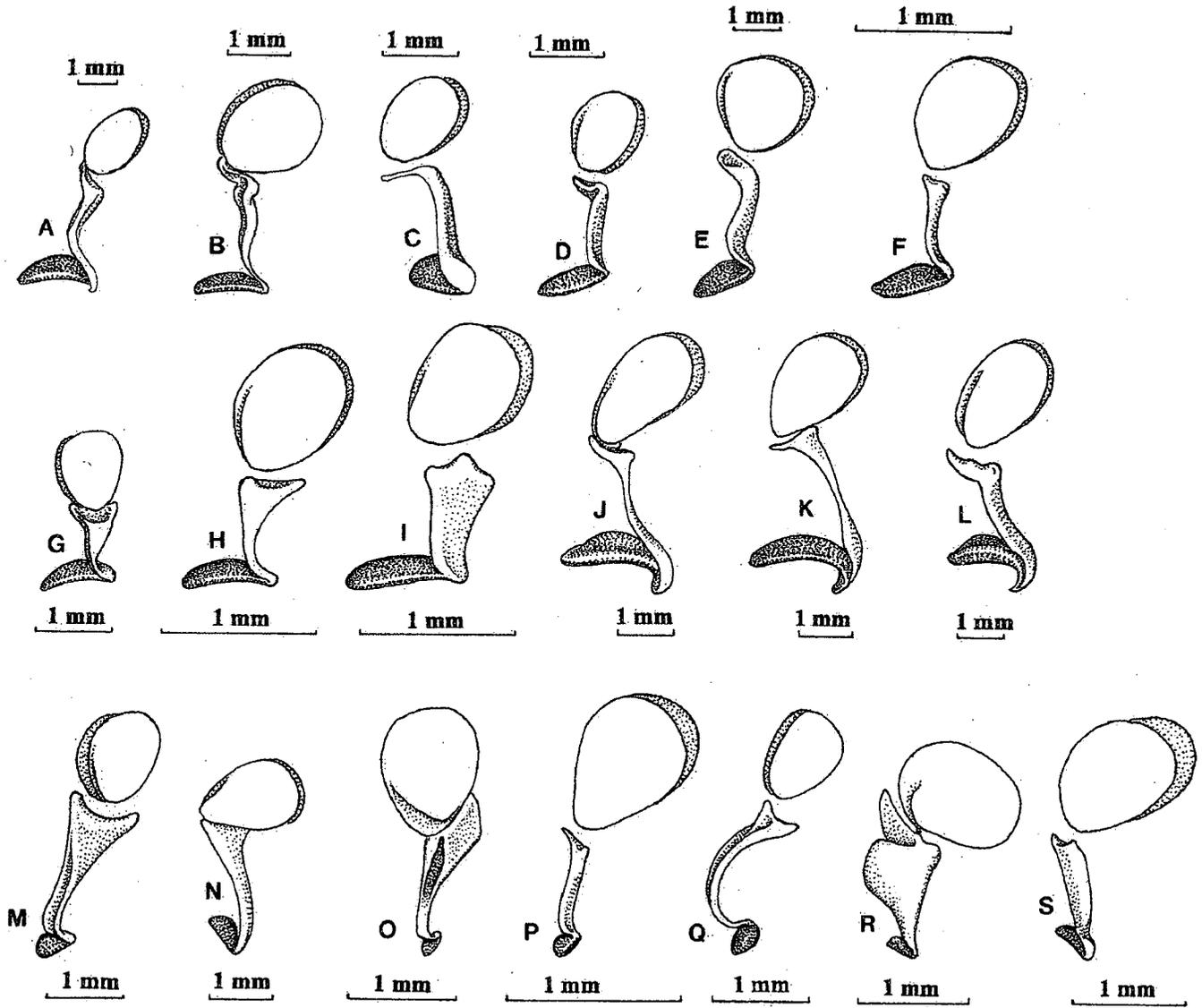


FIGURE 3.

