

# DCLM Parks and Visitor Services Workshop

Keeping up with plant information:  
how to use Departmental information  
systems and find out about native  
plants and weeds.

Neville Marchant November 2002



WA Herbarium 1970



# The South West Bioregion

- one of the worlds plant hotspots
- a virtual island surrounded by aridity
- relatively poorly known despite a long botanical history
- first collections made in 1699, by William Dampier
- new species are still being discovered

# Kwongan with *Conospermum*





*Banksia praemorsa*

Photos: M. Hancock & C. Hortin



*Dryandra ferruginea*

Photos: V. Holly & I. R. Dixon

# What do we know about our biota?

- The Five Kingdom system of classification of living organisms

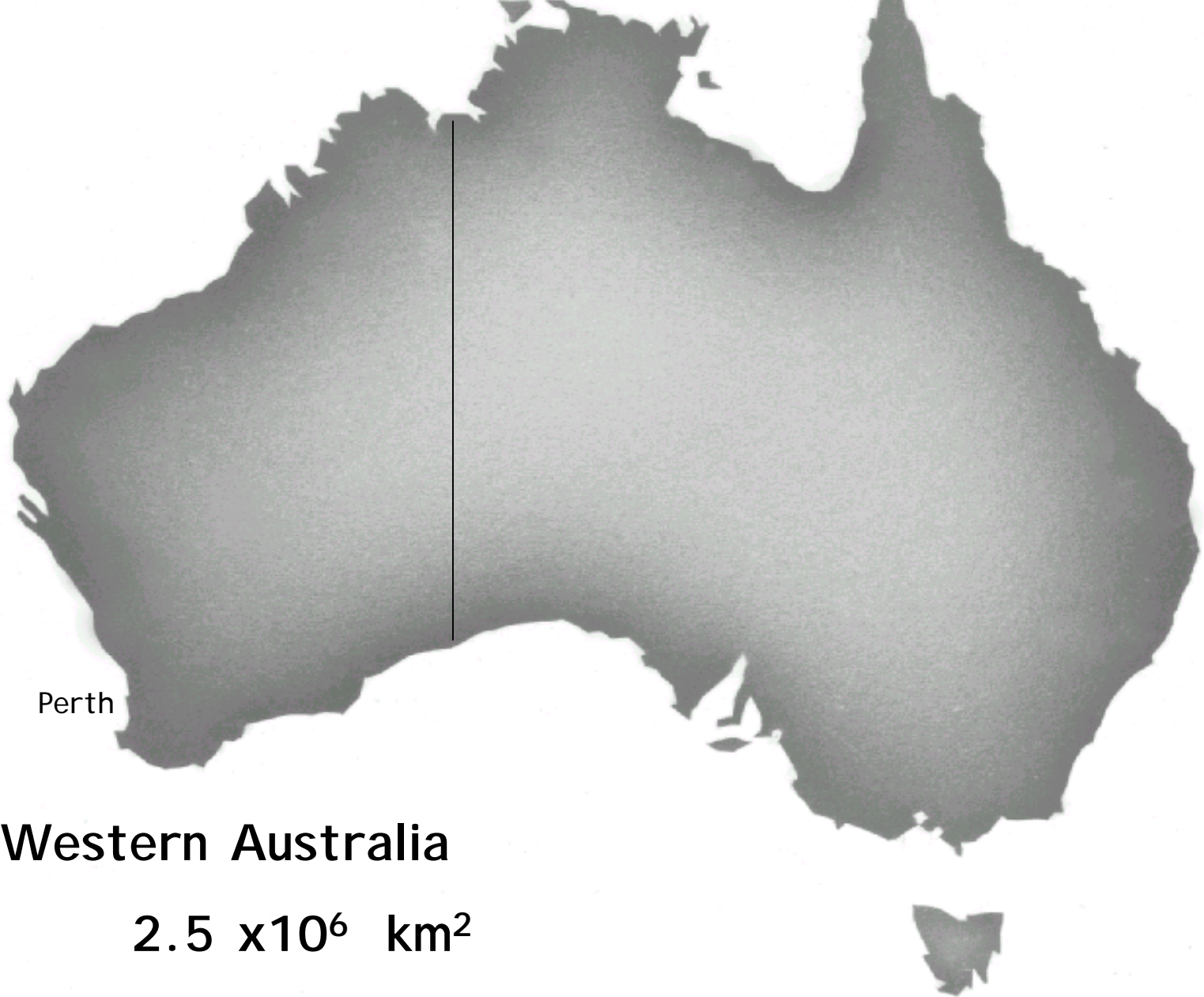
Kingdom *bacteria*

Kingdom *algae* (brown, red and green algae, water moulds, diatoms etc.)

