



General routes traveled for collection of samples for anticancer screening.

Dr. Sydney James, Professor of Botany at the University of Western Australia, contacted students to be interviewed for employment in collecting plant samples.



Signs like this one are not uncommon. It is a reminder that the entire flora of Western Australia is protected by law. Permits were obtained on the basis that samples would be tested for chemotherapeutic agents.





In good weather, samples dry quickly on top of vehicles; but, the weather was not always favorable as evident on the right.



A greenhouse such as this was ideal for drying samples; University of Western Australia. Permission was obtained from Dr. Arthur McComb, Professor & Chairman of the Botany Department.



Low heath with rock outcrops on the Darling Scarp east of Perth



A Banksia woodland with low heath on sand plains about 60 miles north of Perth. Yellow flowers are Hibbertia hypericoides (DC.) Benth. & Synaphea polymorpha R. Br.



Floristic diversity in this barren looking area is comparable to that seen in tropical rain forests. The Northern Sand Plains have one of the richest floras in Western Australia.



Eucalyptus - Banksia - Xanthorrhoea association, near Perth



Granite outcrops on the Darling Scarp just east of Perth (left). A Eucalyptus ("Karri") Forest near Augusta (right).



Acacia bushland near Shark Bay, about 500 miles northwest of Perth.

PROTEACEAE



Banksia hookerana Meisn. A common shrub on sand plains near Gingin



Banksia menziesii R. Br. A common tree on sand plains near Perth.



Xylomelum angustifolium Kippist. 'Sandplain Woody Pear', near Carnamah.



Banksia grandis Willd. (leaf)

PROTEACEAE



'Smoke Bushes' Conospermum incurvum on the left & C. stoechadis Endl. on the right. The latter is a very common bush, 1 to 2 meters high, in the Perth Region.



Grevillea spp. A very common genus in Western Australia, with numerous species. About 27 species were collected for anticancer screening.



Petrophile linearis R. Br.



Petrophile ericifolia R. Br.



Petrophile biloba R. Br.



Hakea lissocarpa R. Br.

PROTEACEAE



Isopogon spp.



Avon River



Adenanthos barbigerus Lindl.



Calythropsis aurea C.A. Gardner Shrub from 2 to 3
meters high. A monotypic genus.



Calothamnus sp.



Verticordia grandiflora Endl.



Verticordia grandis Drumm.
ex Harv.



Leptospermum spinescens Endl. A much-branched shrub with branches ending in spines, 20 to 50 cm. high. In the arid regions of America, we are accustomed to shrubs having spines but in Australia this is atypical. Spines in Australian plants are usually found on sclerophyllous leaves rather than on the stems.



Darwinia citriodora Endl. A simple-stemmed shrub with long & slender divaricate branches to 1 meter high. On rock outcrops east of Perth on the Darling Scarp.

CHLOANTHACEAE



Pityrodia cf. bartlingii (Lehm.) Benth. This has two sterile stamens as in Hemiphora, a monotypic genus. However, in many respects it is similar to P. bartlingii. An illustration in W.E. Blackall & B.J. Grieve's "How To Know Western Australian Wildflowers" shows 4 fertile stamens of equal length and a color photograph differs from the one above. The staff at the WA Herbarium can better evaluate collections of this nature.

EPACRIDACEAE



Leucopogon polymorphus Sonder. This species, as the name implies, is variable. Also, the genus is very difficult, taxonomically, having many species with slight differences in leaves & flowers.