ORCHIDS DON'T NEED PASSPORTS

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Sometime between 1863 and 1865, a beautiful orchid with white spidery flowers was discovered in the mountains of northeastern Colombia. It grew epiphytically on "moss covered stems of Melastomaceous trees" (Veitch, 1887). The lucky discoverer, a Mr. Blunt, was sent to South America on a plant collecting trip for the British orchid firm Messrs. Low & Co. Unfortunately, none of the plants he shipped back arrived alive. Subsequent collections by others rendered the same fate. Not until when a few plants from a miscellaneous shipment, sold at Mr. Stevens' Rooms to the Royal Horticultural Society and flowered in the greenhouses at Chiswick in 1871, did this challenging species reveal its true beauty in a living state. Reichenbach described it in *Gardener's Chronicle*, page 1342, 1870, as *Odontoglossum blandum* Rchb.f., based on a dried specimen. The specific name refers to the charming qualities of the plant. Reichenbach also condemned the reckless method of collecting masses of desirable orchids and letting them die along the way rather than selecting some fifty plants of a good species and take good care of them to ensure their survival in the transport. Later correspondence from Mr. Kalbreyer to James Veitch & Sons orchid nursery indicated that *Odm. blandum* rapidly disappeared from the original location on Alto de Camerone, an offspring of the Eastern Cordillera near the city of Ocaña (Veitch, 1887), because of the senseless plant pillaging.

Apparently, this species has been rare in cultivation ever since its original discovery. The reason for this may be that it is a naturally rare plant, perhaps combined with some difficulty to keep it alive for any length of time. It is, however, by no means extinct in the wild. Plants are still found in northeastern Colombia (Bockemühl, 1989), and recent collections show that this species is distributed throughout the Andes to southern Peru. Vargas collected it in the Cuzco area in 1964, and David Bennett found a plant near Oxapampa in central Peru in 1967, where it still exists. Plants began to appear in Ecuador about ten years later, and this species is currently known from the Cordillera del Condor in the south and the forests above Chiguinda in central Ecuador. That still leaves a big leap from northeastern Colombia to central Ecuador though, and Bockemühl raised some question marks about relationships in her treatment of the genus (page 127, 1989).

In 2001, during a plunge into the confusing Reichenbach orchid herbarium at the Museum of Natural History in Vienna, I discovered an undetermined *Odontoglossum* specimen that peaked my curiosity. It was collected in 1880 by Consul Lehmann, from the mountains near Sebundoy in southeastern Colombia, at an elevation of 2000 m (6000 feet). After a closer examination it turned out to be *Odontoglossum blandum*. This missing link in the chain of distribution was anticipated simply because it fits the general pattern of how *Odontoglossum* species and other related orchids occur. We tend to use the word "endemic" too liberally when in fact we only know too little.

Plants of *Odm. blandum* seem to be naturally rare, however, perhaps because we look in the wrong place, but they also tend to grow high up in the trees, well out of sight and reach for the regular orchid enthusiast. Without flowers the plant looks like any other Oncidiinae of intermediate size, and even in full bloom it can be hard to detect due the moderate size and the spidery appearance of the flowers. Unfortunately, many localities for *Odm.*

blandum are rapidly being deforested and it is probably safe to claim that *Odm blandum* is endangered, not due to over collecting but to habitat destruction. What is described for *Odm. blandum* can also be said for many other *Odontoglossum* species.

*

The first time I laid eyes on *Odontoglossum helgae* Königer, was in 1984 while visiting my friend Mario Portilla at his work, maintaining the orchid collection at Hostería Uzhpud near Gualaceo in Ecuador. I immediately recognized the orchid as something new to science. The flowers were similar to *Odontoglossum harryanum* Rchb.f., but yet quite different, primarily in the column structure. I asked Mario if I could buy the plant, but he told me that it did not belong to him and was part of the collection there. He did allow me to take some pictures though and also to preserve a few flowers in alcohol, so at least I had a specimen to study. Theoretically, I could have described it based on that material but I felt uncomfortable knowing nothing about its natural habitat etc. Mario apparently found the plant during a trip to the Cordillera de Cutucu, a lower mountain range that runs parallel on the eastern side of the main Andean cordillera. This area is controlled and protected by some pretty hostile Shuar tribes (pers. experience), which makes it rather iffy to venture around without the proper permits. In any case, the plant had supposedly been collected somewhere near the summit, which would be around 1800-2000 meters elevation.