Kingdom *fungi* (mushrooms, cup fungi etc.)

Kingdom *animals* (worms, sponges, insects, mammals etc.)

Kingdom *plants* (mosses. Ferns, cycads, pines, flowering plants)



Perth

**Western Australia**

**$2.5 \times 10^6 \text{ km}^2$**

**(1 million square miles)**

# How many species do we have in WA?

Kingdom	WA	(world)
• bacteria		? (10 000 described)
• algae		? (60000-250000)
• fungi		10 000 – 100 000 (1 500 000)
• animals	?5000	(?)
• plants	15 000	(250 000)

# The DCLM Herbarium

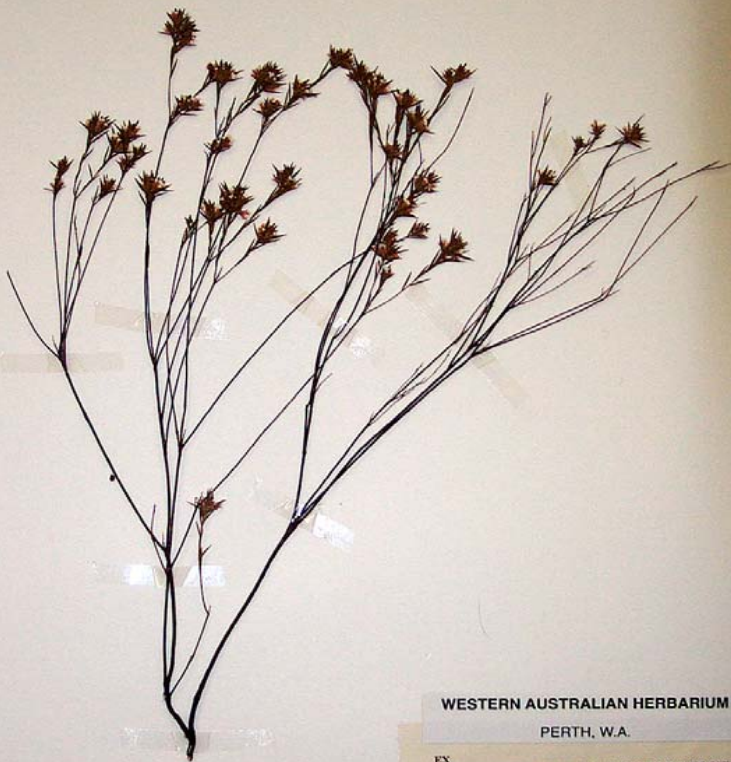
- formed in the 1920's to record the flora of WA
- comprised of 520 000 preserved specimens (Herbarium specimens)
- WA covers 2 500 000 square km; one-third of Australia
- thus there is only 1 plant record per 5 square km

# The Information Technology revolution

- The collections are a huge resource for conservation of biota.
- Frequently asked questions: -
  - correct name?
  - where does it grow?
  - is it rare?
  - what are its biological features?

# Databasing and information delivery

- Each specimen given a unique barcode
- all label details captured, including latitude and longitude of the collecting site
- OUTCOME: we can say what grows where and where what grows



WESTERN AUSTRALIAN HERBARIUM  
PERTH, W.A.

EX  
NATIONAL HERBARIUM OF NEW SOUTH WALES (NSW)  
Royal Botanic Gardens, Sydney

*Leucopogon* sp. nov. "graminiformis" Powell Ms  
det. E.A. Brown Dec 1997

EPACRIDACEAE

Loc.: 4.7 km east of lighthouse at Point D'Entrecasteaux on  
Wheatley Coast Highway, c. 65 m from road.

AUSTRALIA WA Darling  
Lat. 34°49'50"S Long. 116°02'43"E Alt. m.

Coll.: E.A. Brown 97/248 & G. Taaffe Date: 09 Oct 1997

Notes: Low lying swampy plain. Low scrub 0.5 m tall or  
less; sedges, Fabaceae, *Leucopogon cordatus*, *Andersonia*.  
Peaty sand.

Frequent. Small erect shrub 20 cm tall; multiple stems  
arising at ground level; corolla tube light pink, buds darker;  
leaves only on upper 2-3 cm of branches; older stems  
red-brown.

