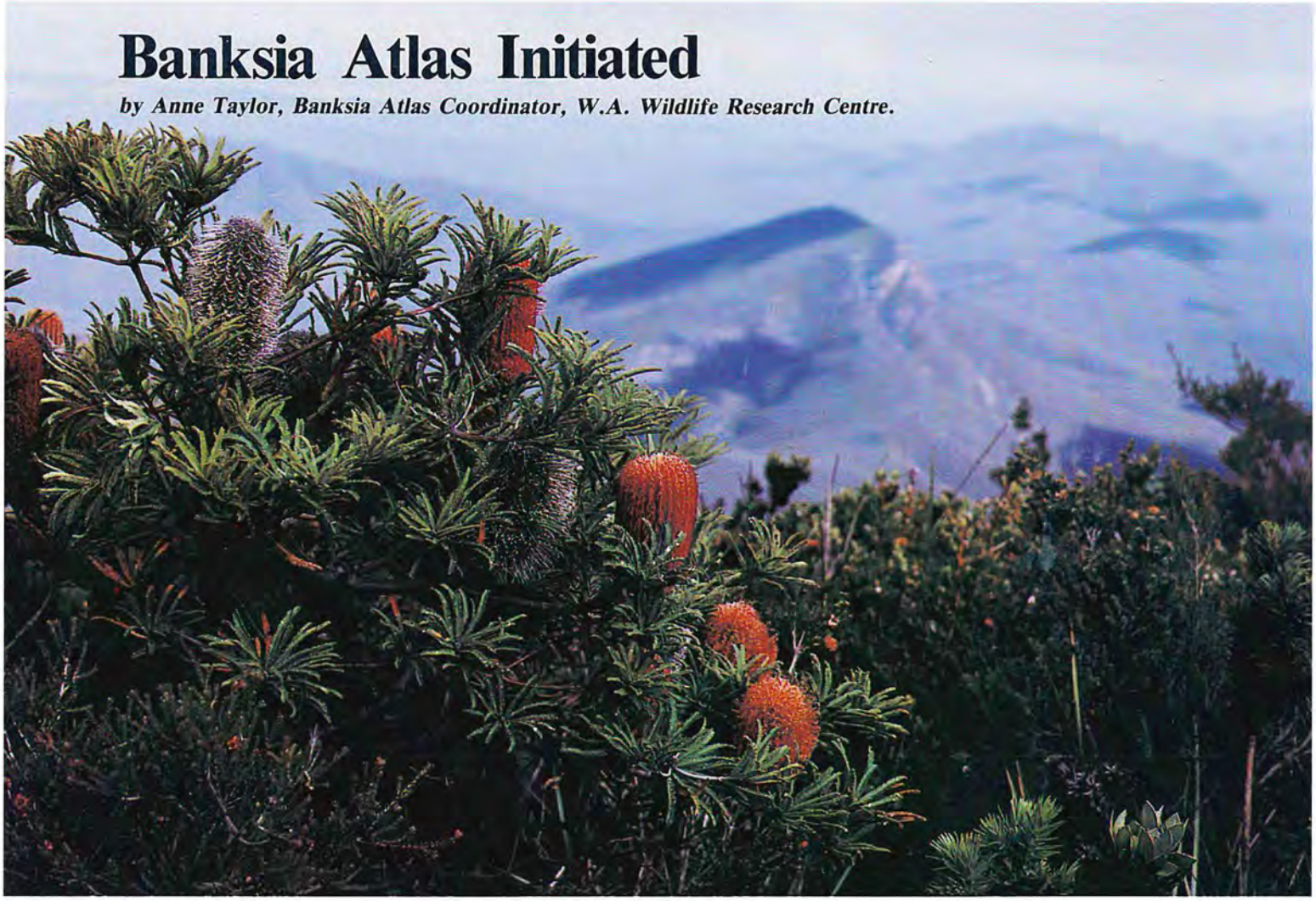
Banksia Atlas Initiated

by Anne Taylor, Banksia Atlas Coordinator, W.A. Wildlife Research Centre.



▲ *Banksia brownii* in flower at Bluff Knoll in the Stirling Ranges National Park Western Australia. (Photo S. Hopper).

