

International Rock Gardener

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Robert Barnard returns to IRG this month for another tale of his favourite hikes and areas in Northern California, this time to the Camp Creek area.

Cover image: Camp Creek view. All text and photos in his article are © Robert Barnard.

A short time ago, the Saxifraga Register, Adrian Young, completed the record keeping process for a delightful Saxifraga hybrid, being named by Gert Hoek for his friend, the plantsman, Geert Borgonje, who has recently been unwell. The description of this saxifrage is given here.

Gert Hoek writes: “Geert Borgonje was one of the members who founded the Dutch Rock Garden Society, then called the Nederlandse Rotsplanten Werkgroep. Afterwards he wrote many articles in our magazine and for years he wrote the monthly column of the Plant of the month, published on [our website](#). He welcomed everyone in his garden, not only on the open garden days for the rock gardeners but also for other interested people. He joined so many horticultural societies, like the Dutch RHS, cactus society, and in all these he was very active on the boards as a volunteer. He was a walking encyclopaedia of plants, not only alpinists but all kind of plants and gave digital talks on many plant subjects. These included woody subjects, cacti, gardens around Europe and Germany, mountain flora of Europe, culture and nature of Israel and Jordan and bulbs.



I often walked with him in botanic gardens, and he knows so many shrubs, trees, annual, tropicals and succulents. As well as his rock garden he has also a greenhouse with cactus, living stones and Tillandsia. Geert (left) is a very kind and charming man and has been a plant friend for me for many years; we made many plant trips in Europe to visit nurseries and congresses. Last year he had a stroke which made working in his garden, as it was, impossible. So, with a lot of help from many members of NRV the garden has been rebuilt. A big square with pavement surrounded by troughs and a little rock garden. Also, adjustments in his greenhouse made it possible for him to go there and continue his passion for plants. I am happy to be able to help this fine plantsman and it is my pleasure to name such a good plant for him.”

Finally this month we pay tribute to John M. Watson 1936- 2024 – who was a tireless contributor to the IRG and a fine friend to the Scottish Rock Garden Club.

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--- From the United States of America ---

Camp Creek – Robert Barnard, text and photos.



During snowmelt many seasonal streams flow down into Camp Creek, in this case creating a beautiful waterfall.

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The portion of the Camp Creek watershed where it passes through the Lower Transition Life Zone of the Sierra Nevada Mountains in Northern California is a floristically rich area, featuring many desirable plant species suitable for ornamental horticulture. Despite the region experiencing over 100 years of extensive logging, and enduring the periods of environmentally destructive gold mining, there are still pockets of relatively undisturbed habitat, especially on isolated, steep canyon slopes, where many plant communities thrive.

The Camp Creek watershed is located along the southern border of El Dorado County, California. It originates in the Sierra Nevada Mountains near the western ridge crest above the Silver Fork of the American River Basin at an elevation of ~ 7,000 feet (2,134 metres). Camp Creek then flows westward ending at the confluence with the North Fork of the Cosumnes River at an elevation of ~ 2,000 feet (610 metres).

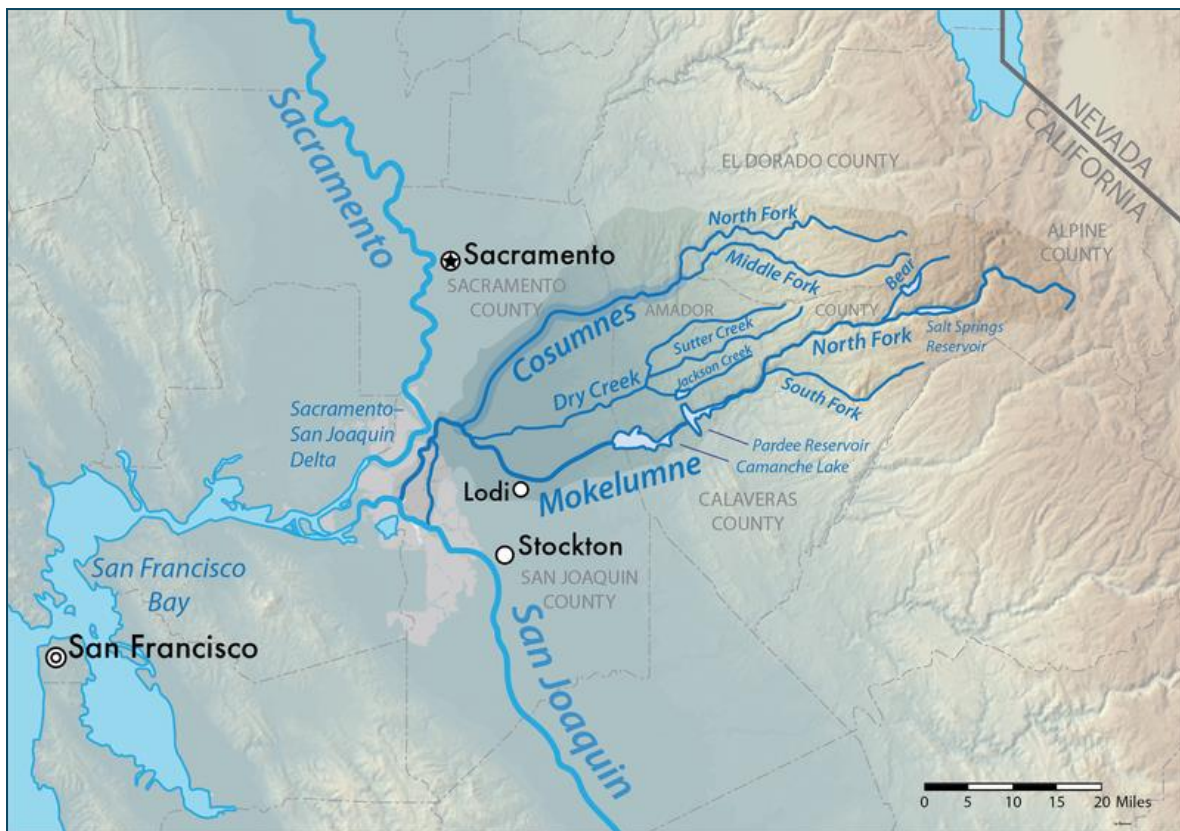


Meadow at the headwaters of Camp Creek

The study area comprises an area from an elevation of ~ 4,000 feet along the highest ridges to ~ 2,500 feet elevation at the canyon bottom where Camp Creek continues its flow toward the Cosumnes River.