LAMIACEAE



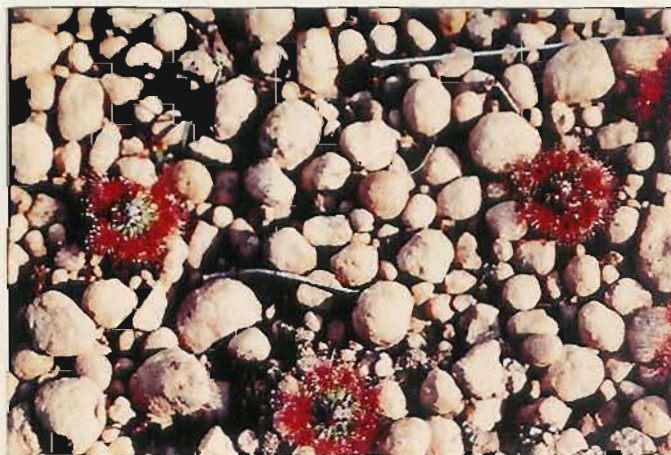
Hemianandra linearis Benth.

RHAMNACEAE



Cryptandra arbutiflora Fenzl

DROSERACEAE



We usually associate 'sundew' (Drosera sp.) with boggy places. In Western Australia, species of sundew can be found growing on dry sand, stony ground or as vines climbing over shrubs about rocky places. Although Drosera is a cosmopolitan genus, more than a third of all species occur in Western Australia.



Gompholobium tomentosum Labill.

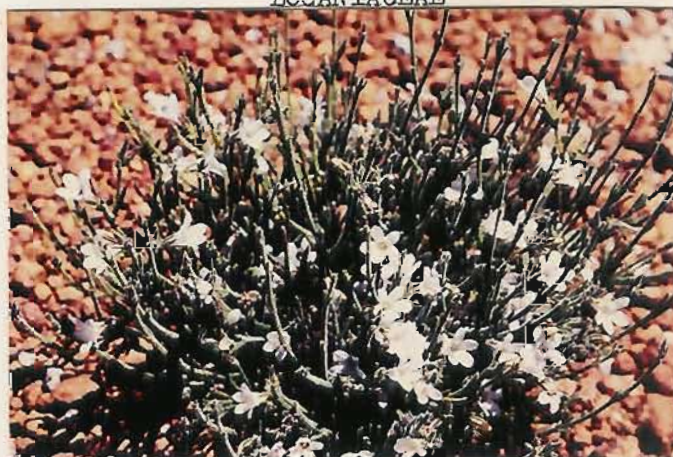


Daviesia polyphylla Benth.
A common genus with many species in Western Australia. Triangular fruits are characteristic.



Kennedia prostrata R. Br. One of the common coral vines

LOGANIACEAE



Logania spermacoceae F. Muell. A small perennial herb or shrub.

GOODENIACEAE



Lechenaultia biloba Lindl.
A wiry stemmed shrub to 1 meter. Widely scattered, on sand plains and in Eucalyptus forests.



Verreauxia reinwardtii (DeVriese) Benth. Much-branched shrub to 1 meter. Common on sand plains near Jurien.

RUTACEAE



Eriostemon spicatus A. Rich
Another wiry stemmed shrub to $1\frac{1}{2}$ meters high. Scattered on sand plains scrub & Banksia woodland

STYLIDIACEAE



Stylidium crosssocephalum F. Muell. Very common herb on sand plains near Cataby.



Xanthorrhoea spp. Commonly known as 'Blackboy', these are reminiscent of Nolina in southwestern United States & Mexico. The ones pictured above are regarded as X. preissii Endl., although several species may actually be involved. Microscopic examination of leaf cross-sections suggest several species but lots of material needs to be studied before any conclusions are drawn.



Dasypogon hookeri Drumm. A genus of two species but several other species and varieties have yet to be described. No samples were collected of this one since it was reportedly becoming scarce.



Dasypogon bromeliifolius R. Br.



Anigozanthos manglesii D. Don A perennial herb with tall flowering scapes arising from tufts of broad linear leaves. The 'floral emblem of Western Australia. Commonly known as Kangaroo Paw or Mangles' Kangaroo Paw.



Anigozanthos humilus Lindl. 'Cat's Paw' or 'Yellow Kangaroo Paw'

HAEMODORACEAE



Conostylis setigera R. Br. Conostylis is commonly seen in Western Australia.



Conostylis juncea Endl.

LILIACEAE



Phlebocarya ciliata R. Br.