For many years I thought about this species while working with the genus *Odontoglossum*, gathering material and information for a future scientific treatment. It felt annoying somehow, not having seen this species in the wild, and not knowing much about it other than what Mario had told me. Finally, I decided to make a second attempt to buy Mario's plant, no matter what. I had an opportunity to visit Hostería Uzhpud again a couple of years later. Mario was still working there so I asked him about the *Odontoglossum* plant he showed me a while ago. Sadly, the plant was not there anymore. It had probably died, he said. What a disappointment!

In 1997, Königer described *Odontoglossum helgae*, based on a plant collected in the Pichincha region, on the western slopes of the Ecuadorean Andes. I immediately recognized the species as being the same as Mario's lost plant. We now had a name for this pretty species. Unfortunately, it seemed that only one plant existed in cultivation and knowing that odontoglossums are notoriously self-sterile, it did not look promising that plants eventually would become available in cultivation. This was the last scrap of information about this species for years to come.

Recently, however, I had the opportunity to visit an orchid rich area in northern Peru together with some *Odontoglossum* loving friends. One day we passed through the town of El Progreso, famous for being the place where the type specimen of *Phragmipedium kovachii* was found. This area is incredibly rich in orchids and local people have developed small businesses selling locally collected plants to both tourists and domestic plant nurseries. After the famous *kovachii* brouhaha in 2002, Peruvian plant authorities are nowadays encouraging the local growers to register their collections in order to be able to sell artificially propagated plants legally. That is how I encountered a flowering plant of *Odm. helgae* for the second time in my life. Once again, I immediately recognized it because of its erect and straight column that points at you like an accusing finger. The owner of the *Odm. helgae* plant told us where he had collected it. It grew not far from where we were standing, at about 1800 meters elevation.

Concerning the habitat and distribution of this species, it now seems quite possible that the first plant really was collected in the Cutucu mountains since the distance to the Peruvian site is not that great, and the habitat as well as the altitude seem very similar.

*

The first examined evidence of *Odontoglossum deburghgraeveanum* Dalström & G. Merino were two aged color slides. One slide is from the Lee Kuhn collection labeled “*Odm. wyattianum?*” and is probably from a plant that once flowered at J & L Orchids in Connecticut. The other slide is of unknown origin, possibly from Gilberto Escobar’s extensive slide collection, and was processed in August 1973. Salesian missionary Father Andretta apparently later collected some additional plants of this species near the little town of Guarumales, Ecuador, in 1992. This environment has since been completely deforested according to Gerhard Vierling who visited the area recently. In August of 2000, however, plants of this species were in bloom at Ecuagenera’s nursery in Gualaceo, where they were offered for sale, marketed as “*Odm. helgae*”.

Odontoglossum deburghgraeveanum may also have been collected on few occasions in southern Ecuador, near the Peruvian border where the closely related *Odm. harryanum* and *Odm. velleum* Rchb.f., are sympatric. The possibility of *Odm. deburghgraeveanum* being a natural hybrid has been considered but the morphological differences between the three species suggest that a hybrid origin is not likely.

Since the forests in southern Ecuador also disappear rapidly, together with their scarce counterparts in northern Peru, it was most encouraging to learn about a new locality for *Odm. deburghgraeveanum*, this time far to the south and in a much safer environment. During a visit at the Machu Picchu sanctuary in April of 2011, while filming a “Wild Orchid Man” chapter (generously sponsored by José Koechlin, owner of the Inkaterra hotel in Aguas Calientes), a couple of color images of *Odm. deburghgraeveanum* appeared while going through a photo collection of plants from the area. The photos were all taken by Carmen Soto, the chief biologist of the Inkaterra Foundation. Carmen was also able to locate the actual plant in the garden, which really is a great natural orchid conservatory well worth visiting.