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The soils of this area are derived mostly from the gray slates and schists of the Calaveras Complex. The Calaveras Complex is part of the Paleozoic sediments which were initially deposited during the Permian Period on the ocean floor ~ 300 and 200 million years ago. These sediments were compressed into the Sierran trench during the Jurassic Period, underwent metamorphosis, and now appear as the slates and schists we observe today. These rock formations hold numerous quartz veins, many of which contain gold. Where the soils derived from these rocks are fairly deep, they support very diverse vegetation and vigorous forest growth. The andesite strata and boulders found in this area are part of the Merhten Formation, volcanic rocks dating back to 8.8 to 9.4 million years ago. The soils derived from Merhten Formation andesite and Calaveras Complex metamorphic rocks often support uniquely differing plants species and populations.



Cosumnes map by Shannon1, CC BY-SA 4.0.

The climate at this site is typical of the Lower transition Life Zone of the Sierra Nevada Mountains; this can, of course, vary greatly depending on altitude, exposure, and the movement of cold air from ridge top thermal belts into low-lying cold air basins. The climate is fairly mild with an average annual temperature of 55.84 F. (13.24 C), tempered by the synoptic flow of relatively warm air flowing over the Sierra Nevada Mountains from the Pacific Ocean.

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Summers (June through September) are hot and dry with an average temperature of 70.15 F (21.19 C). Summer afternoon temperatures of 100 F (37.78 C) or more occur occasionally each summer with an extreme of 108 F (42.22 C) being recorded. Precipitation is sparse during the summer months; there is however a distinct thunderstorm season in June with a minor peak in August. When thunderstorms arise, brief downpours of rain can occur, accompanied by small hail and lightning strikes.

Winters (December through March) within the region are cool and wet, with an average wintertime temperature of 43.57 F (6.43 C). Extreme minimum wintertime low temperatures can vary greatly depending on the location. Extreme minimum temperatures of 11 F (-11.67 C) are common; while in areas where cold air collects extreme low temperatures below ≤ 0 F (-17.78 C) can occur. The average annual precipitation of the area is 48.47" (1,231.14 mm), most of which falls between November and April. Snow cover each season can fluctuate greatly depending on the altitude and seasonal variations, with a mean of 50 snow cover days per season throughout the region. Low elevation sites within this area may never receive snow cover during a season, while high elevation sites within the area may exceed 100 snow cover days during extreme years. Many plant species respond markedly to snow depth and the average number of snow cover days each season. The range of many plant species ends abruptly based on the duration and quantity of snow cover.



Bonetti Road - Andesite grassland open habitat.

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My first explorations in the area began during the early 1970's when I obtained my first driving license. Jenkinson Reservoir was a favourite fishing site and was also located at the western starting point of Iron Mountain Road, the old Mormon Immigrant Trail, the primary access road through the region. On my first foray on Bonetti Road, I discovered a spring flowing with pure, cold water. I soon travelled to this spring on a regular basis to bottle water for home use. Camp Creek itself became a favourite summertime swimming hole, a great place to refresh oneself after a long hard day of physical work on the farm. I found the flora of the area intriguing; thus during the early 1980's I began my first systematic botanical studies of the flora of this area.

The upper eastern portion of the study area is easily accessed from Iron Mountain Road using Bonetti Road to reach Camp Creek. This junction is located at the watershed divide between Park Creek to the north and Camp Creek to the south. Here there are both large densely forested tracts of land as well as other areas consisting of a patchwork of open forest dominated by second and third growth Ponderosa Pine, *Pinus ponderosa*.



Arctostaphylos mewukka subsp. *mewukka*

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The polished red bark of many Manzanita species is extremely attractive. This is *Arctostaphylos mewukka* subsp. *mewukka*.

In areas where andesite rock is exposed at the surface, tree growth is stunted. Grassland and shrubby species dominate this landscape. Indian Manzanita, *Arctostaphylos mewukka* subsp. *mewukka*, is a common species in these habitats. Most specimens in this area have dull gray-green foliage. Choice, highly ornamental forms with intense silvery-gray foliage can be found, though many plants

need to be examined to find these superior forms. White-leaf Manzanita, *Arctostaphylos viscida*, is another common species found at these sites. At the lower elevations of the study area, populations consist entirely of subspecies *viscida*.

Arctostaphylos viscida subsp. *viscida*

At the higher end of the study area plants with twigs that are lightly glandular-hairy--a characteristic associated with subspecies *mariposa*--can be found. The range of subspecies *mariposa* is predominantly

the Central and Southern Sierra Nevada Mountains and foothills. Here at the northern limit of its range, clearly some genetic blending between the two subspecies is taking place.



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The jewel of the shrubby species in this area is the evergreen, mat-forming *Ceanothus prostratus* var. *prostratus*. During the spring dense carpets of this species bloom abundantly with umbel-like clusters of light to deep blue to lavender flowers.



Ceanothus prostratus var. *prostratus*

The small open areas of grassland are generally uninteresting. Non-native, invasive species typically dominate this ecological niche. Dogtail Grass, *Cynosurus echinatus*, is a common and easily identified species.

The inflorescence of this species is unique and is persistent from bloom time in the spring, well into the late autumn when the first rainfall or early snowfall arrives.



Taxus brevifolia

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After a short distance, Bonetti Road arrives at the Stonebreaker Creek drainage. Here in this relatively cool, moist environment the diversity of plant species increases dramatically: along the north facing slopes of this drainage, Douglas Fir, *Pseudotsuga menziesii*, is generally the dominant coniferous tree. Incense Cedar, *Calocedrus decurrens*, and Sugar Pine, *Pinus lambertiana*, can be found mingling among the other forest trees. Quite unique among the coniferous species found at this site is the grove of Pacific Yew, *Taxus brevifolia*, above, which lines the parts of the north-facing slope of this drainage. In the autumn, the bright red fruits of this species are set off dramatically against its bright green foliage.



Cornus nuttallii flowering

Here too, the mix of deciduous and broadleaf evergreen tree species increases. Pacific Madrone, *Arbutus menziesii*, with its striking polished tan bark can be found growing scattered among the other forest trees. Bigleaf Maple, *Acer macrophyllum*, enjoys the relatively cool moist conditions near the creek. During the autumn their leaves turn a brilliant golden yellow and are very prominent, set off against the deep green foliage of the coniferous tree species. Perhaps the most notable tree in the Stonebreaker Creek drainage is the Pacific Dogwood, *Cornus nuttallii*. This species grows quite prolifically in this area and puts on a tremendous show when their large pure white flower bracts open in the spring.

