

THE ALPINE GARDEN SOCIETY CENTRAL SUSSEX GROUP



NEWSLETTER

NOVEMBER 2009

Sig. C. BONOMI ALPINE PLANT DIVERSITY AND SEED CONSERVATION IN THE SOUTH EAST ALPS - TRENTINO

Constantino divided his talk between his seed conservation interest (to which I have added further information on ENSCONET in which he is a leading contributor) and a commentary on some of Trentino's plants. Its regional red data book has 723 of 2359 (30.6%) plant species at risk due to changes in land use (36%), intensive agriculture (20%), urban development (16%), collecting (4%) and unknown (23%). Climate change has so far made no great impact, but is a threat for the future. Seed collections held in long-term storage and their associated germination and geographic data play an important role in helping Europe meet the obligations of the Global Strategy for Plant Conservation (GSPC). One of the key aims of the European Native Seed Conservation Network (ENSCONET) has been to deliver easier access to seed collections across Europe and facilitate the improved use of electronic data relevant to seed conservation. To achieve this aim a "Virtual Seed Bank" has been developed and when it went live in June 2009 it held data on almost 42,000 seed collections representing more than 9200 taxa (around 70% of the European flora) from 40 countries stored in 29 seed banks across Europe. Notably, the database includes the results of around 21,000 germination tests. For some seed banks this is the first time their collections have been accessible via the web. There is a plant collecting plan and a protocol setting out the planning of expeditions, sampling, collecting techniques, identification, documentation and care of collections.

Methods to improve seed longevity and stability include temperature relative humidity. Taking barley as an example because it can have a very long time span, it was established that at an ambient temperature of 20°C and 60% relative humidity, seed half life was a mere 0.27 years; in a freezer at -20° C and 90% humidity half life increased to 2 years; in a dry room at 20° C and 15% RH 820 years; in a cold room at -20° C and 15% RH 8,200 years. Standard levels have been set at 15°C and 15% RH drying followed by storage at -20°C. Seed collecting (supported by committed high school teenagers) in Trentino began in 1997 with 74 target species, 26 endemic to the province, the highest number west and north of Lake Garda and the eastern border of the Dolomites. Collections were made from 422 sites on 360 days over three years. These included *Cypripedium calceolus* (253/304, 270/369), *Silene elisabethae* (270/361) – increasing durations of cold stratification resulted in an increase in germination from 20 to 90%. and *Orchis spitzelii* (204/150, 154, 294/365) which although quite widespread in sub-mediterranean mountains, is very local and rare.



Silene elisabethae

C. Bonomi

We began the commentary on Trentino's alpine plants with views across Lake Garda from each side. To the east the long north to south, undulating ridge (to 2218m) of Monte Baldo, with many ravines leading down to the lake between minor summits. Here the highly vulnerable *Callianthemum kernerianum* (226/344, 285/330) which can be found only on one 1.78km summit area of Monte Baldo (other locations are now considered incorrect). There are, however, large populations with an estimated total of 50-100,000 individuals. A snow melt plant beginning in May, it flowers abundantly, but less than 10% are fertilised and even then some only contain a shrivelled non-viable embryo.. The seeds disperse when the outer fleshy layer of the achene is still green and apparently photosynthesizing. This presents a challenge to the seed collector who has no clues to identify the natural dispersal time. Consequently this risks the loss of fruits if they wait too long before collection.



Callianthemum kernerianum C.
Bonimo

To the west of the lake is a jumble of many limestone summits, the most well known being Monte Tombea.. Here *Daphne reichsteinii*, first named in 1981 and referred to in Peter Erskine's talk on dwarf daphnes in our February 2007 Newsletter (this occupies a unique reference in Google resulting from my misspelling the the species name),. It is a presumed hybrid between *D. alpina* and *D. petraea*. *Silene elisabethae* (278/361) has one of the largest flowers of the genus. *Daphne petraea* (152/113, 247/5) is local, but quite common; one two year old plant at the base of a cliff had a root 20cm. long – imagine what it would have been in an older specimen! Although a narrow endemic here, *Centaurea rhaetica* is not at risk Monte Cingla has rock spires. Up to 40cm high, *Telekia speciosissima* is very easy to germinate and grow. In the Val Vestino, light to royal blue flowered *Aquilgeia thalictrifolia* grows to 70-80cm at the base of cliffs; there is a hairy edge to the petals and it has sticky glands. Although now extinct on Monte Tombea itself (the result of collecting), *Saxifrage tombeanensis* (245/3283) can be found on nearby mountains - if funds become available it could be reintroduced to its home. Slow growing, its leaves are incurved at the tip and its white flowers are up to 2cm. across. *Viola dubyana* (231/76, 278/361) is endemic with violet flowers carrying a yellow central spot. To the east of Lake Idro, the Valvestino. In limestone dust under overhanging rock in the narrow gorge of Val Lorina is rare *Saxifraga arachnoidea*. This is a narrow endemic, all plants growing within 18km of Storo (NNE Lake Idro), its leaves wrapped in 'cotton wool'. *Carex baldensis* is the only white flowered species and is not at risk.

