

Croatian minister rejects 'meddling' claim

Mediterranean Institute's link with university is intended to ensure academic freedom.

Sir—Your News story about the Mediterranean Institute for Life Sciences, "Croats protest that science minister is 'meddling' in MedILS" (*Nature* 432, 540; 2004), alleges that some researchers believe I am trying to stack the advisory board with faculty members from the University of Split. In fact, I am securing the highest level of academic freedom for MedILS within Croatian law and European tradition.

Faithful to the contract that the former Croatian government signed with Miroslav Radman, the current government will do its best to hand him the renovated building in Split in May 2005. The total cost of renovation, some €4.6 million (US\$6 million), has been appropriated from the Croatian budget. This is more than the capital investments in all 26 Croatian public scientific institutes for 2005. As

a result, the government is compelled to take a similarly large World Bank loan for the restructuring of the 700-strong Rugjer Boskovic Institute (RBI). But, unlike the unburdened MedILS, the RBI is assuming numerous obligations to the World Bank.

Some dissenters say that public funds should not be allocated to a project that has no scientific plan, no business plan, no mechanism for supervising the spending of public funds, no pledge to share future proceeds from intellectual property with taxpayers and no commitment by Radman to move to Split from his current base in Paris in order to manage MedILS.

To mitigate pressure to put MedILS under the control of my ministry, I have loosely associated MedILS with the University of Split. In compliance with the law, we formed a board of trustees: two

publicly appointed (by the university and the ministry) and three internal (MedILS-appointed). Affiliation with the university will assure the public with regard to the spending of public funds, guarantee the highest level of academic freedom and result in public trustees being academics rather than Zagreb bureaucrats. Trustees deal with administrative management and do not 'meddle' in scientific matters.

Croatian law requires appointment of a separate and independent scientific board to manage scientific affairs. This will consist of international scientists of Radman's choice. Further details are available on the ministry website, www.mzos.hr.

Dragan Primorac

*Ministry of Science, Education and Sports,
Trg hrvatskih velikana 6, HR-10000 Zagreb,
Republic of Croatia*

Insect collection ready to spread its wings

Sir—Your News story "Curators bugged by museum's vision for insect collection" (*Nature* 432, 659; 2004) gave the impression that Darwin Centre II (DCII) will be incompatible with a 'cyber-infrastructure' future for taxonomy.

Although we are certain that taxonomy and collections-based research in general will look very different ten years from now, no consensus exists as to the details of this future. Designing the best available work-spaces for such a rapidly evolving science is not easy. As scientists we are accustomed to loudly debating competing ideas; it is no different with regard to facility design.

The main issue is whether sufficient flexibility exists for research groups of varied sizes to have immediate access to specimens of entire taxa. This issue is being addressed in a way that balances the best possible long-term conditions for irreplaceable specimens against efficient access during bursts of intensive research.

Far from resisting change, the Natural History Museum is leading the transformation of taxonomy into a 'big science' capable of rapidly advancing our understanding of the natural world. Its insect collection is unique, as the only place where one can directly compare specimens of more than half of all known species. DCII will provide modern research laboratories, state-of-the-art conditions for collections and an opportunity to open this research to the public. Controversy over details should not cloud the big picture;

DCII will provide first-rate facilities for world-class taxonomic research.

Quentin D. Wheeler

Department of Entomology, Natural History Museum, Cromwell Road, London SW7 5BD, UK

Alternative views of amphibian toe-clipping

Sir—In News and Views ("Ethics and amphibians" *Nature* 431, 403; 2004), Robert M. May discusses a study by M. A. McCarthy and K. M. Parris on the effects of toe-clipping on amphibians. This is a standard technique for uniquely marking animals in ecological research (see guidelines at www.asih.org/pubs/ASIH_HACC_Final.pdf). McCarthy and Parris show that return rates decreased as the number of toes clipped increased in four frog species; they and May raise ethical and practical questions about the technique. There is, however, a fuller picture to be considered.

Several studies have found no negative effects of toe-clipping. McCarthy and Parris suggest that this may be due to low statistical power, but this has not been shown in all cases in which no effect was observed (see, for example, J. J. van Gelder and H. Stribosch *Amphibia-Reptilia* 17, 169–174, 1996; and J. A. Ott and D. E. Scott *J. Herpetol.* 33, 344–348, 1999). Effects of toe-clipping evidently vary among species and so must be assessed accordingly.

Alternative marking techniques often cannot be used. Many adult frogs are less than 20 mm long, as are juveniles of larger species. The smallest passive integrated

transponder (PIT) tags are about 10 mm long, too large for small frogs. Many species cannot be marked using other approaches, such as elastomers, alphanumeric tags or freeze-branding, and do not have consistent, identifiable markings.

Other techniques may have worse effects, as M. Schlaepfer has shown (*Herpetol. Rev.* 29, 25–26; 1998). Implantation of PIT tags often involves surgery on the body cavity; even implantation under the skin carries a risk of more serious infection than in an extremity. Many ecological studies require trading the risks of a marking technique against the gains in understanding. More research evaluating these risks is needed.

Far from acting with 'casual barbarity', biologists who use the toe-clipping technique do so after considering alternative techniques and with the approval of institutional animal care and use committees. The resulting data are essential for managing threatened populations, as well as for other purposes: toe clippings are sources of DNA for genetic studies, and act as samples for identifying the diseases implicated in catastrophic amphibian declines.

We believe it is less ethical to sit back and watch species slip into extinction than it is to use the best available methods to help to conserve them.

W. Chris Funk*, **Maureen A. Donnelly†**, **Karen R. Lips‡**

**Section of Integrative Biology, University of Texas, Austin, Texas 78712, USA*

†Biological Sciences, Florida International University, Miami, Florida 33199, USA

‡Department of Zoology, Southern Illinois University, Carbondale, Illinois 62901, USA