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This is not the end of their show. During the autumn their leaves turn brilliant scarlet. The foliage display each autumn is a spectacular sight.



Stonebreaker Creek - autumn with *Cornus nuttallii*

During the 1980's I also began a systematic study of the native *Lilium* species in the Camp Creek area. In the upper reaches of the Stonebreaker Creek drainage, I discovered a unique and very surprising population of *Lilium pardalinum*. This population consisted of widely scattered and isolated stands of plants numbering from one to five plants per colony. Initially, I classified them as *Lilium pardalinum*. Based on the above ground plant structure and flower characteristics the plants certainly appeared to be *Lilium pardalinum*.

The following autumn I returned to gather some seed samples. Right away, I knew something unusual was taking place with these plants. *Lilium pardalinum* is an obligate out-breeding species, yet isolated individual plants were setting seed. This was extremely unlikely unless pollinators had traveled long distances to carry pollen from different individuals to cross-pollinate these isolated plants. The biggest surprise came several years later when the plants derived from the various seed samples started blooming. Some of these plants had *Lilium parvum*-like characteristics and flowers!

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There could have been a mix-up. To follow up, I returned to the various sites and dug around the bulbs to examine the bulb-scale characteristics of a large sampling of plants. All the bulbs I examined had bulb scales intermediate between *Lilium pardalinum* and *Lilium parvum*, which suggests that they were hybrid plants. Over several years, I searched the area for nearby stands of *Lilium parvum*. The closest stands I found were many miles upstream on Camp Creek. I never found *Lilium parvum* in the Stonebreaker Creek drainage. This information suggests that pollinators are dispersing pollen over long distances and over fairly large geographic areas.

It turned out that this discovery had some horticultural significance. *Lilium parvum* is not the easiest California native *Lilium* species to grow in our area, especially at lower elevations. After a number of trials, it became apparent that advanced generation *Lilium pardalinum* x *parvum* hybrids were much easier to cultivate. *Lilium pardalinum* is a very dominant parent in these crosses. It took a number of years to bring out the recessive *Lilium parvum* flower traits yet retain the durability of *Lilium pardalinum*. *Lilium parvum* is a highly variable species. With continued perseverance and effort many new and varied *Lilium parvum* hybrids can be created that are tough, much easier-to-grow plants for the garden.



Lilium pardalinum at Camp Creek

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Leaving the Stonebreaker Creek drainage, it is a short distance traveling to the south to arrive at Camp Creek. Upon leaving the Stonebreaker Creek drainage, Bonetti Road rounds the dividing ridge, then descends quickly to Camp Creek at an elevation of 3,120 feet (951 metres).

There are many natural springs along this section of Camp Creek. A large spring along Bonetti Road occurs on the south-facing slope above Camp Creek. Where water from this spring descends the slope to Camp Creek, many interesting plant species can be found. Directly below the spring a large stand of *Cornus sessilis* thrives in the perennially moist soil. This species produces clusters of small, creamy white, sessile flowers on bare branches during the early spring. The flower bracts of this species are very small, thus creating a creamy haze when the trees are in bloom. During the autumn this species produces numerous small black fruit.



Cornus sessilis in bloom.

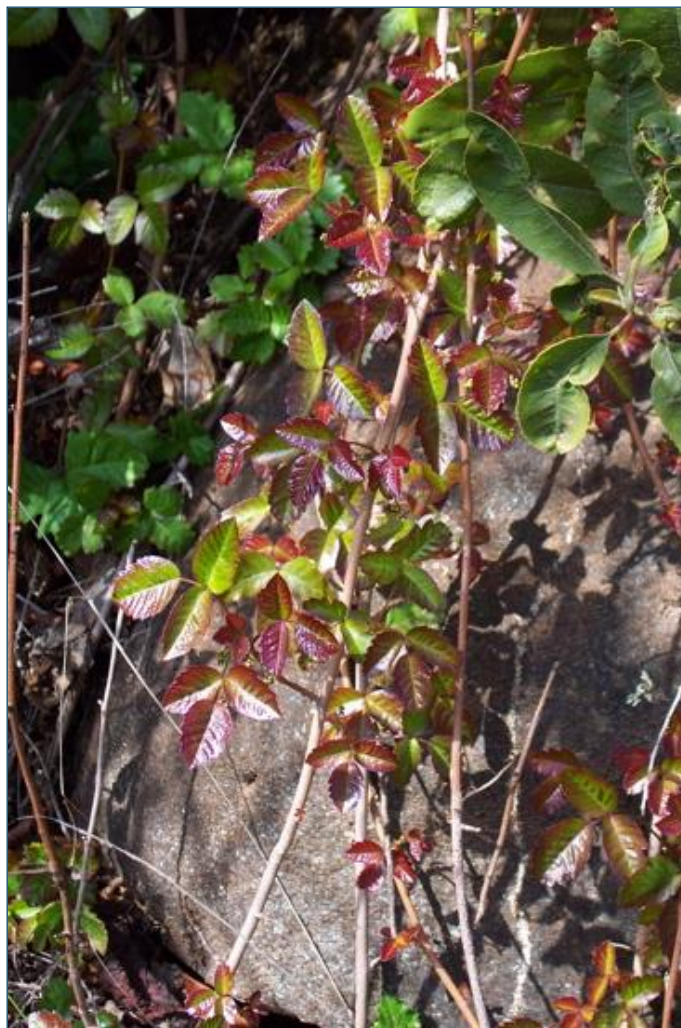
Maianthemum stellatum, the smaller of the two species of *Maianthemum* found in this area, has a stronger preference for moist sites and is quite at home in shaded sites near the seepage of springs. Its relatively small racemes of small white flowers make it easy to identify this species.

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Maianthemum stellatum grown from wild seed gathered near Camp Creek, El Dorado county, California.

This portion of Camp Creek is just above the elevation limit of Poison Oak, *Toxicodendron diversilobum*. Although this species can be quite attractive, for those susceptible, close encounters with this species, in both dormancy and in active growth, can cause an intense burning and itching dermatitis that can last for 10 days or more. Hiking upstream is a safe bet along this section of Camp Creek.