This demonstrates once again how spotty but extended *Odontoglossum* distributions can be. Another example is *Odm. praestans* Rchb.f. & Warsc., known from central Ecuador all the way down to central Bolivia. The flowers of this species are rather small in Ecuador, and much larger and fuller in Peru, whereas in Bolivia they tend to be slightly smaller again. At Inkaterra plants grow vigorously and luxuriously near the swimmingpool. A great evidence that people and orchids can co-exist, even in the tropics.

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- Veitch, J and Sons. 1887. *A manual of orchidaceous plants*, vol. 2, *Odontoglossum*. Royal Exotic Nursery, 544 King’s Road, Chelsea, UK.

LIST OF PHOTOS:

- A: *Odontoglossum blandum*, Colombia; photo: Gilberto Escobar
 B: *Odontoglossum blandum*, south Peru; photo: Stig Dalström
 C: *Odontoglossum blandum*, Oxapampa, Peru; photo: Stig Dalström
 D: *Odontoglossum blandum*, Chiguinda, Ecuador; photo: Stig Dalström
 E: *Odontoglossum helgae*, Peru; photo: Stig Dalström
 F: *Odontoglossum deburghgraeveanum*, Guarumales, Ecuador; photo: Stig Dalström

G: *Odontoglossum deburghgraeveanum*, Cusco, Peru; photo: Carmen Soto

H: *Odontoglossum praestans*, Ecuador; photo: Stig Dalström

I: *Odontoglossum praestans*, Cusco; photo: Stig Dalström

J: Deforestation, Peru; photo: Stig Dalström



A. Odm Blandum Colombia

B. Odm blandum Peru South



C-Odm blandum Peru

D-Odm blandum Peru



E. *Odontoglossum helgae* Peru



F. *Odontoglossum deburghgrveanum*
Gurumales, Ecuador



G. *Odontoglossum deburghgraveanum* Cusco Peru



H Odm praestans Ecuador



J Odm praestans Peru



K deforestation Ecuador

Doggy Bark – Goodbye!

by Robert Hamilton

My first experience with tree bark began as a curious circumstance. It had nothing to do with orchids. In the early 1960's, while in high school, I came up with a scheme to make money by extracting an alkaloid purported to be an aphrodisiac, from bark. I was aptly described as a science nerd. This meant I was an outsider from the jocks and cheer leaders, most of whom were kids from the wealthier families of Berkeley. High-schoolers easily fall prey to myth. Yohembine hydrochloride is an alkaloid found in the bark Indian Snakeroot, *Pausinystalia yohimbe*. I decided to extract "yohembine" as an aphrodisiac. My source for this bark was a firm in San Francisco called Nature's Herbs. It should come as no surprise that this alkaloid, touted as the elixir of love, proved useless. Except for a reputation, I made little money from this endeavor.

In 1975 I began cultivating orchids. By that time fir bark had replaced *Osmunda* as the preferred substrate for growing orchids. The best fir bark was Silvabark, a product of the Weyerhaeuser Corporation. Silvabark was trademarked circa 1962. The story circulates that this product was motivated because the wife of one of the Weyerhaeuser's grew orchids. The Weyerhaeuser Corporation developed and tested Silvabark specifically for orchid growing.

Silvabark was a terrific product, well graded for size and quality. My plants grew in it exceptional well. It was made from bark harvested from old-growth fir trees. Such bark is rich in tannins and terpenes, the organic compounds that give trees insect and rot resistance. Silvabark was heat treated and some speculate that this treatment polymerized the oils it contained in a similar way that boiling linseed and tung oils makes them hard furniture finishes. Silvabark had a long pot-life. Because of its uniform size it had excellent "air-filled porosity" or "free air space". Air-filled-porosity is a term used by soil scientists to describe interstitial air space in a substrate. For Silvabark it was predictable and consistent, batch-to-batch (about 50%).

Regrettably, Weyerhaeuser stopped manufacturing Silvabark about the time of the energy crisis of the 1970's. Wood scrap from lumber production became more valuable for use in the generation of electricity and co-generation of steam for lumber and pulp mills. Initially, subsequent replacement orchid bark products were decent; however, with time, with the loss of virtually all first-growth fir trees for the lumber industry meant orchid bark was being produced from second-growth trees. Such trees and hence their bark does not have the durability of the old-growth forest products.