The Banksia Atlas, an exciting new three year project, has been initiated recently. It is the first Australia-wide plant mapping project to be undertaken using volunteer contributors.

Joint funding by the Australian Biological Resources Study (ABRS) and the Western Australian Department of Fisheries and Wildlife has allowed the appointment of a national coordinator and a computer programmer to run the project. As the coordinator, I will be based at the Western Australian Wildlife Research Centre. It is appropriate to base the *Banksia* Atlas in Western Australia, because 57 of the 72 named species occur in the State. Moreover, staff at the Wildlife Research Centre have four years' experience in running pilot plant atlas projects aimed at developing suitable systems to run successfully a project like the national *Banksia* Atlas.

▲ *Banksia petiolaris* a ground flowering specis of banksia. (Photo S. Hopper).

The Atlas project aims to involve interested persons throughout Australia in recording information on the distribution, habitat and biology of *Banksias*. Information will be sorted and analysed by computer enabling rapid retrieval of desired tabulations and maps for any particular species.

The role of volunteers in assisting in the collection of scientific data is particularly relevant in a country the size of Australia which has only a relatively small number of professional botanists located mainly in capital cities. Collaboration of this nature is well established in other countries particularly the U.K., whose Atlas of the British Flora was completed in 1969 largely on the basis of records contributed by amateur botanists throughout the country.

In Australia, the Royal Australasian Ornithologists Union

(RAOU) recently enlisted the help of 3 000 volunteers over a five year period (1976-81) to provide records for their Australian Bird Atlas.

Between 1979-83 the Department of Fisheries and Wildlife selected kangaroo paws and orchids as the subjects for two pilot projects to test the feasibility of computer based flora mapping using amateur volunteers for field recording. Both projects have been successful in highlighting problems and providing experience to Wildlife Research Centre staff in running a volunteer contributor Atlas Project.

Banksias were considered to be most suitable for a nation-wide flora mapping project for the following reasons:-

They are typically Australian and have distinctive, easy to recognise flowers.

A field guide and recent taxonomic study are readily available.

They are of considerable commercial value—the *Banksia* cut flower industry is currently worth in excess of $1 m. a year.

They are important as a food source for honey eating birds, mammals and insects which also act as pollinators for the plant.

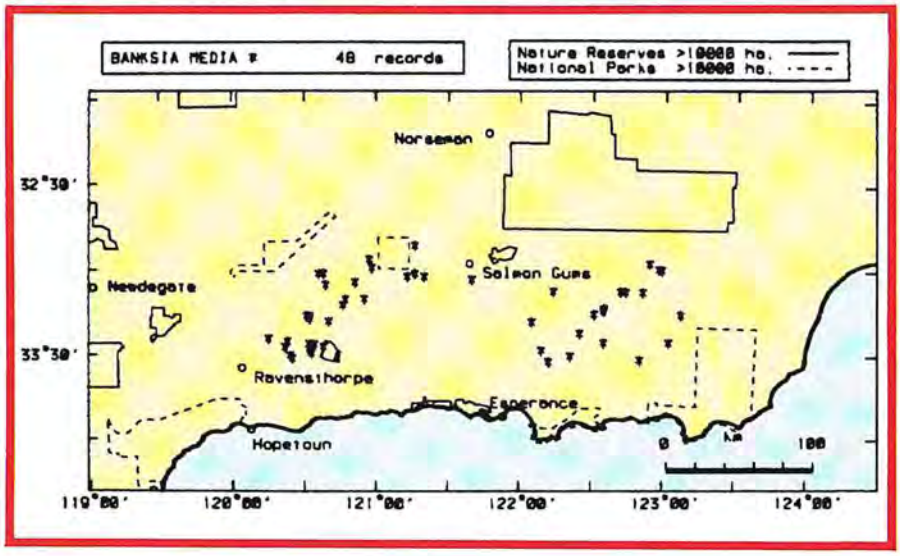
Hybrid forms (e.g. *B. marginata x B. integrifolia)* are known to exist but have been scarcely studied.