Toxicodendron diversilobum

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There are many interesting plants found along this upper portion of Camp Creek. During the late spring and often into the summer, scattered thickets of *Rosa gymnocarpa* can be found with their deep pink, single, five-petal flowers. By autumn, clusters of bright orange-red hips, contrast well against the deep green foliage of this deciduous rose species.

As stated earlier, there are many natural species along this section of Camp Creek. These springs are ideal habitats for moisture-loving species such as the perennial *Erythranthe cardinalis*. This species can become quite lush in these wet sites, the luxuriant plants producing abundant snapdragon-like red flowers throughout the late spring and summer.

Aralia californica is another moisture loving species found along this section of Camp Creek. This herbaceous species produces dramatic clumps of large pinnately compound leaves to 2 to 3 metres, followed by umbels of white flowers.



Erythranthe cardinalis

Aralia californica

Farther upstream, large colonies of Beaked Hazelnut, *Corylus cornuta* subsp. *californica* form a dense understory below the coniferous trees.

The long arching branches reach downward toward the creek forming an almost impenetrable barrier. These long arching stems were fashioned by Native Americans into strong, highly effective bows. In addition, the *Corylus* nuts were a delicious food crop.



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Hiking downstream one enters the Poison Oak zone. There are no trails along Camp Creek, so exploring the Camp Creek canyon requires sustained effort and strict attention to avoid hazards. Cliff faces and impenetrable thickets of plant growth can impede one's progress. Avoiding Poison Oak also necessitates constant attention. The natural beauty of this environment

certainly makes all this effort worthwhile. The massive black trunks of mature Canyon Live Oaks, *Quercus chrysolepis*, curving out over the creek are an awe-inspiring sight.



Quercus chrysolepis foliage.



Moss covered tree limbs, *Quercus chrysolepis*.

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The mood of the canyon often changes as one enters one of the peaceful grottos of Big Leaf Maple, *Acer macrophyllum* and White Alder, *Alnus rhombifolia*, their arching branches over the creek forming a cool, shaded tunnel, especially welcome on a hot summer day.



Acer macrophyllum foliage in autumn.



Below the El Dorado Irrigation District diversion dam, the shaded north-facing rocky ledges along the creek are often colonized by Cliff Sword Fern, *Polystichum imbricans* subsp. *curtum* and Crevice Alum Root, *Heuchera micrantha*.

Polystichum imbricans subsp. *curtum*.

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Heuchera micrantha is a highly variable species. The leaves of this species exhibit a myriad of leaf patterns and colourations many of which are highly ornamental and desirable for horticulture.



During the month of June, the whole length of the Camp Creek canyon within this region is filled with a sweet fragrance as Western Azalea, *Rhododendron occidentale*, below, begins its yearly blooming cycle. In interior California, *Rhododendron occidentale* is always found in riparian habitats or where a constant supply of water is near the surface during all seasons. Scattered thickets of this species are found frequently along the banks of Camp Creek. White flowers with a prominent yellow blotch on the upper petals are the typical flower colouration seen in the interior California regions. Flowers with a large, deep rich yellow blotch on the upper petal are extremely attractive. Such plants are not common, but well worth keeping a keen watch for. Less common are plants that exhibit flowers with various amounts of pink pigmentation on the flower tubes and petals; however, in the interior populations this characteristic is generally muted, and very subtle.



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In addition to the blooming Western Azaleas, June is when Leopard Lily, *Lilium pardalinum*, comes into its peak blooming season. *Lilium pardalinum* is another species of riparian habitats. This species is always found growing next to creeks, springs, or other sources of flowing water. Within this region, the variation within this species is often subtle. Flower count on individual plants can vary from 1 to 5 flowers, rarely up to 25. The petal pigmentation is generally fairly uniform, ranging from light to deep orange with various numbers of deep maroon spots on the petals.

On one occasion I found a likely tetraploid form of this species. All parts of this plant's parts were double or more in size from the usual diploid forms found in this area. This specimen was found growing wedged among rocks just at water level in a shallow portion of the creek. The conglomerate of bulbs was 0.7 metres across and the bulb scales were huge. The plants produced a number of tall 3-metre tall flowering stems, something like a *Cardiocrinum giganteum*. It was an amazing sight in full bloom with countless flowers. Quite interesting was that although the flowers were larger than those on normal *Lilium pardalinum*, they were not double or more the normal size.



Lilium pardalinum in Robert's home garden.

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In addition to the Azaleas and Lilies, there are many other interesting plants to see along or in the vicinity of the creek. *Darmera peltata* is a very common species growing both on the banks of the creek as well as in shallow water in the creek channel. The large, bold, lobed leaves held on stout, somewhat prickly stems are very reminiscent of a miniature version of *Gunnera manicata* foliage. Before the leaves fully emerge, this species begins to bloom with panicles of white to light pink flowers. Deep pink flowering forms of this species are rare and are quite striking in appearance.



Darmera peltata, pink.

Working one's way along Camp Creek on these warm, early summer days is a pleasant experience. Water levels in the creek have generally dropped dramatically, and the water has warmed to a pleasant temperature to take a swim in the creek. Well below the El Dorado Irrigation District diversion dam, there is a series of deep pools rimmed by flat open slabs of rock, the perfect location for a pleasant swim after an enjoyable day plant exploring.

The most inaccessible and remote parts of the forestland in the canyon above the riparian habitat near Camp Creek still retain much of the original flora and contain many plants of botanical and horticultural interest. Generally, the upper ridges and other easily accessible

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portions of the area have been exposed to land use practices that have been extremely detrimental to the general ecology and the habitats for many plant species. 150 years of extensive mining and logging have vastly altered these plants communities. Species highly adaptable to major ecological disturbances to their environment dominate these areas.

Deerbrush, *Ceanothus integerrimus* var. *macrothyrsus*, is one example of the many shrubby species well adapted to these frequently disturbed areas. Large thickets of this species can be found near ridge tops where they both reseed and/or stump sprout after wildfires or when other major disruptions to the ecosystem have taken place. This species forms large plumes of pungent white flowers in the spring. In addition, this species provides habitat and forage for many native animals and insects.



Chamaebatia foliolosa foliage.

Extensive areas of Mountain Misery, *Chamaebatia foliolosa*, with highly aromatic fern-like foliage, frequently form extensive dense mats under the forest canopy. Vining species such as American Vetch, *Vicia americana* subsp. *americana*, and Brewer's Pea, *Lathyrus sulphureus* var. *sulphureus*, frequently find niches in the open forest ecosystem where aggressive species have not occupied.