The decay of fir bark results in several issues. Free air space is lost which chokes of air important for orchid roots. This decay also consumes considerable nitrogen robbing plants of this nutrient. Trying to compensate by raising feed rates worsens matters as this raises yet another substrate parameter, the salt index. The higher the salt index of a substrate, the lower the availability of water and nutrient transport for a plant.

My experience with fir-bark post-Silvabark era was initially ok. While bark from other resources was not up to the standards of Silvabark, it was good enough for decent orchid growing. An issue that cropped up was bark variability. It was difficult to find bark of consistent quality, year-to-year.

In an attempt to better understand bark my partner, John Leathers and I drove to Northern California, almost at the

Oregon border to visit a bark producer. I was seeking a supplier that would ship “less than a truckload” (LTL) figuring we’d find some other hobby growers and stock up. This supplier had several bags with different branding on hand. I asked, “what is the difference between these brands”. I learned all the bark from this supplier was the same. It was branded differently for various wholesalers so they had a unique label. Following this trip I continued to buy our bark from orchid suppliers in my local area.

In the 1990’s I switched to a product from Oregon. This product was popular and grew initially grew well; however, it proved to be inconsistent in quality. After moving into a large greenhouse on the California coast our bark needs increased. We still relied on orchid suppliers for bark and I noticed my plants were looking worse and worse. I lost a good amount of faith in my growing skills during this period.

Given a working career, managing a large hobby greenhouse (3000 sq. ft.) is daunting. A task I dread is the annual application of shading compound. Besides making a mess, shading requires climbing up a ladder with a 5 gallon, 40 lb. backpack sprayer, shifting from a ladder to the roof of the head-house, then “walking the gutter” while spraying shading. For a few years our landlady rented out space in back of the greenhouse to a bee keeper and their flight-path was the gutter. I got stung more than once shading the greenhouse down. Eventually, I learned to “smoke” the bees.

Two years ago, after stepping out on the roof I took a few minutes to survey the perimeter of the greenhouse and get a look at the Pacific Ocean from this vantage. Looking down at the parking area I noticed the area where we had been tossing our old potting mix, which consisted of spent bark and perlite, was sterile, devoid of weeds. Given the amount of time I spend hoeing weeds this caught me as unusual. I used my camera to take a shot for documentation.

About this same time Tom Perlite of Golden Gate Orchids was testing a new bark product from New Zealand sold under the name Orchiaata:

<http://besgrow.com/about/companies>

I had heard good things about this product from friends in Australia and New Zealand. We decided to purchase a pallet of bark from Tom. The bark came as a mixed lot with bags of both fine (#9) and medium (#5, aka “Power”). Orchiaata is made from 100% New Zealand Pinus radiata bark, a renewable product derived from tree farms. Orchiaata advertises their bark goes through a special process which creates. “a renewable high quality, stable, long lasting, toxin free, consistent growing substrate”.

They further claim their bark supports helpful organisms and suppresses pathogens. I have found it a harder, denser bark than fir bark and it wets, nicely.

I decided to make a 100% switch to Orchiaata. This year I have finally completed this task. All of my plants are in Orchiaata bark and to say that I am pleased with their growing is an understatement! I would go so far as to say ecstatic. Orchiaata is performing superbly and two of my colleagues who were skeptical at first have now switched to Orchiaata bark. I have tried it straight, mixed with “red lava rock”, a rock from a local landscaping supply and with a bark, lava, charcoal blend. When supplementing bark with another material such as rock one has to use care to select a material with the same size so one does not fill up the “open space” of the mix. For this last year’s potting I have added a cup of oyster shell flour, a product sold to the poultry industry. This is a trick I learned from Jerry Rodder, a superb local grower and the patent holder for “Jerry’s Grow” fertilizer. A visit to Jerry’s greenhouse where he has “with” and “without” oyster is pretty convincing.

