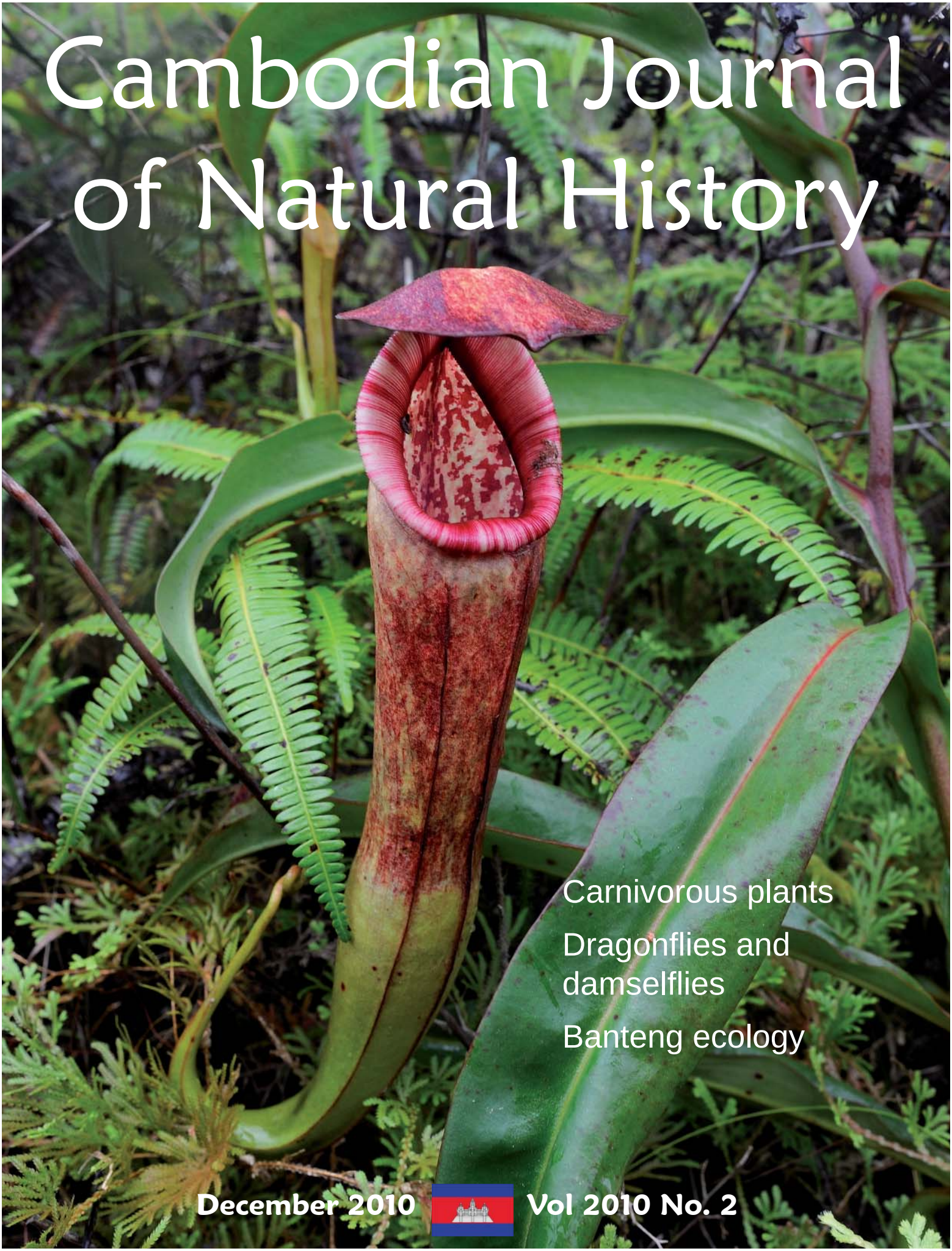
Cambodian Journal of Natural History



Carnivorous plants

Dragonflies and damselflies

Banteng ecology

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Cover photo: (© Jeremy Holden/ Fauna & Flora International) The pitcher plant *Nepenthes bokorensis* was first described in 2009 by French Cambodian botanist François Sockhom Mey. This carnivorous plant is believed to be endemic to Phnom (Mount) Bokor. See Mey (this volume) for further information.

Editorial - Taxonomy and conservation go hand-in-hand

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It is apparent that mainland Southeast Asia, including Cambodia, is a 'hotspot' for rare and endemic biodiversity (Mittermeier *et al*., 1999). Unfortunately, it is also a sobering fact that some 40% of the region's fauna and flora face extinction by the end of the century, making it one of the world's most threatened areas for biodiversity (SCBD, 2010). National governments, supported by international NGOs, are formally committed to wildlife conservation and seek to deliver relevant initiatives. Excepting certain larger mammals and some other charismatic groups, however, there are too few scientists or conservationists, nationally or internationally, who can identify and provide authoritative data on the species composition, distribution, ecology and status of much of Southeast Asia's diverse and endangered wildlife.