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The burnt yellow and white flowers of Brewer's Pea are a welcome sight in the late spring. It is a relatively small species, forming relatively short vining stems.

Lathyrus sulphureus var. *sulphureus*.



Chamaebatia foliolosa flower.



Throughout this portion of the canyon crest there are small meadows, both mesic and xeric, as well as expansive areas of high open shade below the coniferous forest canopy. Here *Iris hartwegii* subsp. *hartwegii* often is found growing in extensive colonies.

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During the spring this Iris species frequently blooms freely along the margins of meadows and in the areas of high open shade of the forest canopy.



Rhinotropis cornuta var. cornuta

Often sharing the same high open, dry-shade habitat as *Iris hartwegii* is Sierra Milkwort, *Rhinotropis cornuta var. cornuta*. This member of the Milkwort Family, *Polygalaceae*,



produces spikes of pea-like creamy-white to lavender-pink flowers during the spring. This low growing species is regularly observed as a prostrate, spreading species but is also found as a small upright plant. During the wintertime, the foliage of this evergreen species will often turn a deep purplish colour as cold weather persists.

Showy Milkweed, *Asclepias speciosa*, is less common and also shares the same habitat. This species produces interesting cymes of two-toned rose-purple and creamy-pink flowers.

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Very difficult to spot when blooming are Brown Bells, *Fritillaria micrantha*. This xeric, bulbous species is found growing in a wide altitudinal range in the foothills and lower elevations of the Sierra Nevada Mountains. Once spotted in bloom, the nodding brownish-purple flowers are quite interesting when examined closely. The inner portions of the perianth is frequently attractively mottled and checked with fascinating patterns.

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During the late winter, Milkmaids, *Cardamine californica*, quickly emerge from the ground and begin blooming. This member of the *Brassicaceae* family produces racemes of attractive white flowers. Forms with deep pink flowers can be found and are extremely attractive. This species has distinctive spheric, tube-like rhizomes from which the new growth emerges during the winter months after a long summertime dormancy.



Cardamine californica

In more shaded woodland areas, as well as inaccessible areas of the steeper canyon slopes *Viola lobata* subsp. *lobata* and *Viola sheltonii*, are two *Viola* species that are often encountered. Shelton's Violet, *Viola sheltonii*, below, blooms very early during the late winter with bright yellow flowers with prominent brownish-purple markings on the inner portions of each petal. The blue-green deeply cut leaves are very distinctive of this species. Quickly after blooming, this species sets seed and the foliage dries as the plant goes into its summer dormancy.



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Viola lobata subsp. *lobata*.

Blooming later during the spring is *Viola lobata* subsp. *lobata*. This species is noted for its deeply lobed foliage and deep yellow flowers with dark markings at the base of each petal. The abaxial surface of the petals is frequently pigmented with an attractive dark red-brown colour which is quite noticeable as the flowers unfold.

In these isolated canyon woodland settings Mosquito Bill, *Primula hendersonii* (*Dodecatheon hendersonii*), can often be seen blooming in the early spring. The nodding reflexed petals of this species are magenta to lavender in colour. On rare occasions white flowering forms can be found. The mid-elevation forms of this species bloom midway between the low elevation and high elevation forms of this species. This characteristic is retained in cultivation, extending its blooming period in garden settings. *Trillium angustipetalum* is a very attractive,

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but rarely seen species in this area. Each rhizome produces a set of three lightly mottled or spotted leaves topped by erect, long, narrow deep inky purple petals when in bloom.



Trillium angustipetalum

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This species is often associated with the much more common Hartweg's Wild Ginger, *Asarum hartwegii*. This species is known for the striking white markings on its evergreen, rounded, cordate leaves. This low growing species blooms with small purplish cup-like flowers tucked close to the ground under the leaves. The flowers are rarely seen unless one stops to examine the plants closely when they are in bloom during the early spring.



Asarum hartwegii



In the early spring, masses of the annual *Claytonia parviflora* subsp. *grandiflora* are commonly seen in these woodland settings. This species forms a basal clump of numerous long, narrow leaves. Each flowering stems has a single fused, rounded cauline leaf topped by racemes of white to light pink flowers. This species is very noteworthy when seen in full bloom.

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Hydric/mesic habitats near springs and watercourses in this region provide niches for a very different set of plant species.

Woodwardia fimbriata, Western Chain Fern, right, is a sure sign of a perennial source of water. The pinnately compound fronds of



this species can become extremely large and can be very easy to spot from a considerable distance. It is very worthwhile to investigate sites where *Woodwardia* ferns are found growing, as rarely encountered plant species are sometimes found. For example, after the Caldor Fire burned through this area in 2021, I found a very unusual form of the annual species *Diplacus viscidus* growing in the vicinity of a large clump of *Woodwardia fimbriata*. *Diplacus viscidus* responds to fire by germinating abundantly. Seeds of this species can remain dormant in the soil for many years until a fire sweeps through the area creating ideal conditions for its germination. *Diplacus viscidus* also appears to have a preference for more soil moisture during its growing season than other members of this genus, thus its



appearance near locations inhabited by *Woodwardia* ferns. This unusual form of *Diplacus viscidus* matches the type description for this species, except that the flowers ranged in colour from white to shades of pink. As of this writing, initial trials are being conducted to evaluate its potential in cultivation.

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The woody, deciduous species, Red Huckleberry, *Vaccinium parvifolium*, is another plant commonly found in close association with *Woodwardia* ferns. This species is appreciated for its strongly angled green stems that are very attractive when the plant is dormant during the



winter, left. Typical of *Ericaceae* family species, pinkish urn-shaped flowers are produced in the early spring on bare branches. Small bright red fruit follow the flowers during the autumn. There is some controversy surrounding the range of this species in California since the newly described species *Vaccinium shastense* subsp. *nevadense* was published fairly recently. The two species are very similar, but quite distinct from each other. Some argue that *Vaccinium parvifolium* is not found in the Sierra Nevada Mountains; that all Sierra populations consist of *Vaccinium shastense* ssp. *nevadense*; but field observations do not match this conclusion. Both species likely

have horticultural applications based on their separate characteristics.

In isolated parts of the Camp Creek canyon, there are exposed rocky sites where no -or very few -trees grow. These sites are natural rock gardens where many notable annual and perennial species can be found growing on steep slopes among the exposed rock formations. In addition, these sites tend to be in thermal belts where high elevation species commingle with lower elevations species. Intensive study of these sites reveals a broad spectrum of both common and rarely seen species, as well as habitat for unique ecotypes of some species.

