

Last Meeting.... report by John Knight

Granite ; Grail or Graveyard

Jenny and Ralph Vine's Mogendoura property

After we settled in relative comfort, out of the weather in the carport, APS NSW Region President John Aitken was welcomed by the members. John took the opportunity whilst visiting family, to address the meeting on a number of administrative issues which recently have been adopted at Regional level. After responding to a few pertinent questions, he moved on to the issue of quarterly regional gatherings, and again asked that our group consider the opportunities presented by groups holding such events. John pointed to the success of the meeting held at Coffs Harbour recently as an example of the benefits gained by groups based outside the major cities.

As this is our group's 21st year, maybe we can enhance the profile of Australian plants in the broader community by agreeing to host the planned district gathering in November. In canvassing the idea, John was encouraged by the positive response from members. More will be said about this once the committee have discussed the issue further.

Granite to soil

Geologist Ralph then invited us to assemble on a mass of exposed granite rock in front of the house, where he spent some time explaining how granite arrived at the surface, and over eons was eroded, leaving the landscape we see today, and why these soils vary in their productivity, ability to absorb and hold water, and susceptibility to erosion.

This set the scene for his talk on granite and its effect on the existence of plants.

The following paragraphs have been written by Ralph to assist members understand the mystery of geology.

Granite is an igneous rock, coarsely crystalline as a result of extremely-slow cooling from its molten state. It consists almost entirely of **feldspars** (sodium or potassium alumina silicates) and **quartz** (silica) with a small scattering of **biotite mica** (another potassium alumina-silicate, but with magnesium and iron silicates). On breakdown during chemical weathering the amount of elements useful to plants is negligible. Further, the resultant sandy-clay has very limited water retention capacity.

Granite mainly forms from the melting of former crust and its coating of old sediments at depth below mountain belts resulting in plate collisions. These mountains erode over time to the stage where the previously deep roots, principally metamorphics together with granite masses, are exposed and can be seen along the belt that forms the eastern margin of Australia.



Ralph, second from the right, explains the process of granite decomposition, using his landscape features



Discussion over a finer point

As the rocks cool there is some cracking, although least in the densest rocks, such as granite. These cracks, known as joints, enable some penetration of water and thus chemical weathering. This process is increased by the trapping of organic matter, which improves chemical activity, and so the enlargement of joints. In turn this provides room for tree roots and thus an anchor for trees and an explanation of how trees can survive in such massive rock areas.



This spotted gum demonstrated graphically the struggle between rock and root

Visitors were also able to see the initial colonising of otherwise bare rock areas by lichen, and, where there is slight surface depression, by other plants such as ferns. The

arrival of such plant forms in turn leads to trapping of other organic matter, such as fallen leaves, which in turn creates the environment for chemical erosion to soil, however lacking in fertility unless aided by organic debris. They were also shown some physical breakup of the granite surface by the process known as exfoliation. This takes place as a result of stresses created by diurnal and seasonal temperature changes, concentrated in the near - surface rock. The resultant rock bodies accumulate downslope, and again form a means of trapping organic matter.

Ralph, after taking numerous questions, was warmly applauded for giving so generously of his time and knowledge.



Jenny discusses the necessity and benefits of plant protection with David Crawford

On the completion of Ralph's talk, Jenny invited us to stroll around the "house garden", and explained how over a quarter of a century she had coaxed a small range of plants to thrive, or at least exist.

Their substantial acreage is home to all manner of native animals, so in order to protect her treasures, she is forced to confine them inside mesh fencing.

Once established, most plants are by necessity left to their own devices, and Jenny said that those which had to

fend for themselves have over time proved the hardiest.

Some of her favoured plants are in the **Rutaceae** family, and we observed some plants often difficult to maintain as garden plants, such as the local form of *Crowea exalata ssp exalata*, a couple of species of **Zieria**, **Phebalium**, and **Leionema** which were into their second decade.

Jenny also grew a range of small shrubs in planters where the soil was too shallow to establish sufficient roots for satisfactory growth.

Venturing along tracks winding around granite tors through the ironbark/spotted gum forest we arrived at still running creek at the bottom of a gully. Here grew a different group of plants favoured by the moister, more humid conditions. Rainforest undershrubs such as *Notelea venosa*, Mock Olive, *Synoum glandulosum*, Scentless Rosewood, and *Claoxylon australe*, Brittlewood, along with a different suite of

grasses and sedges stood in contrast to the generally drier aspect on the slopes.

Jenny pointed to some well established orchids, *Dendrobium speciosum*, Rock Lily, which grow on exposed granite rocks right along the creek.

Where wallabies are able to reach the foliage, they have eaten the leaves to their base, but inaccessible plants were crowned with luxuriant, bright green leathery leaves.



