WHAT'S IN A NAME?

The W.A. Herbarium examines botanists predilection for changing plant names.

All plants and animals are given Latin names to aid communication among biologists. Two words are routinely used. The first, beginning with a capital letter, is the genus or generic name (e.g. *Casuarina, Eucalyptus*). The second, beginning with a lower case letter, is the specific epithet (e.g. *obesa, marginata*) which when joined with a genus name becomes the name of a species. Less frequently used are names for other ranks or levels in the classification of plants or animals for example, banksias belong in the family Proteaceae, eucalypts in the Myrtaceae.

The naming of organisms in this way is bound by internationally agreed rules that are published in two books (one for plants, one for animals). While some Latin names remain unchanged from their inception, others require change for various reasons. For example, it may be found that a name is incorrect because it is being applied to the wrong plant, or because an earlier name is available. Changes due to these causes are usually readily appreciated and quickly absorbed by the botanical community. More controversial are name changes based on judgements about rank - whether related plants should be species or subspecies, genera or subgenera etc.

However, if these proposals, when published, are accompanied by clear supportive evidence they are likely to be accepted by plant taxonomists, and therefore by herbaria and botanic gardens. They will then be taken up by horticultural and other applied literature and eventually, though sometimes with some resistance, by the general public.

A proposal of significance that was made some years ago concerned the classification, and therefore the names, of our *Casuarina* species (sheoaks). The question debated is 'should the sheoaks be placed in one genus (*Casuarina*) or four (*Casuarina, Allocasuarina, Gymnostome,* and *Ceuthostoma*)?' The saga began in 1959 when Bryan Barlow published a paper on the chromosome numbers within *Casuarina;* he showed that on the basis of these numbers the genus could be divided into three groups and that these groups differed from each other in other features as well. Later Chanda (1969, 1969a) demonstrated that the groups also differed significantly in their pollen structure and suggested that they could reasonably be treated as distinct genera. In 1980, Lawrie Johnson described *Gymnostoma*, which represented one of Barlow's three groups, and in 1982 *Allocasuarina*, which represented another. Recently Johnson (1988) described a further segregate genus *Ceuthostoma* which represents some Malesian species. In the same paper Johnson provided a key to the four genera he now recognised.

Only *Casuarina* and *Allocasuarina* are found in Western Australia. These genera were distinguished by Johnson by a number of characters that can be set out as follows:

Casuarina: 'Seeds' grey or yellow-brown, dull; bracteoles of cones thin and without dorsal protuberances; teeth five to many; seed short-lived.

Allocasuarina: 'Seeds' red-brown to black, shining, bracteoles of cones thick and convex, mostly with an angular, divided or spiny dorsal protuberance; teeth four to many; seed long-lived.

Many Australian herbaria, including the Western Australian Herbarium, have adopted the revised classification of our casuarinas. This action taken by herbaria does not necessarily amount to a stamp of approval, but rather to a recognition that a *prima facie* case has been made out. Only by intensive study can the merits of a system be properly assessed. The names of the Western Australian species of *Casuarina* and *Allocasuarina* are given by John Green in the 'Census of the Vascular Plants of Western Australia (1985). It is anticipated that an account of the family as a whole will be appearing in 1989 or 1990 in volume 3 of the Flora of Australia where the names *Allocasuarina* and *Gymnostoma* will be recognised.

Most of us will continue to loosely refer to the She-oaks as 'casuarinas' but in technical publications it is desirable that the names under the segregate genera be adopted.

Jiri Lochman

A female sheoak, *Allocasuarina humilis*, a member of the new genus *Allocasuarina* (above right).

LANDSCOPE

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EDITORIAL

It is difficult to remember a time when our daily news did not feature some environmental controversy. To people involved in environmental research and management, the popularity of 'the environment' is a mixed blessing.

Greater public consciousness of environmental issues has meant increased funding and, to some extent, greater prestige. But many scientists working on ecosystems are uncomfortable when their work is placed in the political spotlight.

The knowledge that a scientific observation that once would have been tucked away in a scientific journal to be read only by a few colleagues could become the centre-point of a political controversy is daunting.

Retaining objectivity in any research area is difficult. For those engaged in research on the natural environment it is even more difficult. Unlike the physical sciences in the natural sciences the truth is often camouflaged by interactions between factors which vary over time and space. When the results of this type of research are placed in the political arena, the mixture is often volatile and the truth a casualty.

To enable scientists to better seek the truth and communicate it, the scientific community has adopted what has been called "the scientific method". The scientific method is a code of conduct with rigid requirements. An offshoot of that code is a set of rules which scientists must follow, at least in reputable scientific journals, if they are to have their research published. Unfortunately, a byproduct of this is that scientific articles are not the easiest to read and are often plain boring.

Given that the environment has become a major political issue, it is important that those involved in the debate are fully informed. But scientists are faced with a dilemma. They need to popularise their work to reach a wider audience. On the other hand, they cannot afford to lose objectivity.

NATIVE CREATIONS

Nouvelle jardins, multiculturalism or laissez-faire; which garden fashion will you choose? Turn to ***page 22.***

WILD MARRON

Do our wild marron have a future or will local gourmets keep catching them to the point of extinction? Find out on ***page 4.***

KARRI MAGIC

What is really going on in the karri forest? On ***page 32*** *we take a look at the system of conservation reserves that have been established to preserve this awe-inspiring forest.*

STRANDED!

Relive the euphoria of the Augusta whale rescue on ***page 18.***

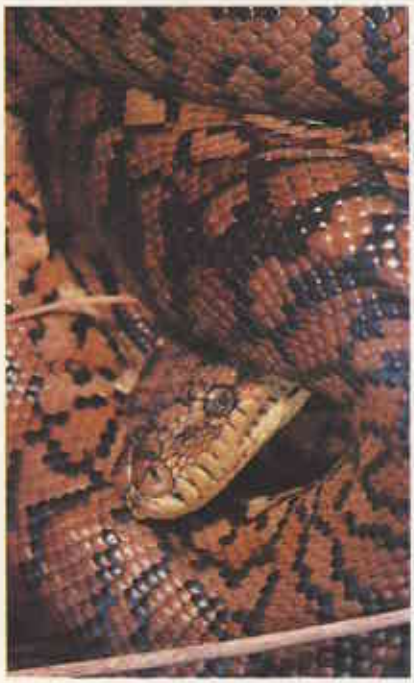
BACK TO BASICS

With today's massive land boom it's hard to imagine that the State once couldn't give land away fast enough. Now the government is buying back our valuable conservation areas. See ***page 43.***

DESERT GEM

The Gibson Desert Nature Reserve covers over 1.8 million hectares. It is a desolate but subtly beautiful landscape. Read about this unique area and the management problems it presents on ***page 48.***

SNAKES & ADDERS



Slim and active snakes have emerged hungry from their winter hibernation. But they're not all venomous. See ***page 51*** *for tips on living with snakes.*

AFTER THE FOX

Foxes pose a major threat to native mammals and other fauna. Can we outfox them? See ***page 12.***

A SIGHT TO BEHOLD

'Its pouch can hold more than its belly can', goes the popular rhyme. Find out more about this awkward but graceful bird on ***page 39.***

Cover Photograph

One of our natural wonders - the beaches of Hamelin Pool (Shark Bay) consist of billions of small shells.

Photo by Bill Bachman.

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