At one hot, south facing site in particular, a great many species of rock ferns can be found growing in close association with each other. *Pentagramma triangularis* subsp. *triangularis*, *Pellaea mucronata* var. *mucronata*, and *Aspidotis densa* can be found growing side-by-side out of tight rock crevices. A vast array of annual species creates a tapestry of colour over an extended period of time during the spring. Here, annuals such as *Diplacus kelloggii* can be found growing and blooming with *Erythranthe bicolor*. Where seasonal moisture is abundant, sheets of *Erythranthe guttata* bloom profusely with masses of bright yellow flowers.

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Diplacus kelloggii



The annual, *Gilia capitata* subsp. *pedomontana*, extends the blooming period with its pale blue flowers on ball-shaped flowering heads.

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Many bulbous species thrive in this habitat. High elevation forms of *Dipterostemon capitatus* subsp. *capitatus* thrive at this thermal belt location. The low growing, yellow-flowered *Calochortus monophyllus* can be found growing in the pockets of stony clay soils at this site.

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Calochortus monophyllus

The array of annual and perennial species found at this site grow among widely scattered and dispersed stands of shrubby species. The Penstemon relative, *Keckiella breviflora* var. *breviflora*, is a notable species. Its white and light peach coloured flowers with darker markings are produced on long arching branches. *Arctostaphylos viscida* subsp. *viscida* with its peeling, deep chestnut coloured bark is another shrubby species commonly found at this site.

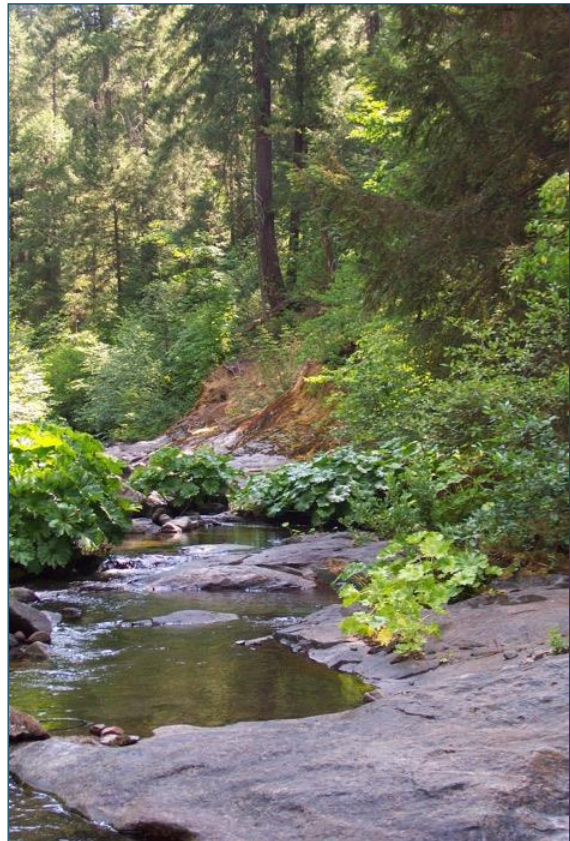
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Keckiella breviflora var. *breviflora*

Despite many decades of ecologically damaging land use practices, this portion of the Camp Creek drainage still possesses a high degree of plant species diversity, in well-functioning, intact natural ecosystems. Only a portion of the plant species of horticultural significance has been discussed. Many years of additional field studies and research are necessary to expand upon the horticultural potential the plant species of this region has to offer.

R.B.



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--- New Cultivar ---

Saxifraga x polita 'Geert Borgonje' - text and photos Gert Hoek.

About 8 years ago Geert gave me a plant of a *Saxifraga* from his garden. At the time, he didn't know which species it was. I put the plant in my garden in shady spot against some tufa and the plant grew and bloomed well. It even sowed itself on the wall of tufa blocks where it grew over the edge. The leaves are grouped together in compact rosettes and together form a beautiful compact plant.



Saxifraga x polita 'Geert Borgonje'

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Two years in the Picos de Europa I found *Saxifraga* growing shady places under bushes and in the forest, when I was identifying it I came across *S. spathularis*. This plant belongs to the *Gymnopera* group of the *Saxifraga* family. While I was working on it, I immediately thought of the plant that Geert had given me.

So, I looked into it even further and now it turns out that *S. spathularis* is one of the parents of the plant that Geert gave me.

Geert's plant turns out to be *S x polita* and this is a wild hybrid between *S. hirsuta* and *S. spathularis*. However Geert's plant was clearly different from the shapes that had already been described. This form is completely hairy, the leaves are less deeply incised and grow more compactly than the forms described, because *S. x polita* is a hybrid there is of course some variation of form.



Saxifraga x polita 'Geert Borgonje' – showing hairy foliage.

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The flower stems grow up to about 15 cm high and bear up to 30 small white flowers with red dots on the petals.

The hairy leaves are spoon-shaped and shallowly lobed and including petiole about 3.5 cm long, the leaf is about 1.5 cm wide.



After consulting with Adrian Young, the Saxifraga expert and Registrar for the International Registration Authority (Genus Saxifraga) we decided to name this plant.



Saxifraga x polita 'Geert Borgonje'

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Saxifraga x polita 'Geert Borgonje' – showing measurements.

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After I sent a description with pictures the name *Saxifraga x polita* 'Geert Borjonje' was officially registered.



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I would like to dedicate this plant to Geert, a friend but above all an [NRV](#) (Nederlandse Rotsplanten Vereniging) icon. Geert has enthused a lot of people with a love for plants in general and rock plants in particular. And he still, with all the health challenges that he faces, can be found in the garden and greenhouse every day.

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--- Loss of an incomparable plantsman ---

John M. Watson – 1936 –2024

John Watson was born on 9th May 1936 – a traumatic birth which meant he remained an only child. By his own admission, he was somewhat spoiled, and doted on by all his family. His dear parents, on their marriage, bought a house in home at Petts Wood in the “green Kentish suburbs” twelve miles to the south of London.



John's parents on their wedding day.

They became inspired “to want a sizeable rock garden in the back garden”. As a result, a mighty Westmoreland limestone rock garden, built by Robinsons of Sidcup, was born simultaneously with John who wrote “that dominant, well-designed and natural feature could be regarded as the seed of everything central to my life which followed, from early childhood to the present.”

“Little me at father's lap, as when we saw the blue butterfly on Welsh cliff slope.”