So far the bark has lasted two years with no signs of decay. Root growth is phenomenal. I have stopped using the #9 fine bark for mature plants and am using only the #5, Power. The pure bark mix and the bark with lava rock (of

about the same size) both grow well. The lava adds weight to the pots which is useful in keeping pots from getting tipped when watering. Adding about a cup of oyster remains an experiment but appears to be beneficial. The concept is oyster shell, which is virtually pure calcium carbonate, acts as a pH buffer helping to maintain the substrate at a constant pH. I have nixed using any charcoal whatsoever as it seems to offer no benefits. It has inconsistent size and is nasty stuff to work with. (Note: Andy Easton recommends gypsum for the same purpose and has found it superior to oyster.)

After my change to orchiatia I have seen an immediate improvement in my collection. Leaf color has improved to a dark, verdant green. This also holds true for the masdevallias John Leathers grows in the same greenhouse after he moved them into Orchiatia. Prior to Orchiatia his coccinea's had become alarmingly chlorotic in the fir bark we were using. My odont bulbs are fat and turgid. Their roots are the best I have ever seen them in my 30 years of growing. John and I are sold on Orchiatia. Using it also pays off in the reduced need to repot saving time and material - well worth the extra cost of this media.

Adding a bit of speculation, why the dead zone in front of my greenhouse? It has been two years since I stopped spreading old fir bark mix in that area yet that it remains mostly sterile. I know that herbicides are sometimes used as defoliants and desiccants prior to lumber harvest. One product is called "Firestorm" which seems an apt name. Could herbicide contamination play a role in this issue? The analytic tool of chromatography can easily test this possibility. Do anyone readers have access to one?

Before panicking let me add, I know of one commercial paph nursery that has excellent luck with the same domestic fir bark I previously used. I also know they thoroughly wash, settle out residue and discard a good amount of their bark, keeping only the bark that floats. Such losses and the time they spend would make that bark more far more costly to me. They also frequently repot, often more than once a year, as they move their plants through their production cycle.

I'll close by stating I am sold and a zealous proselyte for Orchiatia bark. I've recently become aware there's another importer of New Zealand Pinus radiata bark. It is sold by a different supplier. I have no experience with this product. I do know it is not prepared in the same manner as Orchiatia. Caveat Emptor!

I wholly endorse Orchiatia bark. Given its long pot life and clean, uniform character, right out of the bag, you won't go wrong!

Comments on the Orchid Bark Experience

Two years ago I was dealing with soft scale. I had it in the greenhouse for several years. I tried all the recommended treatments. I would seem to get rid of it, but when the summer months of high temperatures and humidity arrived it would bloom. Repeated treatments resulted in apparently being clean. But not too long after it would appear again. I read about Safari, which had the reputation of taking care of scale. I obtained some and it has cleaned out my greenhouse of scale. What has this to do with orchid bark? About the same time two years ago my odonts were not doing well at all. They were not growing vigorous roots. My collection of Cattleyas stopped putting out roots and for over a year did not produce new growths. Then at the same time I used Safari to kill the scale I switched to the Orchiatia bark. I was in San Francisco and Bob Hamilton showed me the bark. He also showed me where he had dumped the old bark outside where it killed all the grass and weeds. I switched over. Shortly thereafter things started growing again. I am so pleased with results. I had fine flowers on the odonts this year and now all the Cattleyas are vigorously growing.

John Miller

Odontoglossum Alliance Meeting for 2012 to be held in Portland, Oregon

The 2012 meeting of the Odontoglossum Alliance meeting will be held in Portland Oregon November 13-18, 2012. The meeting is hosted by the Portland Oregon Orchid Society. The AOS Trustees will hold their meeting there at the same time. The meetings will be held at the Double Tree by Hilton Hotel at 1000 NE Multnomah Street, Portland Oregon. Their phone numbers are Tel 1-503-281-611 and Fax 1-503-284-8553. The hotel web site is www.doubletree.com.

The web site for the show is www.portlandorchidsociety.org.

The show chairman is Susan Heuer, susanheuer1@gmail.com. Jim Rassmann (rassmann541@msn.com) and Tom Etheridge (Tomandluanne@rollryridge.com) are our representatives on site for organizing the Odontoglossum Alliance event. The website for the Portland Orchid Society Show and AOS Trustees meeting is www.portlandorchidsociety.org.

