Gladiolus of Southern Italy

Angelo Porcelli

Angelo Porcelli lives in Apulia, in southern Italy, USDA zone 9b. His main interest is in geophytes suitable for this typical Mediterranean climate. Over the years he has gathered a wide collection of most of the Italian geophytes, several of which are little known, visiting many of them in their native habitat. He also grows South African species from the same Mediterranean climate, as well as subtropical amaryllids of the genus Crinum and Hippeastrum. He has a good collection of Amaryllis bella-donna hybrids and Brunsvigia, with a number of his own hybrids.

When he isn’t enjoying his local flora, Angelo works as an engineer for a company operating in the renewable energy field. —Ed.

I have written this to help people understand and recognize the differences between the species of European Gladiolus most commonly cultivated and seen in their natural habitat. All my considerations are based on Flora d’ Italia (1982) by Prof. S. Pignatti, which is the reference on Italian flora used in all universities in Italy. We are awaiting a new edition of this work, which is close to publication.

You might not know that in Italy there are eight of the so-called Eurasian Gladiolus species, which are rather similar in appearance, all having a more or less pink-magenta color.

Without close observation of some details it’s easy to confuse them. In southern Italy there are five species: G. italicus (which is present throughout Italy), G. byzantinus, G. communis, G. dubius, and G. inarimensis. All the taxonomic keys are based on features that are often very difficult to check, for

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California Adventures: In Search of Bulbs with a View

Nhu Nguyen

Nhu is a mycologist who also loves plants and combines that passion with travel and photography. He is a graduate student at UC Berkeley and is also a painter. View his work on the Web at www.flickr.com/photos/xerantheum.—Ed.

When I tell people that I live on top of a hill, they immediately ask, “Do you have a view?” My answer is “no” because the top of this particular hill is flat and any vista is blocked out by tall trees. I would love to live in a place where there is a view; everyone loves a view. Since I can’t get a decent prospect at home, I seek out places where there are spectacular panoramas. Because places with views tend to be elevated on a slope or on top of rocky outcrops, they are the perfect habitat for many bulbs. Thus, traversing the flora-rich state of California is one of the best options to simultaneously see breathtaking views and remarkable geophytes.

The journey starts in southern California as soon as spring arrives. Anza-Borrego Desert State Park is a marvelous place for many wildflowers, and without a doubt the most awesome bulb in the park is the Desert Lily, *Hesperocallis undulata*. These lilies produce large white flowers, with a grayish-green stripe on the back of each tepal. The inflorescence perches above several wonderfully thick, undulate gray leaves. As a bonus, the flowers produce a lovely fragrance in the evening.

In their native habitat, some bulbs perch high above sandy clay hills overlooking the desert beyond the park. To see these flowers at their best, an early morning expedition is a must because soon after sunrise the flowers will close and bulbophiles will have to wait until dusk to see them open again. Once you have seen these flowers, you will never want to leave the desert. But if you must leave, drive northwest about five hours to Hwy 178, just east of Onyx, California, and at the edge of the Mojave Desert you will find rock outcrops with the southern California form of *Dichelostemma capitatum*. These widespread corms perch on high hills looking over tiny specks of Joshua trees (*Yucca brevifolia*) in the desert below.

Drive north, past San Francisco and into Point Reyes National Seashore and, en route to Limantour Beach on a sunny day after March 21, you will find amazing drifts of coastal *Iris douglasiana* gazing out upon a brilliant blue sea punctuated by the sheer cliffs of Drakes Beach beyond. This population of iris is rather variable and you can find flowers ranging from dark violet to almost white. I recommend bringing a warm jacket. If you visit on a windy day it will keep you warm while you view the irises.

If spring is still in the air, head east toward the Sierra Nevada foothills to a hiking trail called Hite Cove to see some fabulous wildflowers as you hike

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California Adventures: In Search of Bulbs with a View (cont’d)

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above a precipitous valley with the ice-cold Merced River below. Here you will find wedged in among the millions of spectacular California poppies thousands of lovely deep purple *Dichelostemma capitatum* and an occasional *Triteleia ixioides*. In shady spots, glossy leaves of *Calochortus albus* tease the bulbophile with anticipation of flowering, which won’t happen for another month and a half.