Note the chewed leaves (top right), contrasting with lush foliage of the *Dendrobium* lower on the rocks

Lunch time was already upon us, and we were urged to return to the house. The promised “show and tell” session was conducted as we ate. Phil and Catriona produced a stunning array of **Banksia** blooms, explaining that many of the unusual forms, such as the rare *B. epica*, and *B. brownii* are grafted onto hardier, eastern species.

Catriona explained the naming of *B. epica*, honouring 19th century explorer, Edward John Eyre, who is believed to have passed by the site where this rare plant grows, on the southern coast of W.A., The plant is restricted to a small area of the southern Nullabor Plain, and is the most eastern of the Banksias of Western Australia. The specific epithet “*epica*” commemorates Eyre’s epic journey. This Banksia was not formally named until 1987.

After Catriona had spruiked her wares, Phil was left to sell the benefits of growing **Hakeas**. He also has grafted some W.A. species onto hardier rootstock, therefore being able to grow some desirable but difficult plants. One extremely prickly *Banksia epica*, closely related to *B. media*



Catriona spruiking the horticultural merit of *Banksia brownii*



specimen made its way gingerly around the group.

Margaret Lynch brought along a range of small shrubs of mainly eastern species, including **Correa**, **Grevillea**, **Thryptomene** and **Platysace**, demonstrating the diversity of plants flowering at this time of year.



Margaret, with her bag of treasures

Jenny John usually has an interesting collection to show, but having recently moved, has not yet established a garden. She did however bring along a new edition of “**Birdscaping Australian Gardens**”, by George Martin Adams, which she will consult when choosing plants for her new garden.

NSW President John added to the discussion by revealing a very large well fed leech, obviously collected during the walk along the creek. Not to be outdone yours truly was similarly adorned by a slightly smaller version. No one else seemed to have attracted attention of these blood suckers, leaving one wag among the group to suggest the leech is a badge of office. Ralph came to the rescue with a salt shaker. At this point, Dianne offered warm thanks to our hosts, Jenny and Ralph, presenting them with a gift on behalf of those attending.

The afternoon session saw a convoy heading along Maulbrooks Road searching for **Crowea exalata**, known to frequent this area, usually growing on rising ground. Plants, whilst not abundant, are common enough to be noticeable. Flower colour varies from light shell pink to cerise, and many are two toned with almost white on the lower half of petals.

On a particularly floristic rocky outcrop the full range of colours were found. Here also were three representatives of the **Proteaceae**, **Banksia spinulosa**, **Grevillea arenaria**, and **Persoonia linearis**, with many smaller shrubs.

Satisfied that we had seen the best of the Crowea, we headed further inland through drier country dominated by **Eucalyptus globoidea**, White Stringybark, and **Allocasuarina littoralis**, Black Sheoak, the male trees adorned with brownish flowers on drooping branchlets.

Heading further west we reached a broad saddle, where **Acacia cognata**, Bower Wattle, grows in the cooler gully. Here the plants are at their best, and bear true resemblance to what can



While Mark entertains the Kings of the Castle, the rest of us search for more plants.



Phil's looking a bit worried. "Hope mine don't get that big"

Vice-President Geoff suggested he stick to the smaller cultivars, such as *A. cognata* "Limelight", possibly one of the better forms of *A. cognata* for modern gardens

be expected of plants grown in gardens, given benign conditions. The sight of these plants was sobering for some, who didn't realise how large they grow.

After enjoying this cool patch of forest, it was time to head for home. Some opted for further discovery by taking backroads to the highway, but most returned the way we came to the safety of the blacktop, to complete another successful day.

Some plants discussed during the forest tour, include: *Acacia longifolia* and *Acacia obtusifolia*, and how they can be recognised and distinguished. Rapier sedge, *Lepidosperma urophorum*, and Variable Swordsedge, *Lepidosperma laterale*, which are so distinctively different, and hardly recognisable as being in the same Genus. Similarly, the **Lomandras**, with the broad, long leaves of *L. longifolia* so distinct from *L. confertifolia* ssp. *confertifolia*, *L. confertifolia* ssp. *rubiginosa*, *L. filiformis* and *L. cylindrica*, each of which grew around the rocky outcrops. I am always amazed at how healthy and vigorous *Lomandra confertifolia* forms appear on the driest of sites. As garden plants, these are among the most reliable and attractive, but can look a bit straggly if overwatered.



Landscaping excellence. These steps were constructed by Ralph using stone sourced from the block.

Over 20 years, the rocks have provided home to quite a diverse lichen flora. They also demonstrate a Geologist's affinity to rocks and their natural uses.