

Plant Science Says



June, 2003

Tasmania Mania

Tasmania is an island state of Australia. At one time, during the last ice age, it was actually connected via a land bridge to the mainland of Australia. Over 100 million years ago this entire land mass and South America, New Guinea, Africa, Madagascar, and New Caledonia were connected to form a super continent called Gondwanaland. It turns out



Tasmanian Devil

that some of the same plant families that lived in that ancient land still have relatives that live on these fragmented land masses today. It would therefore

seem that microbes that established relationships with plants in an earlier time may still share some of the same associations today. Thus, we launched a trans-Tasmania expedition for most of the month of April to examine and sample some members of the ancient plant families that inhabit this remote island paradise. We especially looked for the podocarps (Huon pine and celery top pine) as well as the eucryphias (leather wood). After finding virtually all of our target plants we stopped at the Asbestos Range National park (wow what a name- it has since been changed) and were amazed at the wildlife. This place is the veritable Serengeti of Australia. Mobs of kangaroos moved through that fields and wallabies jumped along the stream banks. Then, almost promptly at 5 PM, out of their holes, came an army of wombats. What neat creatures. Their marsupial pouches open to the rear very much like a minivan in order to accommodate their babies. That night at Asbestos we experienced a downpour of rain that I shall never forget.



Gary holding a wombat

Our tents got pummeled with wind, water and lots of flying debris. It was difficult to get to sleep!

Two fellows from the film and TV department accompanied Suzan and I on this trip. John Shier was the lead film maker and his colleague

from Wisconsin, Brian Winekaup, accompanied us. Thus, beside the prospect that we could find some new endophytes, our goal was to begin the long process of making a documentary film on the science around the processes involved in prospecting for the novel biology and chemistry of fungal and bacterial endophytes.

A second part of the trip took us across Australia to the Northern Territory and the Gove Peninsula. This amazing place is a part of the most extensive aboriginal reserve in all of Australia. Prior arrangements had been made for us to spend time with aboriginal people who would show us plants that are important to their pharmacopeia. I shall never forget Gulumbu taking some leaf tips of a *Terminalia* sp., crushing them in her fingers, holding the green mash to my nose and saying, "We use this to treat stuffy noses- better than Vicks -eh?"



Corellas

We were able to see the amazing aboriginal rock art of Ubirr on the East Alligator River. This place has drawings that date back to almost 20,000 years ago. In fact, it is said

Swamp gum, the tallest flowering tree in the world



Echidna

that this represents an area that may have been the first human settlement in Northern Australia. As we left Ubirr, the evening sky was filled with thousands of flying foxes (fruit bats with 3 foot wing spans). A helicopter flight over this area of the East Alligator revealed a great deal about the landscape and the vegetation that it supports. Waterfalls, winding rivers and many billabongs cover the area. If one looks closely enough, it is possible to see crocs lying on the sandy beaches of the river sunning themselves.

Already Uvi and David and others in the lab including Tara, Segal, Erica, and Scott have found a plethora of microbes from the plant samples collected on this trip. Time will only tell if any of these organisms will prove valuable.

Biotech Frontiers Course

The Biotech Frontiers course will begin again for the third year on July 6 and runs continuously for 4 weeks. Thirteen students are enrolled, 8 of them coming from 8 states outside of Montana. Drs. Tony Kern, Alice Pilgeram and David Sands will again be the instructors for the course. The tuition is \$3000 and NSF EPSCoR funded the tuition for 9 of the 13 students. Sandra Germann (7671) also has a list of private donors who would like to contribute if anyone is interested. One of the students who attended last year received a \$20,000 scholarship from the RORD Foundation to study in France and Greece. For more information, log on to biotechfrontiers.com.

Conflict Resolution

By Irene Decker

Whatever the main focus of your current position, we all need to work with others sooner or later and conflict is almost always a part of that at some point. Recently, I attended a seminar sponsored by Personnel and Payroll Service having to do with Conflict Resolution. Bill Wilmot, a mediator from the University of Missoula, was the facilitator. He stated that conflicts which start out as content related (wanting promotion, space, time, money,



relational issues (respect, professionalism, acknowledgement, inclusion, trust, equal treatment). Most of the training currently available has to do with content. Another interesting insight he had was that we all have a core identity and when there is conflict we need to preserve the identity of the other person. For instance, if I see myself as a good listener and you say that I never take the time to really listen, I will become very defensive. Our criticisms of others represent our identity.

As we all know, he also stated that talking about the person you are having a problem with to other people almost always escalates the problem and the person talked about almost always find out. Go directly to the person you have the conflict with.

Lastly he stated, "Be easy on people but hard on the problem."

Pruning Roses

by Bob Gough

Roses present probably the most mystery regarding their pruning, but it's really simple to care for them. All we need to do is separate those that need regular pruning from those that don't and learn a few details.



If your rose has been grafted, as many of the hybrid teas, and the graft union remains above ground, remove all suckers arising from below ground. Species roses, including the shrub roses, need almost no pruning. Early each spring, remove dead, diseased, and broken canes and branches and deadhead the bush right after flowering. Cut back winter-killed wood to healthy wood. Maintain the plants with about 4 or 5 healthy canes and keep the center of the plant open. That's it. Cut back Hybrid Teas, Grandifloras, Floribunds, and Polyanthas to sound green wood and treat them as described above. The simple plan of keeping the dead and unhealthy wood removed and the center of the plants open applies to all roses.

During summer bloom, as soon as a flower begins to shatter, remove the flower and attached shoot back to a 5-leaflet leaf with a bud pointing toward the outside of the plant. This will help the plant become more bushy and set more flower buds.

In fall, shorten the canes of hybrid teas to about 12 to 18 inches to facilitate winter protection and shorten them again in spring, leaving about 4 healthy buds on each of the

remember to keep the unhealthy wood pruned out and the center of the plant open.

If you want to know more about pruning your roses, contact your local county extension office or visit the Gardening & Horticulture website at the bottom of this page to order your free copy of MontGuide 9603, "Growing Shrub Roses in Montana."

Recipe of the Month

Greek Pasta Salad

½ cup olive oil
 ½ cup red wine vinegar
 1 ½ t. garlic powder
 1 ½ t. dried basil
 1 ½ t. dried oregano
 ¾ t. ground black pepper
 ¾ t. sugar
 2 ½ cups cooked elbow macaroni
 3 c fresh sliced mushrooms
 15 cherry tomatoes, halved
 1 cup sliced red bell peppers
 ¾ c crumbled feta cheese
 ½ c chopped green onions
 1 (4 oz) can whole black olives
 12 ounces sliced pepperoni sausage, cut into strips

In a large bowl, whisk together olive oil, vinegar, garlic powder, basil, oregano, black pepper, and sugar. Add cooked pasta, mushrooms, tomatoes, red peppers, feta cheese, green onions, olives, and pepperoni. Toss until evenly coated. Cover, and chill 2 hours or overnight.

June Birthdays

Uvi Castillo	10
Ron Larson	12
Jackie Kennedy	15
Luther Talbert	18
Eileen Carpenter	22
David Ezra	26