The Odontoglossum Alliance event will be held on Friday 16 November 2012. There will be an afternoon meeting in the hotel with several short talks. The speaker's platform has not yet been finally settled. Jim McCully of McCully Orchids in Hawaii and Juan Felipe Posada of Colomborquideas, Medellin, Colombia will each be giving talks. It is planned that there will be two more speakers for the afternoon. In the evening there will be a cocktails and dinner get together followed by our usual auction of fine Alliance plant material and other memorabilia.

The Pluerothalid Alliance has been invited to join us for the evening dinner. Should they decide to join us it is hoped that they will hold their talks in the morning session. This will allow both talks to be attended by members of both alliances.

The Odontoglossum Alliance will be entering a display of Odontoglossum Alliance material. This display will be supported by our members. Anyone who would like to contribute to supporting this display with plant material should contact either Jim Rassmann or Tom Etheridge. Steve Beckendorf, our OA President, will be coordinating this activity with the local San Francisco members.

The Portland Orchid Society is planning to have a booth for the US Fish and Wild Life Department where they will be in attendance to issue CITES certificates to enable members to ship plant material outside of the US borders. In addition the Federal Express will also have a booth where they can take your shipment to be sent either within or outside the US. The show organization is going to great lengths to make it a pleasant and cooperative time, with amenities to make it a welcome meeting accommodating all the usual hurdles of moving plant material in and out of the US.

The Double Tree hotel web site is www.doubletree.com. To travel from the airport to the hotel is a train ride. The train goes from the airport to the hotel and is about a 30 minute ride with a cost of \$2.40/person.

So put this notice on your calendar and plan to attend. Future newsletters will add more details to this meeting announcement in the May, August and November newsletters.

Dues Notice

I am enclosing with this newsletter the dues notice for those of you whose dues expire with the newsletter. I have put a label on the notice showing your mailing address. Please see that this is correct.

The dues are \$15.00 per year and you can pay for 2 years (\$30.00). Please send a check collectable on a US bank. I am sorry, but I cannot accept credit cards. Please mail in your dues promptly. They are due to me before the August newsletter. I have also enclosed a return envelope for your use.

IF YOU DO NOT HAVE A DUES NOTICE IN YOUR NEWSLETTER MAILING, YOU ARE PAID UP.

Odontoglossum Alliance Replates Available

I made a few Odontoglossum Alliance crosses and the replates are now or shortly will be ready. I have all the replates that I want or can use and there are some left. The following crosses are surplus to my needs:

C-346 Odm. trilobium x Oda. Trish 8 replates

C-349 Odm Tribbles x Oda Trish 5 replates

C-354 Oda. Prince Vultan x Odm. Tribbles 4 replates

If any of our members want one or more of these replates they can have them under the following conditions

First Come First Served

Let me know what you want and I will have Gallup & Stribling ship them to you.

Gallup and Stribling will bill you for the replates and the shipping.

You can notify me of your wishes via e mail: jemiller49@aol.com

John E. Miller

THIS AND THAT

Andy Easton

I had decided to stop writing for the OA Newsletter because I seem to have failed to stimulate the discussion I had anticipated and indeed expected..... Surely some of you knowledgeable types will disagree with my comments. Maybe a few of you will agree but for heaven's sake, write something, say something and let's stimulate some discussion and learn from the exchange! John's earnest plea for some copy softened my stance.

Oda. Bellozanne 'Hawk Hill'

Registered by the EYOF in 1995, this is a fertile parent and a classically marked Odontioda. For many of us the mere name Odontioda conjures up a mental image of a flower similar to this irresistibly beautiful specimen. The plant is blooming here in Pacifica in Bob Hamilton's collection. My question is: what will we breed with this beauty to advance the type?

Oda. Vuystekeae (diploid)

This tiny grape-sized blooming bulb of a diploid remake of the classic 1904 registration from Vuylsteke is all that an Odontioda should be. The primary from Cda. noezliana X Odm. pescatoreii (nobile) has it all. Shape, color and floriferousness in one package. I find it interesting that there were only 47 primary Vuylstekeae hybrids to date and it traces forward in just over 650 breeding lines. Maybe a bias against Vuylsteke by Charlesworths? I am sure Bob Hamilton has exciting plans for this baby and look forward to vigor and flamboyance in new lines from old blood!

