

FRONTIER

CONSERVATION THROUGH EXPLORATION



FOREWORD

As Frontier embarks on its 17th year, we continue to define quality standards of research and instruction in biodiversity conservation, within the challenging climate of economic development and abject poverty. Frontier upholds its commitment to providing aspiring conservationists with the opportunity to experience rigorous hands-on fieldwork. At the same time, we maintain professional scientific integrity with our funded research programmes. In 2004, Frontier expanded its field operations with five new donor-funded projects and two new field programmes in Nicaragua and Cambodia. 2005 has proven to be an exceptional year with current plans underway to develop a new marine programme in Fiji while launching a new aspect of the Tanzania Forest Research Programme for volunteers in the Eastern Arc Mountains. The remarkable discoveries and progress of our global research programmes provide us with inspiration. We hope you enjoy our latest news and feel encouraged to join us in making a difference to global conservation.



Paul Rubio – Conservation Development Manager

UNIQUE WILDLIFE QUALIFICATIONS BRING HOPE TO NICARAGUA

Nicaragua has often been overlooked by the international conservation community and funding organisations, yet it is as diverse and biologically rich as its better-known neighbour Costa Rica. Three quarters of the rural population of Nicaragua are classified as “poor” according to DFID (UK Department for International Development). Communities rely heavily and often unsustainably on their natural resources, hunting turtles and clearing the forests. The Darwin Initiative has awarded Frontier-Nicaragua funding to implement a training programme for sustainable management of the Nicaraguan Pacific Northwest region. The project will focus on training personnel from local and regional institutions in conservation skills and monitoring techniques. There is real potential for safeguarding biodiversity and ensuring sustainable development of the local communities. This project is an important first step towards realising this aim. (continued on page 2...)

FRONTIER & WWF TO SURVEY AFRICA'S 'GALAPAGOS'

The Eastern Arc mountains of Tanzania, termed the ‘Galapagos of Africa’, contain one of the greatest concentrations of endemic species in the world, including the recent amazing discovery of the highland mangabey monkey *Lophocebus kipunji*. Highlighted as a global conservation priority, Frontier research teams recently discovered several potentially new wildlife species. Frontier-Tanzania will now conduct pioneering research in five of the 161 biodiversity hotspots of the Eastern Arcs. Our research teams will explore over 55,000 hectares of forest so we are expecting great discoveries of endemic and new species. WWF's Tanzania Program Office will also be joining us to implement environmental education and awareness raising initiatives in these remote forest villages. Uniquely, this project will also take a few volunteers aspiring to a career in conservation to work alongside our resident scientists. The **Biodiversity Research and Awareness in the Lesser-Known Eastern Arc Mountains (BREAM)** project has secured funding from the Critical Ecosystem Partnership Fund (CEPF) to run for two years from September 2005, in collaboration with the University of Dar es Salaam and the government Forest and Beekeeping Division.

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SPONSORS

Olympus kindly sponsors Frontier's conservation activities, providing digital cameras and other equipment vital to our biodiversity research. Our reports are regularly featured in Olympus' online and print magazines. We would also like to thank TOTAL for their generous contribution to Frontier-Cambodia, used to obtain a boat for mangrove and coastal surveys.



PROJECT UPDATES: NICARAGUA COASTAL & TROPICAL FOREST

Frontier-Nicaragua is a collaboration with the University of Leon; the government agency MARENA (Ministerio Ambiental de Recursos Naturales); the local NGO's LIDER & SELVA.



VOLUNTEER PROGRAMME

Sea turtles & scarlet macaws: Central America is a unique melting-pot of species from both the northern and southern hemispheres, containing an estimated 7% of the entire world's flora and fauna despite representing only 0.5% of the globe's land surface. Nicaragua shares the same rich biodiversity as many of its neighbours, yet it has often been overlooked on the international conservation agenda. Recognising the conservation potential in the country, Frontier-Nicaragua was established and the first year of the Coastal and Tropical Forest Research Programme has been a real success, with several grassroots initiatives working closely with the local people to address conservation priorities in the Pacific north-west region.