Taxonomists, with their identification guides, keys, databases, and specialist knowledge of particular animal or botanical groups, are uniquely qualified to identify, describe and document the biodiversity of ecosystems and thereby support the work of ecologists and conservationists. They can advise on priorities for species and site-based conservation and help monitor biodiversity loss from the impacts of climate change and habitat fragmentation. They can assess the spread of invasive alien species and identify the host species in the study of zoonoses (the transmission of disease from animals to man). With the introduction of international laws such as CITES - the Convention on International Trade on Endangered Species of Wild Fauna and Flora - taxonomists can assist with specialist identifications to enable customs officers, police and other enforcers to control the trade in wildlife.

Ironically, even as human pressures on the environment increased and the need for taxonomic expertise grew - especially in the biodiversity-rich tropics - the availability of taxonomists declined substantially in the great natural history museums of Europe and North America. Towards the end of the 20th Century, Western governments tended to view research on biodiversity as a luxury, especially when the biodiversity being studied was not their own, but rather in countries thousands of miles away from London, Paris, New York or Moscow. Meanwhile, conservation organisations, fighting for their own resources, gave little support or, in many cases, much appreciation to the scientists or their institutions that historically had provided much of the information on which their conservation initiatives were based.

Taxonomy had few friends at the beginning of the 21st Century. To many biologists, taxonomy appeared descriptive and old fashioned in their new world of DNA and cutting edge molecular science. To many conservationists, taxonomy seemed irrelevant and slow, "a victim of the narcissism of minor distinction" (Godfray & Knapp, 2004). Conversely, taxonomists viewed many conservationists as surprisingly ill-informed, with little understanding of the biodiversity they purported to be conserving and a limited understanding of the real conservation priorities that surrounded them.

Happily, this is changing. Taxonomy is experiencing a renaissance in how it is perceived and in increased recruitment to the science. This is partly due to international programmes such as the IUCN's Global Taxonomy Initiative, launched in 1998, and in part to a raised profile through enquiries and publications, such as the UK Government's Science and Technology Reports (House of Lords, 2002, 2008). Equally importantly, it is due to the developing world becoming richer, with better

communications, a more skilled workforce and, in many cases, an ambitious and knowledge-hungry university sector with a growing interest in the environmental sciences. It is now possible, perhaps the first time, for the centres of excellence to be located in the centres of biodiversity richness: in the universities, museums, and other institutes of Asia, Africa and Central and South America.

The process of capacity building and repatriation of taxonomic information has already begun. For example, in Cambodia, through the collaboration of the Royal University of Phnom Penh and Fauna & Flora International, and with financial support from the UK Government's Darwin Initiative, the MacArthur Foundation, and US Fish and Wildlife Service, a new natural history museum has been set up within the university's Centre for Biodiversity Conservation. With its growing reference collection of small mammals, reptiles, amphibians and other groups, this is becoming an archive of the country's natural history and a resource centre to promote further research of Cambodia's biodiversity. Its young Cambodian curator, Ith Saveng, recently completed his MSc in mammal taxonomy. Saveng is now beginning to publish his own taxonomic, first-authored papers in international journals and embarking on a taxonomic PhD. Other Cambodian scientists are also being introduced to the world of biodiversity research, with a view to studying a broad range of taxonomic groups.

So what are the prospects for a young taxonomist beginning his or her career in Southeast Asia? Without doubt they are exciting. For example, in the first issue of this journal, Jenny Daltry wrote a thought-provoking editorial in which she catalogued the remarkable ongoing revolution in our understanding of Cambodia's wildlife. Among the many statistics she quoted was the increase in the number of known bird, mammal and reptile species in the kingdom by 35%, 47% and 101% respectively between the early 1990s and 2008 (Daltry, 2008). More recently, a paper by Francis *et al.* (2010), based on the results of DNA barcoding, suggested that the diversity of mainland Southeast Asian bats may be twice what it is thought to be today. If correct, this would imply there are somewhere in excess of 300 species of bats. My own institution has been part of a team of international taxonomists who, since 2004, have described five new species of Asian bat, at least one of which (Harrison's tube-nosed bat *Murina harrisoni*) is thought to be endemic to Cambodia (Csorba & Bates, 2005). Other bats are now in the process of being described and, in addition, many new country records have been added in a series of papers by taxonomists from Hungary, Ireland, Russia, and the United Kingdom. Of course, new discoveries are not confined to bats. New bird species have been described from Laos (Woxvold *et al.*, 2009) whilst the number of bird species recorded from Thailand has increased by 25% in the last 45 years (Phil Round, pers. comm.).