Oda. Castle de Noez 4n

This is a typically puckish Hamilton name (I am still smiling at Oda Fido that he named and I recklessly bred with!) for a very vigorous plant that is just itching to be hybridized with. What more does a breeder want? Pretty patterned flowers, lots of them on a branched spike and excellent

plant vigor. You know, I suspect Bob would even be happy to pay the postage and send some pollen to anyone who has the gumption to actually use this modern classic.

Oda. Bradshawiae 4n

The other great Oda. Bred by Charlesworth in 1907 from Cda. noezliana X Odm. crispum, in its tetraploid iteration. This parent is credited with 75 first generation offspring and more than 3,200 down the last eleven decades. I have several as do many of Bob's friends and they grow well and seem to be in

bloom very frequently. I have a particular fetish for Vuylstekearas so I keep trying Oda Bradshawiae 4n with various Miltoniopsis and have little success to report but for sure I will keep trying.

Odm. Splendidum (diploid)

Another 1907 hybrid between Odm. Ardentissimum and Odm. pescatoreii (nobile) but registered by Sanders of St. Albans. Here we see essentially 75% of pescatoreii and 25% of crispum and amazingly the plant was never awarded and has only 17 total offspring. One would have thought the line could have been taken in several promising directions. Maybe the English were besotted with their poor-growing but shapely Odm. crispum types?

Odm. pescatoreii (nobile) 4n

How could you not be impressed with this flower? It came off a husky plant too, something absolutely superb in all parameters. As we bloom out more and more of Bob's Prince Vultan crossing in both diploid and tetraploid forms, it is obvious that the potential of Odm. pescatoreii is still largely unexplored. Things like Oda. Shelley showed the way and now in a delightful completion of the circle, Keith Andrew has crossed his diploid Prince Vultan with Odm Devossiana. Roll on the next generation from a master.

Vuyls. Cambria 'Plush'

One of the greatest trigeneric hybrids ever made, this old-timer is far from done in breeding. I am appalled that the 4n selections resulting from

mutations in the cloning process have now become essentially extinct. We struggle with poor quality water in the Salinas greenhouses but at least we have kept the plant alive! Pictured here, with the diploid and showing the leaves marked by poor quality, it is a plant of considerable value still. We have been using Cambria 'Plush' (diploid) with some selected hexaploids and so far the results seem very vigorous. Let's hope the flowers are not an embarrassment. The tetraploid form has already produced some fine things in Tom Perlite's crossing with Oda. Esteemed and we look forward to many new horizons in the type.

Finally I want to pay a grateful acknowledgement to Alex Maximiano of OrchidWiz. Without his invaluable program we might have lost track of our beloved *Odontoglossum* Alliance. Fear not! He has all the old records and the day will come when all this *Oncidium* nonsense is left far behind and Vuylstekearas will again rule.



Oda. Bellozane 'Hawk Hill'



Oda. Vuylstekeae (Diploid)



Oda. Castle de Noez 4n



Odm pescatorii (noble) 4n



Oda. Bradshawiae 4n



Odm. Splendidum (diploid)



Vuyls. Cambria 'Plush' 2n-4n

Andy Easton's Questions

Andy Easton is one of our Odontoglossum Alliance most prolific and challenging contributors to our quarterly newsletter. He poses this time 7 questions and asks all our members to think carefully about them and please respond with your answers for our August newsletter.

For myself I have used Oda. Prince Vultan in two crosses that are now in replate flasks and by the time you get this newsletter they will be in community pots. I am anxious to see the results of this attempt of Oda. Tribbles x Prince Vultan and Oda. Prince Vultan x Tribbles. Here will be some evidence of using one of the very old hybrids, Oda. Prince Vultan crossed on to a very recent Odm. Tribbles.

Even if you are not making crosses your suggestions as to hybrid direction would be useful and encouraging. I urge you to write in to the Odontoglossum Alliance with your response. You can mail it in or email. Email to: jemiler@aol.com. You can mail it to:

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