During the first week of May, Pinnacles National Monument in the Coast Range of northern California has very nice geophytes to offer. In rock outcrops, lovely purple *Allium fimbriatum var. fimbriatum* bloom en masse. These little flowers have the best view of the giant rocky crags most characteristic of the park. Other geophytes here include *Calochortus venustus*, *Triteleia lugens*, and *Zigadenus venenosus*, to name a few. During this time, hundreds of stalks of *Bloomeria crocea* are in bud, which tempts another trip later on in the season. I was not able to make the additional trip this year, but I am sure to try again next year. Look up into the sky and you may be fortunate enough to spot an endangered California condor.

A week later, make a trip to the top of Mt. Diablo in northern California. A good road leads to the summit, which measures 3,849 feet (1,173 m). This mountain resembles a volcano because of its rapid rise surrounded by somewhat flat land. It marks the southern limit of the natural range for some plant species and the northern limit for others. At the very top of the mountain, take the easy loop trail that goes around the summit and on the north-facing slope there is a beautiful red chert outcrop where a pink-tipped white variant of *Lewisia rediviva* lives. When in full bloom, these plants dot the summit with little white chalices. Here you will also find the 

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example, length of filaments compared to anthers, size and shape of seeds, shape of tunics of the corm. The observer can’t have all the keys present at the same time; that is, if you are checking length of filaments on a fresh flower, you can’t check the seeds at the same time. So for positive identification one needs to wait a whole year in order to check them all.

I will start with the lesser-known species and say just a few words about them.

_Gladiolus dubius_, as the specific name indicates, is in fact a doubtful species. The Kew List of Monocots reports a _Gladiolus × dubius_ Guss., Fl. Sicul. Prodr., Suppl.: 8 (1832) as a hybrid between _G. communis_ and _G. illyricus_. This is quite unlikely because _G. illyricus_ is found in Italy only in the foothills of the Eastern Alps in Friuli near the Slovenia border, while G. Gussone (1787–1866) described the species from samples collected in Sicily, which is more than 1,000 kilometers (about 621 miles) away. Apart from the geographic distance, Pignatti reports valid taxonomic keys, so while _G. illyricus_ is a valid species, the _G. dubius_ described by Gussone could even be an ecotype of _G. communis/byzantinus_ or an aberrant form, as well as a genuine species. I haven't found it in habitat so far and I don’t have any material, so I can’t compare it and make any conclusions.

Another lesser-known species, _Gladiolus inarimensis_, is endemic to Sardinia and some small islands in the Thyrrenian Sea (Ischia, Capri, Pianosa). Although Kew lists it as synonymous with _G. italicus_, there are at least two taxonomic keys that separate these species, one of them being seeds that are not winged. Because of the narrow habitat, it’s quite possible it has never been introduced into cultivation. I have wild-collected samples still to check, so I will skip further consideration of this species.

Our main discussion concerns the great confusion that exists around _Gladiolus byzantinus_ and _G. communis_. As these species are rather showy, they have been in cultivation for a long time in Europe and worldwide, but not by the Italians, who often ignore their presence as elements of our native flora. It’s quite amusing and sad at the same time to hear the comments of people who think they are exotic flowers. Even more curious are the many stories I read about them from abroad, with gardeners speaking of tall or short plants, dark or pale pink, big or small flowers, and so on. The species names _byzantinus_ and _communis_ are often given as synonyms and you often see _G. byzantinus_ subsp. _communis_, _G. communis_ subsp. _byzantinus_, and _G. communis_ var. _byzantinus—a true nightmare!

In his _Flora d’Italia_ Prof. S. Pignatti treats them as separate species and, as he is a well-known “lumper,” I have always thought that if he mentions them as true separate species, he’s probably very sure of this. I have always tried to understand these confusing species, checking all material available, both from my collections in habitat and from commercial sources.