North now to the Dolomites and first the Catinaccio (Rosengarten) Group with its collapsing towers and screes as in the Torri Vagolet. Here *Gentiana terglouensis* (256/209, 285/334) like a narrower leaved *G. verna* and *Soldanella minima* (233/210). In the Val Giumelle, less known than the Moonwort *Botrychium lunaria*, *B. simplex* the little grape-fern, in Italy found only in Trentino and the southern tip of the country. 1-5cm high it grows in tall grass meadows and being green itself, difficult to see. Towards the southern end of the Catinaccio at Roda do Vael, late flowering *Campanula morettiana* (192/111 251/11. 269/302). In scree low cushions of *Rhizobotrya alpina* with tiny white flowers and bright orange seeds and not clearly related to any other crucifer. To the east an area 25 x 20km around the Val di Fassa, the endemic *Saxifraga fachinii* with soft hairy leaves and red tinged, dull yellow flowers. Towards the northern end of Fassa the Val Duron, its slopes more gentle with *Juncus articus* in wet areas. Further east to the Fedaia Pass for a view of the fast receding glacier on the Marmolada and *Draba dolomitica* with blackish fruits. Facing the Marmolada to the north, the Pordoi Pass with the endangered *Dianthus glacialis*, its calyx turning red and staying red to the fruiting stage, on acid rocks along the Vial del Pan. There are splendid views from this Padon ridge northwards to Piz Boe in the Sella Group. Confined to an area from the Pordoi Pass south eastwards to the Rolle Pass, *Primula tyrolensis* (190/337) with flower stalks no more than 2cm and bearing variable rose blooms



Saxifraga fachinii

We travelled next westwards to beyond Trento to the Brenta Dolomites where a new species of Gentian was described only in 2008 – *G. brentae*. It is similar to *G. bavarica*, smaller than *G. terguolensis* and grows on consolidated screes, in small depressions (snow beds) and in clefts of sub-horizontal layers of dolomite. An endemic species difficult of access, the pentaploid *Nigritella buschmanniae* may be derived by hybridization of *N. widderi* with a sexual diploid species. Its upper labellum is swollen. *Scutellaria alpina* (237/191, 281/366) has purple flowers followed by red fruits.

Confined to shady situations to an area between Lake Como and the Giudicarie which stretches north east from Lake Idro is *Primula glaucescens*. *Campanula raineri* (251/11, 268/177, 279/63, 294/341) which opens its pale blue flowers in mid-August, *Fritillaria tubiformis* in meadows and found only discontinuously between Lakes Como and Garda and *Saxifraga vandellii* on vertical cliffs. Continuing the trend north eastwards is the Val Rendena. between Pinzolo and Madonna di Campiglio and on to Passo di Campo with *Primula daoensis* (255/88, 276/160, 270/360, 287/50) confined to acid rocks.. We

also saw green flowered *Liparis loeselii* and in dry meadows *Dracocophelum austriacus*. *Hypochaeris facchiniana* is a narrow endemic herbaceous plant occurring at high altitudes in steep alpine meadows. It grows only in the southern part of the Brenta Dolomites and in the Cadria chain north of Lake Garda. Subtle differences distinguish it from the widespread *H. uniflora* and flowers one month earlier. Retuning back over the Brentas to Trento and on a small hill in the city *Ephedra helvetica* with red fruit on deep; green twigs.

We were privileged to have Constantino between his Kew Conference and return to Italy. An excellent and professional talk not only about the collecting, recording, documentation and conserving of seeds, but for a photographic journey through Trentino illustrating and commenting on many of its endangered or rare plants.

There are too many articles on the south east alps in the Bulletin to quote here, but one from the Saxifrage Society is worth looking out called 'Just to get out of the rain' by Paul Kennett – the Tombea range and a search for the elusive *Saxifraga arachnoidea*. Available online at <http://www.saxifraga.org/publications/magazine/article6.htm>

Apologies – the photographs of *Silene elisabethae* and *Saxifraga fachinii* have been removed from the paper version as they were too dark.

RM

**MEETING 21 NOVEMBER
ANNUAL GENERAL MEETING and
BOB CHARMAN on
LAKE VAN HAKKARI YUKSEKOVA and
BEYOND**

The minutes of the previous AGM were posted with the December 2008 (2008-12) Newsletter. The past year's accounts are below. The agenda will include an item on the way forward for the group, so please be there. As usual we will be looking for committee members and a permanent chairman, so don't be shy.

For those of you who may not be able to decipher the title of Bob's talk, Lake Van is in the south east corner of Turkey – the Kurdish area from which he has just returned with loads of photos of smashing plants.

CENTRAL SUSSEX AGS

Income and Expenditure Account 1.9.08 – 31/8/09

(Figures in £'s—last year's in brackets)

INCOME

	<u>08/09</u>	<u>07/08</u>
SUBSCRIPTIONS	180.00	(187.50)
VISITORS	37.00	(4.00)
RAFFLE	90.00	(108.00)
COFFEE	34.30	(37.50)
AUTUMN SHOW	-----
OTHER	(65.00)
INTEREST	<u>15.43</u>	<u>(38.67)</u>
TOTAL	<u>356.73</u>	<u>(440.67)</u>

EXPENDITURE

HIRE OF HALL	180.00	(228.00)
SPEAKERS	220.00	(210.00)
POSTAGE	43.32	(18.72)
OTHER	<u>137.76*</u>	<u>(75.53)</u>
TOTAL	<u>581.08</u>	<u>(532.25)</u>

SURPLUS/ DEFICIT	(-224.35)	(-91.58)
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BALANCE @ 31.8.09

CURRENT ACCOUNT	209.98	(412.49)
DEPOSIT ACCOUNT	<u>1756.28</u>	<u>(1740.85)</u>
	<u>1966.26</u>	<u>(2153.34)</u>

* Includes £100 donation re: Keith Moorhouse