Thysanotus patersonii R. Br.

LILIACEAE



Johnsonia pubescens Lindl. (left) and Johnsonia lupulina R. Br. These grass like plants are indeed members of the lily family. The genus includes three species, all are endemic to southwestern Australia.

IRIDACEAE



Patersonia occidentalis R. Br. Many Iridaceae seen in Western Australia are escapees introduced from South Africa. However, Patersonia includes 12 species native to Western Australia and another 5 or more extending elsewhere in Australia, New Guinea, Borneo and Philippines.

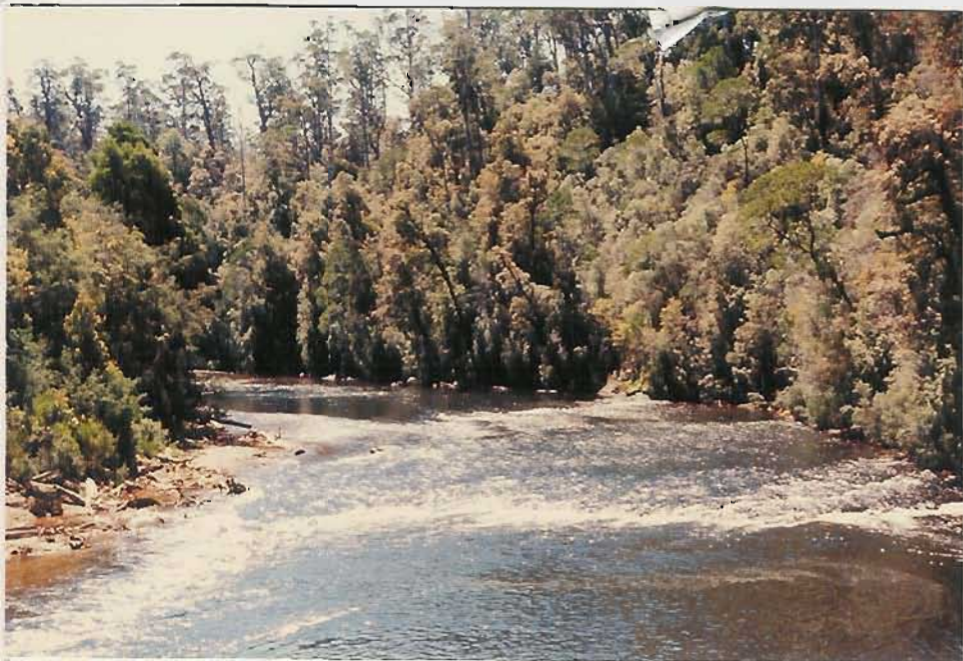


Anarthria scabra R. Br. Habit of male plant (left); close up of male inflorescence (upper right) and of the female (lower right). This sedge-like family has about 29 genera and 300 species distributed mostly in South Africa and Western Australia. Thus far, only about 8 species have been screened for antitumor activity (of Restionaceae); however, 14 were collected in Western Australia. Ecdeicolea (Ecdeicoleaceae) has been segregated from Restionaceae. Looking at stem cross sections of Anarthria scabra, it too would appear to belong to another family and also is quite different from other species in the genus.



Lepidobolus sp. (male) This is probably an undescribed species but it is difficult to ascertain this since species of Restionaceae are so poorly defined in the first place. One problem is that Restionaceae are typically dioecious and different sexes of the same species often look like different species. The taxonomy of the family is based on both sexes and bringing the correct sexes together of a species can be difficult.

TASMANIA, NORTHWEST COAST



Arthur River

TASMANIA, NORTHWEST COAST



Arthur River





Procurement of Notelaea ligustrina Vent., vicinity of Arthur River. Rhizomes of a fern, Blechnum nudum, formed a network in the soil making digging of Notelaea roots difficult.



Procurement of Notelaea ligustrina. The Tasmanian Forestry Commission kindly provided vehicles, chain-saws and other equipment. About 400 pounds of root (dried) were obtained.