The first consideration is the difference between _Gladiolus italicus_ and _G. byzantinus/communis_. This is quite straightforward: observing the flowers makes it rather easy and looking at seeds and corms makes it absolutely certain. _G. italicus_ is the only species that doesn’t make winged seeds; they are like small pepper grains with three to four angles. Its flowers are easy to tell apart from those of the other two species as they have an “open” shape—the lateral tepals are oblong, narrow, and well spaced, not overlapping the upper tepal and the two lower ones. This species is highly bulbiferous—it increases by cormlets at an alarming rate and a single corm will turn into a clump in a few years. This is the reason why all vendors selling cheap _G. byzantinus_ are actually selling the more prolific _G. italicus_.

About the color there’s more to say. Many claim that _Gladiolus byzantinus_ is a rich dark purple, while _G. italicus_ is a pale, dull copy, but actually that isn’t so. I have seen some photos of _G. italicus_ that show really ugly forms, pale and small, almost deformed, and I wonder who introduced them into cultivation, seeing that in nature there are many nice, strong, colorful plants.

_Gladiolus italicus_ grows mainly in corn fields and it’s not known to grow wild naturally, being always connected with human presence. We speculate it came into Italy with seeds (durum wheat that we grow in Apulia) in ancient times, probably from the Middle East. It has a reproductive cycle shorter than wheat so it doesn’t resent the wheat harvesting and subsequent deep plowing of the soil, which actually helps it spread better. It is considered a pest in agriculture (“_Cyperaceae, Iridaceae_ and _Commelinaeaceae_ as weeds,” by M. Colasante, G. Corazzi, and R. Mortellaro, 5th International Conference, Ecology of Invasive Alien Plants, 13–16 October 1999, La Maddalena, Sardinia, Italy).

A white form is in cultivation, wandering around as a white _G. byzantinus_ that we should call _forma_ (continued to page six)
Identifying *Gladiolus italicus*, *communis*, and *byzantinus*

Angelo’s photos and notations indicate the differences between *Gladiolus italicus* (*alba* form), upper left, *G. communis*, upper right, and *G. byzantinus*, bottom. Note that *G. italicus* has median tepals that are narrow and do not overlap. *G. communis* has a hooded upper tepal, median tepals that are spoon-shaped, and lower tepals that are roughly equal in size. Finally, *G. byzantinus* has rhomboid median tepals, reflexed upper tepals, and lower tepals that are not equal in size (the central one is longer).
Gladiolus of Southern Italy (cont’d)

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alba, which would really be a gem if it existed. Although I find references in some Italian gardening literature, again as white byzantinus, it seems that no one has ever seen a white G. italicus and, to be honest, I have never found any, having seen thousands of plants in their native habitat.

More subtle is the difference between Gladiolus communis and G. byzantinus. Both species grow in southern Italy, the latter being subendemic. Their habitats are arid lawns, garigues (low open scrubland found in poor or dry soil in the Mediterranean region) and maquis (scrubland composed primarily of leathery, often aromatic broad-leaved evergreen shrubs or small trees). In spite of the specific name, G. communis is not at all common. I rate it as quite rare, difficult to meet if you don’t go to the right habitat. Both species don’t increase by cormlets and are solitary in habitat; it’s just in cultivation that they make offsets thanks to good soil and feedings. They both make a ring of very small cormlets at the base of the new corm, but they stay dormant and entangled in the older tunics unless the main corm is damaged or dug by rodents such as wild pigs, mice, or porcupines.

The flowers of both species are very similar, so close examination is required to tell them apart, but once you understand the key this will be easy. They have larger flowers than Gladiolus italicus and the plants are taller. G. italicus averages 20 to 23 inches (50–60 cm), while G. byzantinus and G. communis grow up to 40 inches (100 cm). The main way to tell them apart is by the shape and size of the three lower tepals. In G. communis they are more or less of the same length and width, while in G. byzantinus the central one is visibly longer and even wider. The upper central tepal is hooded in G. communis, but it points up in G. byzantinus. The median tepals have a “spoon” shape in the former and “rhombus” shape in the latter. Color is also a bit different. G. communis often has a slight two-tone effect on the lower tepals, but this is not a reliable feature, as many individuals are a solid color, while G. byzantinus is usually a dark rich purple. I see a strain or form called “cruentu” in the United States, but I am not aware of any reference or the origin of it and, in any case, it looks to me as just a true good form of byzantinus.