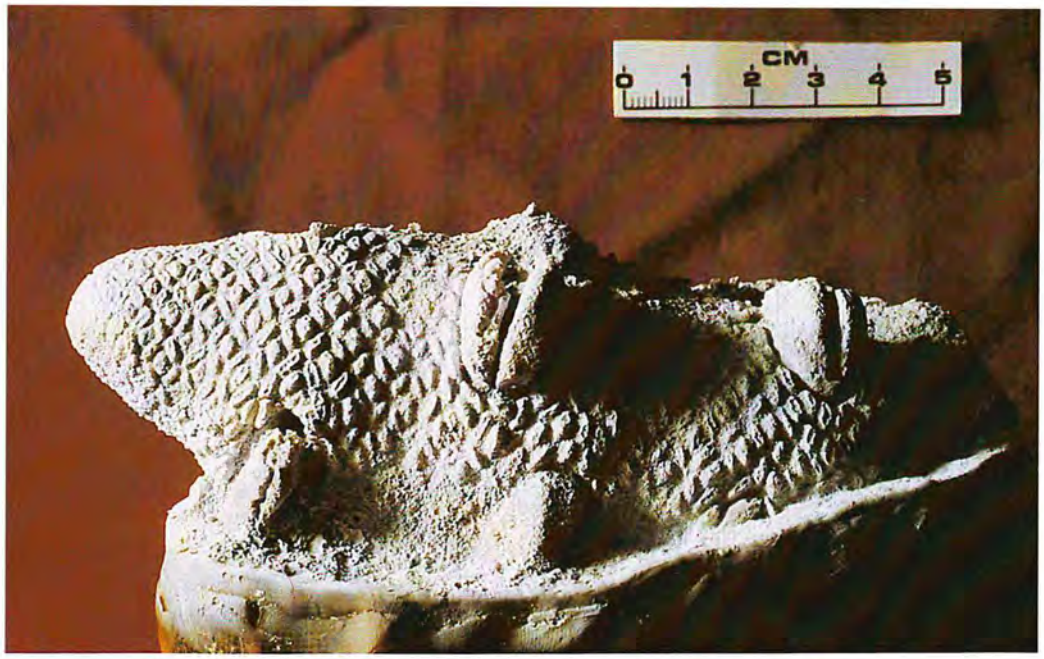
One of the main outcomes of the project will be up-to-date maps on the abundance and distribution of all *Banksia* species throughout Australia. Such maps are the first stage in understanding the environmental factors limiting species distribution.

They are also an extremely important tool enabling immediate assessment of the conservation status of a species by observing its distribution both throughout its range and within protected areas such as National Parks/Nature Reserves. Possible threats to a species' existence by, for example new land releases or mining ventures, can be quickly

▲ Survey results are stored on a computer and appear in display form on the screen as above.

▼ Enlargements of the display are possible to show individual sites.





▲ Fossilized *Banksia archaeocarpa* a species from the Eocene era. The fossil was recovered from the Kennedy Ranges of W.A. (Photo K. McNamara).

▲ White-cheeked Honeyeaters on *Banksia baxteri* at Cheyne Beach W.A. (Photo S. Hopper).

▼ Honey Possum on *Banksia coccinea* also photographed at Cheyne Beach. Birds and small mammals both take part in Banksia pollination (Photo S. Hopper).

identified and appropriate action taken where necessary.

Information gained on the habitat and biology of *Banksias* including pollination mechanisms and the response of different species to fire, will be useful in preparing reserve management plans, particularly when the fragile populations of rare or endangered species need to be safeguarded.

Apart from these valuable functions it is also hoped that the Atlas will provide a meaningful and enjoyable reason for contributors to travel in the bush and to learn more about their countryside and native plants first hand.

How the Atlas will Work

1) Each contributor receives a book of recording sheets, instruction manual, field notebook and map.

2) Completed record sheets sent to the Wildlife Research Centre, Wanneroo.

3) All information received entered into computer.

4 Six monthly progress report and interim distribution maps sent to all contributors.

A number of field trips are planned both to localities where rare or endangered *Banksias* are thought to occur, and to remote areas which would otherwise probably not be covered. Contributors to the Atlas will have the opportunity to join in many of these trips.

All volunteers are welcome in this project whatever their previous knowledge of *Banksias*. Field trip–identification sessions will be held for those who would like extra instruction.

Interested persons please contact Anne Taylor [Ph. (09) 405 1555] at the Wildlife Research Centre, P.O. Box 51, Wanneroo, 6065.