John remembers that “my first persisting recollection ever, which dates back to when I was two-and-a-half, has nothing to do with plants and flowers. While being held firmly in father's lap on a steep, grassy slope in west Wales overlooking the sea, a small

apparition of bright blue suddenly flew down, settled in the grass right in front of us ... and disappeared.

“That's called a butterfly, the little blue butterfly.” said father, a keen amateur lepidopteran.”



A blue butterfly with its wings folded, as also seen in Wales at age two. (JMW)



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John and his friends enjoyed playing in the local woods and it was there he first came to love nature: “ When alone I would take a more conscious interest in the natural history. Birds are the woodlands' main attraction, but little three-spined stickleback fish also flashed about in a small stream, the males with their colourful breeding-time red faces and underbellies. The area isn't particularly rich in flowering plants, being predominantly a mixed understory of dense bracken and brambles (*Rubus fruticosus*), some of the latter forming hedges along open boundaries, from which we harvested blackberries that mother made into a delicious jelly spread. Where there are clearings the overall grey, sandy, acid soil, is covered by a lawn of short grasses. But in springtime the woods become a spectacular carpet of bluebells (*Hyacinthoides non-scripta*) and wood anemones (*Anemone nemorosa*). With a little more patient searching infrequent primroses (*Primula vulgaris*), celandine (*Ficaria verna*) as well as wild garlic (*Allium ursinum*) could be found too. Above them here and there rose dense evergreen shrubs of introduced *Rhododendron ponticum* with its showy display of rounded violet-purple flower heads. We would later see it growing in its natural habitat in the Pontic mountains of northeast Turkey. These were among the first wildflowers I came to identify and they fed my growing interest.”



“Woodland bluebells thriving in a part shaded bed of our Chilean garden.” (JMW)

“While I was married to my first wife Adrienne, between 1975 and 1980 we lived together with our two small daughters in the wooded countryside at Whatlington near Battle in Sussex (where I saw more different species of moths than in the rest of my life put together).”



John and Adrienne married in 1970; Sarah was born that year and Nicola in 1973. Recently Adrienne contacted John to show him a photo of a trough she still has, which she remembers

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him planting - John couldn't remember them but thought they must date from a time when he and his partner were running Four Seasons Nursery and selling troughs they planted!

He had worked for Robinson's Nursery, initially weeding in exchange for plants, and later worked for a time at both Whitelegs and G. Reuthe nurseries. He also studied horticulture for a year at the RHS Wisley and then began to teach himself taxonomy. He even worked for a while as a postman. He was called up for National Service with the RAF .

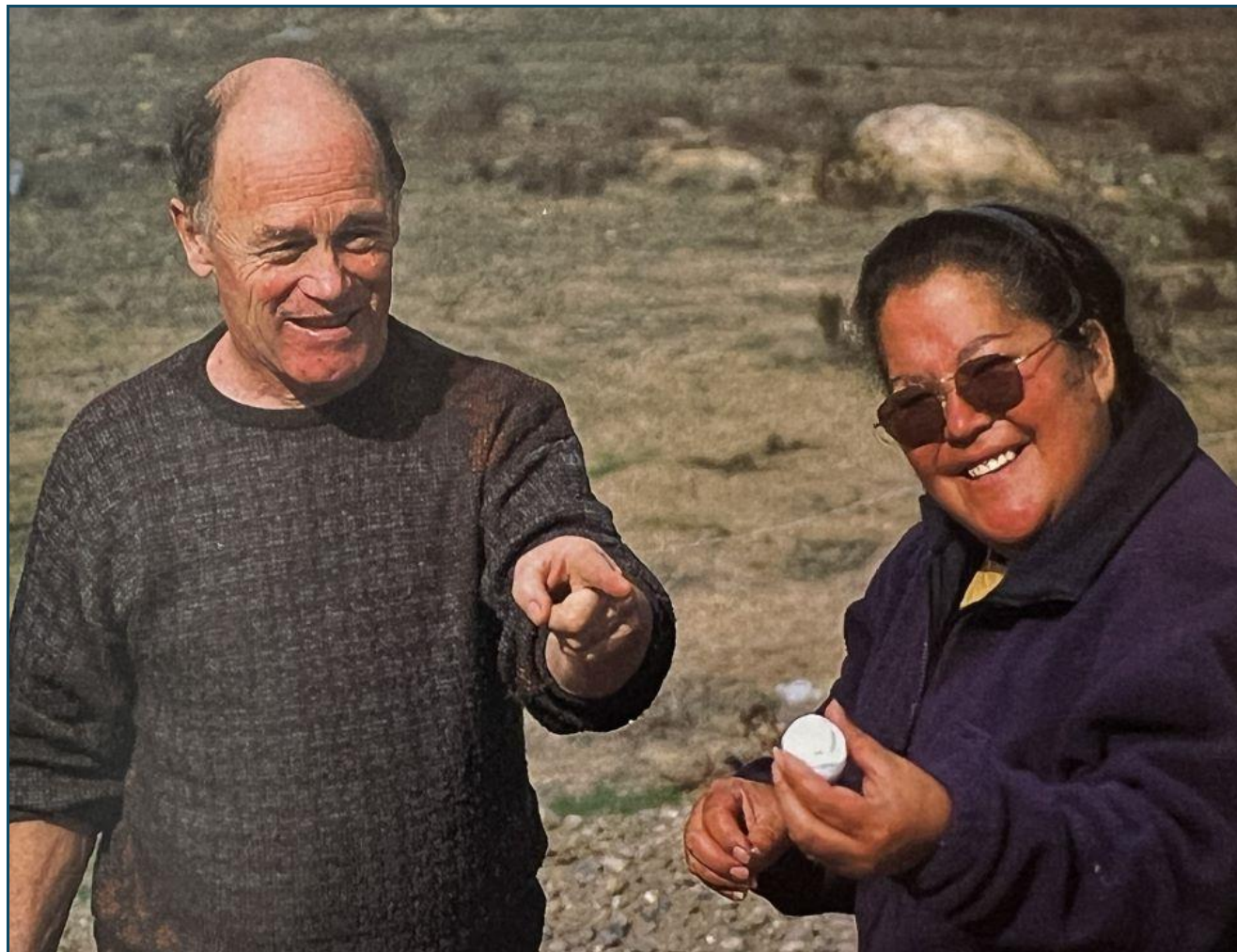
Founding Watson Seeds in 1962, John later made various collecting trips around the eastern Mediterranean, often with such several companions such as Martin Cheese, Sydney Albury, Kenneth Beckett and the Canadian, James MacPhail.

