

EDUCATION, SCIENCE AND TRAINING

SENATE LEGISLATION COMMITTEE – QUESTIONS ON NOTICE 2004-2005 BUDGET ESTIMATES HEARING

Outcome: CSIRO
Output Group: - CSIRO

DEST Question No. E249_05

Senator Carr provided in writing.

Question:

1. What factors, other than cost, have motivated the decision to relocate the Herbarium from Atherton to Canberra?
2. What is the scientific benefit of relocating the Herbarium to Canberra?
3. What cost savings will these achieve?
4. Is the existing facility in good, functional condition?
5. What is the current rate of usage?
6. The local community and local researchers and scientists are concerned about their continued access to the Flecker Collection which was provided to the CSIRO by a group associated with the Flecker Botanical Gardens in Cairns.
 - a) What discussions have taken place between the CSIRO and interested community members and /or the Botanical gardens?
 - b) Has any resolution been reached?
7. In the absence of the herbarium and staff, how would the collection be kept up to date? For example, how would specimens be received from volunteers in Far North Queensland and maintained in good order if the collection is to be maintained in Canberra?

Answer:

CSIRO has provided the following response.

Atherton Herbarium

1. The Atherton Herbarium is an annexe of the Australian National Herbarium (ANH) in Canberra. CSIRO's decision to relocate the main Atherton Herbarium Collection is based on the rapidly changing nature of taxonomic and systematics research and the imperative for Australia to remain an internationally regarded leader in this area of science.

Herbaria have multiple overlapping functions, but at their core is the collection, documentation and conservation of a representative sample of the variation that naturally exists within each species. These collections provide the raw material for scientists to identify similarities and dissimilarities and through this process to determine (i) the boundaries between closely related species; and (ii) how different groups of species (genera, families) are related to one another.

This important field of research now draws upon expertise in modern molecular and bioinformatics techniques as well as more traditional morphological assessments to form a much more powerful multi-disciplinary approach. Such integrated approaches are essential to keep Australian research at the cutting edge, and can only be achieved in an environment where several professional staff with complementary research interests and access to appropriate facilities are able to interact.

To ensure herbaria are dynamic research tools rather than static museums it is essential they are actively used by practicing in-house systematists, and that an active loans program is in place. Like most herbaria around the world, the ANH aims to share scientific knowledge and resources, and participates in a loan program whereby between 40,000 to 50,000 herbarium specimens each year are loaned to other scientific institutions to allow scientists to research them. Relocating the main Atherton Herbarium collection to the ANH in Canberra will facilitate improved sharing of knowledge about the flora of Australia's tropical north and potentially greater research impact and benefits to Australia.

2. The scientific benefits of relocating the main Atherton Herbarium collection include greater accessibility of specimens for research to practicing in-house and external systematists and increased knowledge of tropical plant biodiversity through expertise in molecular and bioinformatics techniques. These scientific benefits will contribute to strengthening future understanding and management of our tropical plant biodiversity while keeping Australia at the forefront of research in this field.
3. Cost savings attributed to the relocation of the main Atherton Herbarium collection are estimated at \$45,000 per year.

The value of increased access by experts to the collection is far greater in terms of advances in scientific knowledge and its application to managing our tropical rainforests more effectively.

For example relocating the main Atherton Herbarium collection will bring its collection of PapuaAsia plant material together with that of the ANH, which is widely regarded as the best in Australia. Concentrating biogeographically related material in one CSIRO location will serve to attract researchers from around the world, further increasing the relevance, maintenance and use of the collection with ongoing benefits for Australia.

4. The facility in which the main Atherton Herbarium collection is housed is equipped to provide an environment appropriate to storing plant specimens for research purposes. It does not have facilities for molecular or bioinformatics research of plant material, which is needed to provide an integrated research program to maintain Australia's lead in plant biodiversity research and strengthen future understanding and management of our tropical plant biodiversity.
5. Like most herbaria around the world, the main Atherton Herbarium does not allow direct access to the public. Those who do visit the main Atherton Herbarium collection fall into two categories:
 - i) Those using the Herbarium resource or for identification purposes.
 - ii) Those visiting as part of a guided tour and introduction to the Herbarium.

Of those using the herbarium as a resource, it is estimated that during 2003 there were around 36 - 40 visitors.

Of those visiting the Herbarium as part of a guided tour and introduction, it is estimated there were around 110 - 120 visitors.

In 2004, it is anticipated a similar number will visit the Atherton Herbarium, and CSIRO has calculated that the average weekly number of visitors using the Atherton Herbarium as a resource is less than one per week.

6.

- a) The Flecker Herbarium was passed initially to CSIRO on permanent loan by the North Queensland Naturalists Club. In 2002 that club closed and formally handed over the Flecker Herbarium to CSIRO.

As the Flecker Collection is part of the main Atherton Herbarium collection, the public does not have direct access to it.

CSIRO has so far engaged in formal discussion about the future of the main Atherton Herbarium collection with government representatives and organisations such as the Cairns Chamber of Commerce. It has also had informal discussions with members of the community, and plans to conduct more formal discussion over the coming months.

- b) In making its decision to relocate the main Atherton Herbarium collection, CSIRO considered how to ensure the resources, such as the range of information and identification services, of the Atherton Herbarium would continue to be accessible to professional and community botanists and researchers in Far North Queensland. To this end CSIRO will continue its dialogue with interested community members both formally and informally as described above.

To date CSIRO has developed the Atherton Reference Collection for general use, ensuring the identification function of the Atherton Herbarium remains in Atherton. Users of the Atherton Reference Collection will also have access to CSIRO's computer-based keys and Australia's Virtual Herbarium, which provide an additional identification tool designed specifically for those without specialist taxonomic skills.

7. Specimens collected by volunteers can be sent to the ANH in Canberra in the same way other specimens from around Australia are sent to either the ANH or state herbaria. The specimens simply need to be dried and safely packaged to avoid damage in transit. In addition, CSIRO researchers will continue to conduct research in the area, adding material to the collection. Volunteers may also send plant material to the Queensland Herbarium in Brisbane.

The ANH maintains its collections under high quality standards and is recognised for its international reputation and standing. The combination of its in-house experts including those with molecular and bioinformatics expertise, active loans program and links with other research organisations around the world has resulted in a resource that is widely used and as a result up-to-date and maintained in good order. As part of the ANH, the main Atherton Herbarium collection is managed in the same way.

CSIRO is continuing to enhance the quality of its Atherton Reference Collection, which is available to the local community, local researchers and other scientists for identification purposes. Experts from the ANH and elsewhere will regularly work at the Atherton site to properly maintain the Reference Collection and keep it up-to-date ensuring new specimens are added to the collection.