Olive ridley hatchlings are preyed on by crabs and birds as they make their way to the ocean.

Five of the world's seven species of sea turtles nest on Nicaragua's beaches, including the critically endangered hawksbill *Eretmochelys imbricata* and leatherback *Dermochelys coriacea*, making it a unique conservation priority. Frontier-Nicaragua initiated a turtle conservation programme at Playa el Carbon in the Reserva Natural Volcan Cosiguina, on the north-west peninsula of Nicaragua. This is an important nesting beach for the olive ridley *Lepidochelys olivacea*, loggerhead *Caretta caretta*, hawksbill and leatherback turtles. Records show that these species regularly nest here, but numbers have been decreasing over the years due to poaching. Work included building a new hatchery; patrolling the beaches to detect nesting females and relocate eggs; and providing training to local park staff. The hatchery had a spectacular success rate of 55%, compared with a low 10% for the year before, when the park staff maintained a previous hatchery. This is particularly important considering a hatchery success rate of over 50% is necessary to have a positive impact on turtle populations. Active conservation of endangered species is part of Frontier-Nicaragua's merit and sea turtle research is crucial to front-line conservation in this country.

Biodiversity surveys in the pristine tropical forests on the slopes of the Cosiguina volcano were just as exciting, revealing an unexpectedly high number of scarlet macaws *Ara macao* in the area, a troop of spider monkeys *Ateles geoffroyi*, as well as signs of puma *Puma concolor* and white-tailed deer *Odocoileus virginianus*. Butterfly surveys unveiled the presence of hundreds of different species, some of which may even be new to science and are awaiting formal identification.

The research team travelled throughout the reserve, setting up camp in the back-yards of local families who provided the best traditional Nicaraguan home cooking. These were perfect opportunities to integrate into the community, carry out socio-economic work, environmental education, and play football or cricket, leaving the local people with a great impression of Frontier and a better awareness of the worth of conservation.

In the coming months Frontier-Nicaragua will be working in Isla Juan Venado and Estero Padre Ramos, protected areas in the north-west region; continuing turtle conservation on the beaches and biodiversity surveys in the mangroves and tropical forests of Nicaragua.



Scarlet macaws are threatened by the trade in endangered species.



Examining turtle eggs to determine why hatching did not occur is vital to develop and improve hatcheries.

DONOR FUNDED PROJECTS

Capacity Building for Sustainable Management of the Nicaraguan Pacific Northwest Region

(continued from page 1): This project's aim will be to implement scientific training to build the capacity of local and regional institutions to sustainably manage and monitor their resources. We will be implementing a new vocational BTEC (British Training and Education Council) qualification in Conservation Management to train Nature Reserve rangers, as well as initiating terrestrial and coastal monitoring schemes for threatened and endangered species. Several sea turtle hatcheries will also be set up on nesting beaches, for green *Chelonia mydas*, hawksbill, leatherback, loggerhead and olive ridley turtle species. Our partners in this project include the Ministry of Environment and Natural Resources (MARENA), local NGOs LIDER (Fundación Luchadores Integrados al Desarrollo de la Región) and SELVA (La Asociación somos Ecologistas en lucha por la vida y el ambiente), and the University of Leon. The project will begin in May 2005 and Darwin funding has been granted for the next two years.

PROJECT UPDATES: MADAGASCAR MARINE & WILDERNESS

Frontier-Madagascar is a collaboration with the Institut Halieutique et des Sciences Marines (IH.SM, a Malagasy Marine Science Institute associated with the University of Toliara).



VOLUNTEER PROGRAMMES

A biological model of evolution in isolation, Madagascar is renowned for the high level of endemism displayed by both its flora and fauna across a range of unique habitats. Frontier-Madagascar has been working with several institutions for the last five years to make a positive contribution to conservation activities in the South West of Madagascar. Recent completion of this work has heralded our move to areas designated by the Malagasy government as major conservation priorities in the northern region of Antsiranana, also known as Diego-Suarez. Frontier-Madagascar's research activities, both terrestrial and marine, will aim to provide regional authorities with baseline ecological and resource-use information that will prove essential in the establishment of a sustainable development scheme for the region.