The other true difference is the seed shape and size. Both species have winged seeds, but Gladiolus byzantinus has large seeds of about 1 cm, while G. communis seeds are 3 to 5 mm. Plants of G. byzantinus have broader leaves and are usually more robust, while plants of G. communis are usually slimmer and taller, hence the common name of “greater gladiolus.”

I grow all these species in the same place and they have distinct and well-defined flowering times. Gladiolus italicus is the earliest (late March), followed by G. byzantinus (late April), and finally G. communis (late May, but mid-June in habitat, as I always find it at 1,600 feet, or 500 meters, and higher).

Even the corms have visible differences in fibers. Gladiolus italicus has a peculiar net on the tunics, especially on the top of the corm, and a rather light brown color. It’s especially easy to pick out even in a batch of corms of mixed species. The other two species are more similar, but G. communis has tunics with very close parallel veins, while G. byzantinus has tunics that dissolve at the apex with parallel but much wider veins and this is another valid key.

With the photos included you can’t confuse them anymore—I hope!
December is usually the best month to spend time in my garden room. I barely got all the little bulbs replanted by Thanksgiving—late but most are already showing green shoots. A few are even getting ready to bloom. It’s cold, rainy, or very windy many days in December and sometimes the clouds surround my hilltop and hide everything outside, but it’s pleasant in the garden room.

Every year I dig the Christmas village and lights out of the “Fibber McGee” closet in my back room and clear plants from two of my benches. I build a bit more of the village daily. Today, I got the light strings started up for the season. It’s beginning to look more like Santa’s workshop than a greenhouse!

As I replanted the dormant bulbs and sorted through the various containers last month, I found myself considering the source of the plants. I purchased some from vendors, grew some from seed, transplanted a few from wild areas on my own property, but most came from our BX. Thanks to those of you who have so generously shared your excess. Bulbs in my collection are endemic to South America, South Africa, the Mediterranean, and Mexico, and I even have some natives from my own state of California. Part of the enjoyment is reading about their original habitat. I focused on oxalis last year, so have many different varieties to enjoy. Several bloomed last spring and summer, and I expect the remainder to develop flowers this year. I had a sparse year for bloom last year, so was more careful to feed everything while they were in growth and again when I replanted those I stored.

The white camellia is gorgeous this year with its large, glowing blossoms. The Christmas cactus plants are coloring up nicely. Dichorisandra thyrsiflora (“Blue Ginger”) isn’t as full this year as last, but still has a few lovely blue flowers. I will be transplanting it into a ground bed with the camellias soon. I hope it won’t take over the bed! Last year the Veltheimia bracteata had only one tall bloom. This year there are at least four developing buds. Bomarea has pushed out blooms every few weeks since August, but seems to have finished for now. Three of the poinsettias from last year are growing tall and full.

Outside, I was overjoyed to find an Iris ‘Sugar Blues’ blooming the first week of November. It isn’t listed as a rebloomer, so I suspect it happened because of our over-abundance of rain and strangely cool summer. Irises are among my favorites. I have joined our local iris society and rarely come home from a meeting without a new one for my garden. There are still a few roses clinging to the plants. They seem even more vivid than when the bushes are full. The red and gold leaves have clung to the trees longer than usual. The native toyons (Heteromeles arbutifolia) are in full array across all the hillsides and along the roads. Coyotes often strip them before Christmas. This year the coyotes aren’t visiting much. Perhaps the summer’s unusual rain kept them and their prey higher in the forest.
Doing the Best We Can

Robin Hansen

Robin gardens in North Bend, Oregon, just east of the Pacific Ocean on a property sheltered by dunes and conifers (slightly colder and hotter than USDA zone 9). She grows and sells cyclamen and a few other Oregon native plants. Contact her at robin@hansennursery.com.—Ed.