These collections lead to interesting new plants in cultivation and, over the years, to thousands of herbarium specimens lodged in several Botanic Gardens. By the 1970s, John's interest was turning more to the flora of South America and he began to make expeditions to the mountains of the Andes. Ana (Anita) Rosa Flores was born in Chile and had also become captivated by plants and had studied biology before becoming a teacher and researcher at the University of Chile (Santiago). She and John met in 1988 and they formed Flores and Watson Seeds, marrying in 1991. They ran their seed business in both England and Chile, before moving to Chile full time in 1996.

John became an expert in South American Flora and wrote extensively about those plants for articles and the AGS encyclopaedia. He and Anita continued to collect seed and to provide botanic gardens with material and information and also to publish articles etc. from south America. They have published around 90 new species in total, as listed with IPNI.org. Among names published by John and Anita were plants named for their daughters, and grandson, and in [IRG 108 December 2018](#), John published *Viola anitae*. Indeed, they often named new plants in honour of dear friends and colleagues – see the full list [here on IPNI.org](#).

In 2004, John and Anita were included in his book *The Plant Hunter's Garden*, by Bobby Ward, former NARGS President and himself a respected plantsman, who travelled with them in Chile in 1999. Bobby Ward wrote in 2004 that "... John Watson has (long) been a fixture in the plant hunting scene. His early collections in the eastern Mediterranean and Middle East and later collections with his wife Anita, in western South America are well-known to most serious plantspeople. Both phases of his career have resulted in important new introductions."

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John M. Watson and Anita Flores de Watson - photo Bobby Ward.



John with grandson, Joe, as a baby.



Sarah and Nicola in Chile.

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Anita with stepdaughters Nicola and Sarah, on the seafront at La Serena, Coquimbo Region, Chile, 2009. JMW



Inflorescence of *Zephyranthes sarae*. JMW



Olsynium nicolae. ARF

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F.& W.11428 *Viola xjosephii*. ARF



F.& W.11550 *Viola anitae*. JMW

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After the ceremonies for Anita's award in 2021, she and John continued to bask in the glory of a party at home – photo Helga Petterson.

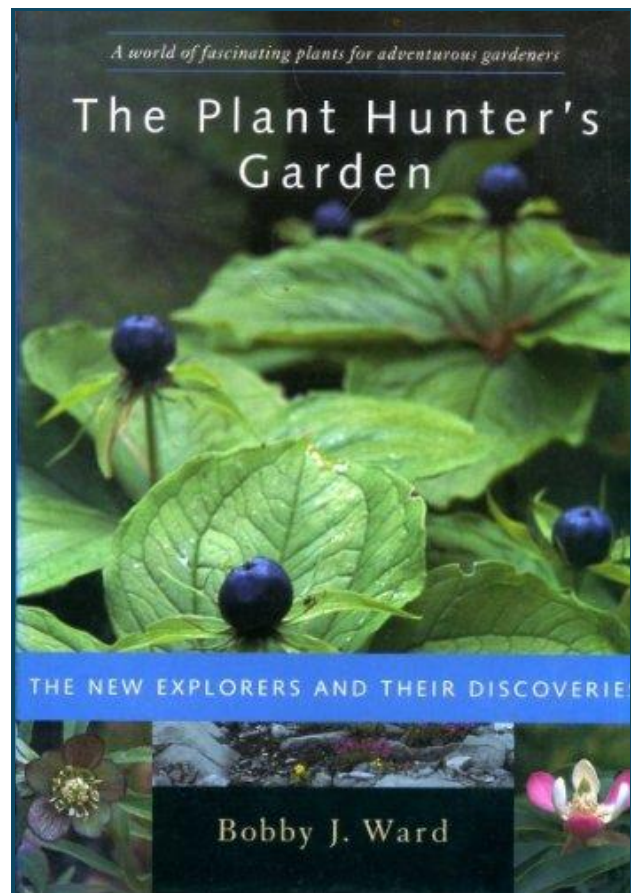


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Both John and Anita have received various honours- including the naming of the Turkish brassica, *Thlaspi watsonii* for John by P.H. Davis in 1988 and their being given the Carleton R. Worth Award from the North American Rock Garden Society in 2014 for distinguished writings about rock gardening and rock garden plants, and in 2021 Anita won a prestigious award as an “Outstanding Woman of Our Land” for her scientific work in studying the flora of Chile. They have been involved in many books on the flora of South America but perhaps the crowning glory of their authorship was the internet publication of their "Viola Subgenus Neoandinium, Preliminary Monograph" by Watson, Flores, Nicola & Marcussen (2022). The delight surrounding this magnum opus on the “rosulate violas” came from the fact that the authors had opted for the work to be [available online](https://www.srgc.net) on SRGC.net, free to all. John and Anita were convinced that publication in International Rock Gardener which is an e-magazine, free for all to download, was a worthwhile way to allow free access to articles which might otherwise lie hidden behind a paywall and largely unnoticed.



Viola Monograph cover



The Plant Hunter's Garden cover

John's health, never the best, has been poor in recent years, as has Anita's and they both suffered during the Covid pandemic. John had to wait a year for surgery, finally receiving in

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March of 2024. the “shunt” fitted for his hydrocephalus – which he referred to with customary humour as his “brain drain”.



John after surgery, with daughter Sarah at a favourite ice-cream parlour, March 2024.

Anita had a stroke in January and so they were both in something of a sorry state. Daughter Sarah flew on several occasions from England to help out, for which John and Anita were most grateful. Sarah was last in Chile after her Father’s operation until April. John died in June 2024. She and Nicola were devastated not to be able to be with their Dad at the end or attend his funeral and hope soon to arrange a memorial service for him in England. We are only hope that Anita makes continuing progress after her stroke and will be able to enjoy some form of life without her beloved John.

Ian Young and I will always remember John with great fondness – and treasure every plant we have grown from his seed collections. Our favourite and perhaps the longest lasting plants we have from John and Anita are of *Tropaeolum azureum* – a real favourite of ours which delights us year on year. We remember an unassuming-looking chap who spoke at warp speed and who had no sense of time, with a terrific sense of fun. The world has lost another extraordinary botanist.

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John enjoying the Scottish Rock Garden Club printed Journal, 'The Rock Garden' in January 2024. John was an Honorary Life member of SRGC.