(This specimen is a duplicate of NSW 415946)

Deposited for: NSW PERTH UNSW

# Other databases

- Library records
- Names - family, genus and species
- Description of the species

databases all linked to an Internet  
friendly delivery system

FloraBase





*Pimelea physodes*

Photos: WA Herbarium



*Cephalotus follicularis*

Photos: M.Seale & C.Hortin

# WA Herbarium (PERTH) Information available

- MAX field software
- up-to-date species lists for any area
- Lists of orchids etc for any month
- basic information on ecosystems

efficient vouchering with updatable  
reporting eg a scientific paper or a  
wildflower book

# FloraBase

## DCLM's on-line info system

- ✓ allows information retrieval of where the currently recognised 13 500 WA species grow and their conservation status
- ✓ provides a thumbnail description and images, where available

# FloraBase

ADVANCED



Find Out More About FloraBase



Coming in FloraBase 2!



Search FloraBase Specimens



Search FloraBase Names



Search FloraBase Descriptions



Search FloraBase Specimens  
(Display fields for Declared and Priority taxa)

The most popular information - Names and Images - is available without registration.

[Find out more..](#)

[\[Home\]](#) [\[About\]](#) [\[Help Folder\]](#) [\[Families\]](#) [\[Names\]](#) [\[Descriptions\]](#) [\[Specimens\]](#)  
[\[Specimens with Declared and Priority Fields\]](#)

# FloraBase

## DESCRIPTIONS

The Description database contains over 12,500 records of basic descriptive information on the state's vascular flora. To interrogate the database fill in any fields below, and click on the Search Descriptions button.

<u>Family</u>	<u>Genus</u>	<u>Species</u>	<u>Common name</u>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<u>Flower colour</u>	<u>Habit</u>	<u>Habitat</u>	<u>Soil type</u>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<u>Flowers in</u>	<u>Manuscript</u>	<u>Alien</u>	<u>Status</u>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<u>Northern</u>		<u>Eremaean</u>	
<input type="text"/>		<input type="text"/>	
<u>Southwest</u>			
<input type="text"/>			

☒ Species Summary ☐ Annotated Checklist

Your search resulted in 4 matches

Viewing matches 1-4

Page: 1

I: Image, M: Map, D: Description, S: Specimens

### Papilionaceae

I

M

D

S

### Genista

\* *Genista canariensis* L. Sp. Pl. 2:709-710(1753)

Taxon 3934 is **not current**.

\* *Genista horrida* (Vahl)DC. in Lam.& DC. Fl. Franc. edn 3, 4:500(1805)

Taxon 3935 is **not current**.

\* *Genista linifolia* L. Sp. Pl. edn 2, 2:997-998(1763)

Taxon 3936 is **current**.

Common name: Flaxleaf Broom

\* *Genista monspessulana* (L.)L.A.S.Johnson Contr.New South Wales

Natl.Herb.3:98(1962)

Taxon 18143 is **current**.



[Name Correction Form](#)

# plant identification

- naming poses the greatest problem in WA, there is no comprehensive “Flora” handbook
- The Reference Herbarium and Regional Herbaria are excellent tools
- The herbarium is aiming towards user-friendly on-line identification

# On-line interactive identification

- ✓ offer greater flexibility for the user, ability to cope with incomplete specimens
- ✓ can be sourced from descriptive databases, presented in various languages, and accessed over the Internet.



Available Characters (109)



leaves [arrangement, when opposite]  
leaves [when compound: form]  
leaves [approximate size]  
leaves [overall length including petiole, maximum on specimen]  
leaves [presence of basal sheath]  
leaves [presence of petiole]  
leaves [whether stipulate]  
petiole [length]

Remaining Taxa (110)

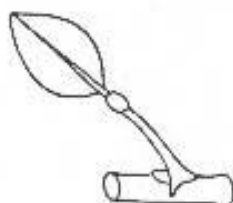


Adenocarpus complicatus  
Aeschynomene americana  
Aeschynomene villosa var. villosa  
Alysicarpus ovalifolius  
Alysicarpus vaginalis  
Astragalus nelecineus

**Select state or states**

Window

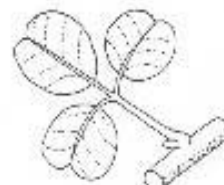
Leaves: when compound: form



1. unifoliate



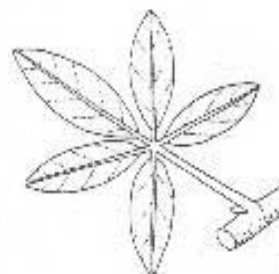
2. bifoliate



3. ternate



4. pinnate



5. palmate

OK

Cancel

Notes

# FloraBase training



# The Regional Herbarium Project

- 74 regional herbaria
- system based on barcoded duplicates
- designed to involve the wider community and to fill knowledge gaps
- currently unfunded, and in slowdown  
(need staff and new herbarium space)

# Specimen preparation



# DCLM Parks and Visitor Services Workshop

Keeping up with plant information:  
how to use Departmental information  
systems and find out about native  
plants and weeds.

Neville Marchant November 2002