When I think about the topic of cyclamen hardiness, mental vision produces three scenarios immediately. One is an image of any of the hardy cyclamen except possibly *Cyclamen persicum* melting into mush in the southern United States under the onslaught of 110 percent humidity, heavy rainfall, and poorly draining soils. Another vision is of *C. purpurascens* and several others buried under six feet of snow in upstate New York, patiently waiting for three weeks of summer. The last mental picture is really two sides of a *persicum* coin. On one side is the image of someone taking a gift pot of florists’ cyclamen to the garbage can because once it quit blooming it didn’t come up again, and on the other side of this coin is a photograph in *Sunset* magazine of florists’ cyclamen (*persicum* hybrids) bedded out in a San Francisco park.

Figments of my imagination, you say? Well, no, perhaps not. Let me relate a phone call I received some years ago. I found several messages from a woman in Kansas or Iowa, stating that she had a “cyclamen emergency,” each message sounding increasingly frantic. When I finally re-turned the calls, the poor woman was nearly in tears. She had been reading about how to care for her *persicum* hybrid, but despite all her attempts at good culture, the tuber was showing signs of rot. This phone conversation continued for at least forty minutes, and then I heard nothing more for several months. She called again with the news that her tuber was no more. I felt that my attempts at consolation never truly succeeded.

Mush happens. We’ve all experienced it with various bulbs at different times and by various routes of culture. For cyclamen, an overly wet soil mix combined with very cold temperatures, usually below 24°F, eventually produces this state, even though you see leaves and possibly a flower. The opposite scenario is one of dormant tubers in pots that are allowed to completely dry out. Once a pot is discovered in this state, adding water will momentarily resuscitate the tuber. It may even throw a few leaves; then one day you notice that it’s gone. Mush will also occur if you bring home a rubbery cyclamen tuber in a plastic bag from the garden center, thinking it will be all right once it’s planted.

After so many years of growing cyclamen, I’ve decided that the amount of moisture around a cyclamen in combination with certain temperatures is the main, although not the only, factor in whether cyclamen survive cold winters and hot, dry, or humid summers. In nature, tubers are most often found in shade at the base of conifers or rocks or in areas of sparse vegetation. Their roots are quite deep and can be thick and fleshy, such as the roots of *C. graecum* and *C. persicum*; the roots can be as long as eight to ten inches or more, even in four-inch pots. Roots have to have some contact with moisture year-round to survive, but they cannot be wet or soggy, especially in winter.

Generally, plants in pots without winter protection are not as hardy as plants in the ground. (In the ground, planting tubers four to six inches deep can increase hardiness.) My standard routine for winter protection of plants in the greenhouse starts with shade cloth left on during winter and ends with one or two layers of Reemay floating row cover over everything. I leave the shade cloth on to even out the temperature swings by preventing the sun from overheating greenhouses on very cold days. I make no attempts to protect cyclamen in the ground in this coastal climate. They live or they die.

A winter like the one we had last year can still do some major damage despite our best efforts. I lost many seedlings of various cyclamen species that had been transplanted within weeks before the cold hit, this in spite of Reemay.

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Board of Directors Meeting, June 2010

The meeting was called to order at 12 noon Eastern Daylight Time by President Jane McGary. All officers and directors were present except Publications Director Jennifer Hildebrand. The minutes had previously been approved electronically. Treasurer Arnold Trachtenberg reported that our CPA is finalizing our nonprofit status. The process is slow because it has become much more complex since 9/11. We gained sixteen new members since August. They will be added to the new membership directory, which will go out with an issue of The Bulb Garden. Dell Sherk, BX Director, said the BX is functioning smoothly. It has been very busy at the rate of about one per week. Membership Director Pat Colville stated there were 232 PBS members as of October 17. Nearly all members are also on the discussion list. Under New Business, Arnold noted that several members are seriously delinquent in paying for BX purchases and he will issue reminders. Pamela Slate pointed out that the BoD is required to hold four meetings annually, but with things running smoothly, there is no need for another one in 2010. The next meeting was set for January 16, 2011.