Some may question whether it is important to know about the diversity of animals and plants that live in the different parts of the world. Well, the community of nations obviously believes it is. Since its inception in 1992, 193 countries, including Cambodia, have signed the Convention on Biological Diversity or CBD (see http://www.cbd.int/convention/text/). Comprising 42 articles, it lays down legally binding commitments for the individual countries relating to their wildlife. For example, Article 7 states that each nation shall 'identify components of biodiversity important for its conservation and sustainable use'. The CBD also requires countries to build in-country capacity to ensure that this process can be undertaken. Thus, Article 12 states that countries should establish scientific training programmes for the identification, conservation and sustainable use of biodiversity. Other articles take this process one step further. Recognising that much biodiversity information is held in foreign institutions, they specifically require that biodiversity information is exchanged and repatriated (Article 17). There is also a commitment to international scientific co-operation between institutions in promoting and enhancing biodiversity conservation (Article 18).

Today, it is encouraging to see how rapidly taxonomic capacity is growing amongst a new cohort of young, enthusiastic and dedicated scientists in

Southeast Asia. In our own projects in collaboration with a range of institutions in Southeast Asia, and also supported by the Darwin Initiative, the results to date have been more than encouraging. Four students from Cambodia, Laos and Thailand have completed their MSc studies in taxonomy and are now embarking on their PhD research on mammals and birds. In addition, we have been able to place one PhD student from Vietnam in the University of Tübingen in Germany. There is also a new generation of younger students coming through with an interest in a wide range of vertebrates and invertebrates. As part of our programme, collaborative field studies have taken place throughout mainland Southeast Asia and taxonomic workshops have been held in Myanmar, Thailand, Laos, Cambodia, and Vietnam. Our student team, together with their supervisors, have published eight taxonomic papers and are currently preparing a further 14 for international journals.

Mace (2004) wrote "Taxonomy and conservation go hand in hand. We cannot necessarily expect to conserve organisms that we cannot identify, and our attempts to understand the consequences of environmental change and degradation are compromised fatally if we cannot recognise and describe the interacting components of natural ecosystems". Taxonomists are not necessarily conservationists. However, there is no doubt that the work of taxonomists becomes more meaningful if it is guided by a desire to facilitate and promote conservation. In the same way, conservationists who ignore the knowledge and experience of the taxonomic community are at best misguided and at worst wilful in their disregard of an expert resource. Taxonomists working together with conservationists can provide an invaluable insight into local, regional and global priorities and help design more meaningful and targeted conservation programmes. After 2010 - the International Year of Biodiversity - it is perhaps more important than ever that all sides work together to conserve the unique, but highly threatened biodiversity of Southeast Asia.

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News

Announcing the Cambodia Climate Change Alliance

The Cambodia Climate Change Alliance (CCCA) is a multi-donor supported climate change programme with the funding support from the European Union (EU), Sweden (SIDA), Denmark (DANIDA) and United Nations Development Programme (UNDP)/ United Nations Environment Programme (UNEP) for the period of 2010 to 2012. The initiative aims to enable Cambodia to align climate change interventions with national development priorities. The Ministry of Environment, on behalf of the National Climate Change Committee (NCCC), is the leading Government institution to manage and implement the initiative.

The partnership was launched in February 2010 and the CCCA will strengthen the key institutions – including the NCCC and other key climate change functional units within sectors at national and sub-national levels. The aim is to support the integration of climate change considerations into policy and planning processes.

The CCCA will also strengthen the emerging community of practice among government, private sector and civil society. It will promote awareness of climate change challenges and opportunities, improve access to accurate and timely data, disseminate knowledge, and promote research and learning on climate change through a national knowledge and learning platform.

The CCCA will provide a small grant facility to support climate change mainstreaming and capacity development for government and civil society organizations engaged in key sectors.

Owned by the Government - aligned with its Strategic Development objectives and priorities - supported by a unified group of Development Partners, and based on achieving measurable, meaningful results, the CCCA embodies the principles of the Paris Declaration on Aid Effectiveness.

For more information, please see the EU Delegation website (Http://ec.europa.eu/delegations/cambodia/) or contact Poun Pok, Press and Information Officer, Delegation of the European Union to Cambodia (email pok.poun@ec.europa.eu) or Koen Everaert, Natural Resources Management and Climate Change Officer, Delegation of the European Union to Cambodia (email below).

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