Treasurer’s Report, Second Quarter, 2010

BALANCE 7/1/2010 $21,781.67

INCOME

- U.S. Members $240.00
- Overseas Members $50.00
- Contributions $37.00
- BX Receipts $1,840.61
- Investment Results $3.83

TOTAL $2,171.44

EXPENSES

- BX/SX Expense $(757.38)
- Board Conference Call $(--)
- Supplies $(86.00)
- Total Publications $(995.00)
- PayPal Expense $(94.32)
- Postage $(489.70)

TOTAL EXPENSES $(2,422.40)

BALANCE 9/30/2010 $21,530.71

Doing the Best We Can (cont’d)

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The cold came on quite rapidly instead of its more usual slow and reasonably steady descent. Cyclamen persicum forma autumnale succumbed where typical persicum did not. Cc. cyprium, libanoticum, creticum, and balearicum as well as peloponnesiacum did surprising well in spite of 20°F for three or four days, followed by 12° one night, then 14° before beginning a slow rise in nighttime temperatures. For whatever reason, I lost a lot more C. repandum than I did peloponnesiacum (peloponnesiacum was previously considered a subspecies of repandum), and I lost a lot of hederifolium seedlings. C. coum, which was along the north side of the greenhouse, was basically untouched, as was C. africanum in the southernmost rows.

All we can do is our best, but it is important to make sure that our best includes some standard procedures: floating row or other cover, control of moisture, regular applications of bonemeal for plant health, and a good quality soil mix that is freely draining. Timing the application of protection is another important consideration and one that I left until far too late last winter.

It’s time to renew!
We appreciate your support—we would hate to lose you!

You can also mail in your renewal. Please direct it to Patty Colville, 1555 Washburn Road, Pasadena, CA 91105.

Whether renewing online or by mail, please contact Patty (patrylis@aol.com) if any of your contact information has changed.

Questions? Call Patty at (323) 254-9831. If any of your contact information has changed, please update it on this form, cut it out, and send it in with your payment.

Name:__________________________________________
Address:________________________________________
Telephone:_______________________________________
Email:___________________________________________

Thanks again for your continued support of the Pacific Bulb Society!
If you still possess an appetite for geophytes when the grasses dry out at the end of June, head into the Sierra Nevada, particularly Yosemite National Park, to find amazing subalpine geophytes like *Allium obtusum*, *Calochortus leichtlinii*, *Triteleia montana*, and the dwarf form of *Triteleia ixioides* growing in what appears to be pure decayed granite. The views that these flowers enjoy of the mountain scenery are matched by none. Visit one of the meadows that are dispersed throughout the park and you will find lovely blue flowers of *Camassia quamash*, padded by thousands of magenta Shooting Stars (*Dodecatheon alpinum*) against a forest of conifers. The scenery here is truly serene. Yosemite National Park lives up to its fame, and its varied landscapes and remarkable flora are among the best on Earth.

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California Adventures: In Search of Bulbs with a View (cont’d)

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We have followed the bulb season of California from the desert in the south to the coastal north, then to the mountainous east. The sites I highlighted here are only some of many that are available to bulbophiles. I wrote this piece with two purposes in mind: one, to introduce the places I will later expand into a series of travel articles in future issues of The Bulb Garden, and two, to encourage bulbophiles to visit these marvelous bulbs in their natural and native habitat. You may or may not live in a place with a view, but the experience of seeing these bulbs and their spectacular homes will surely leave you as breathless as it does me, over and over again.

Top left: Iris douglasiana enjoying the open air and the beautiful blue Pacific Ocean at Point Reyes National Seashore.

Right: Camassia quamash surrounded by Dodecatheon alpinum in Yosemite National Park.

Bottom: Calochortus tiburonensis with three geophytic friends, Triteleia laxa, Allium lacunosum, and Chlorogalum pomeridianum on Ring Mountain.

Editor’s note: Most of the places Nhu mentions can be Googled and are easily accessible. He will write more about these locations in future articles.
Dichelostemma capitatum at the edge of the Mojave desert. Photo by Nhu Nguyen. Read about Nhu’s travels throughout California in search of bulbs on page 2.