Red tailed tropic bird chicks are threatened by rat infestations and human disturbance.

MARINE

Coastal birds and underwater wealth: Highlights of the Marine Research Programme in the Anakao region of south-west Madagascar included both coastal and marine findings. Surveys of the only Malagasy breeding colony of the Red Tailed Tropic bird *Phaeton rubricauda*, on the uninhabited island of Nosy Ve at the southernmost end of their range, led to the proposal of a management plan to conserve this rare population. The study of local shark fisheries revealed sites where continued monitoring is necessary to prevent over-exploitation. Underwater surveys resulted in the development of new reef monitoring methods for Madagascar using butterfly fish as bio-indicators. The new Marine Programme is sited in the second largest bay in the world, Diego-Suarez Bay; deserving of international recognition for its pristine condition and high levels of biodiversity and endemism. Threats include unregulated development, a growing population and increasing tourism. Authorities are keen to implement a sustainable development strategy, but have been hampered by the lack of baseline ecological information, which we intend to provide as part of our objectives for this new project.

WILDERNESS

Biodiversity hotspots & endemism: Completed biological surveys on the Wilderness Research Programme have emphasised the importance of the Southern Mikea in south-west Madagascar as a biodiversity hotspot and identified areas requiring protective management programs. Eight species of lemurs were recorded, including fat-tailed dwarf lemurs *Cheirogaleus medius* and Verreaux's Sifaka *Propithecus verreauxi*, threatened by excessive hunting. Other mammals documented include the Malagasy mongoose *Mungotictis decemlineata*, a species that may be endemic to the region. Among the 125 species of bird identified, five are vulnerable or near threatened species; including the regionally endemic long-tailed ground roller *Uratelornis chimaera* and Madagascar crested ibis *Lophotibis cristata*. In addition, possible new species of *Monomorium* ant and *Hesperid* butterfly are awaiting identification. Finally the project revealed that conservation efforts should consider the area as an ecological landscape rather than focusing on individual habitat types. The new Wilderness Programme in northern Madagascar has initiated collaborations with S.A.G.E (Service d'Appui de Gestion de l'Environnement; a local NGO acting as a facilitator for the development of community-based natural resource management projects), and started in-depth biological surveys in the forest covering the Montagne de Français. This dense primary deciduous forest is rich in wildlife but has been little-studied, and our biodiversity survey results will feed into conservation initiatives and strategies for the area.



The endangered ring-tailed lemurs, *Lemur catta*, are threatened by hunting as they are regarded as a source of protein.



Pirogue (fishing boat) in Madagascar.

DONOR FUNDED PROJECTS

The Anakao Ecosystem: Funded by PADI Project AWARE, Frontier-Madagascar conducted an assessment of the marine environment surrounding the Anakao region of south-west Madagascar in 2004. As a result, Frontier field staff set up a museum at the Prince of Anakao hotel to educate both tourists and locals on marine environment and conservation issues. Themes included information on the reef, curio trade, fisheries and species of interest. A conservation workshop was held for local stakeholders accompanied by an information booklet in French and English, covering the work conducted by the Marine Research Programme. The aim was to increase local community awareness, promote the importance of preserving the underwater environment in the Anakao region and encourage sustainable fishery practices.

PROJECT UPDATES: TANZANIA FOREST, SAVANNA & MARINE

Frontier-Tanzania is a collaboration with the University of Dar es Salaam.



VOLUNTEER PROGRAMMES

Tanzania is home to the Serengeti, Kilimanjaro and a wealth of African wildlife, fortunately free from the conflicts of past decades which have blighted so many of its neighbouring countries. Yet these natural resources are threatened by a growing population and the need for social and economic development. Since 1989 Frontier-Tanzania has been operating across the country's varying biomes, accumulating the ecological knowledge necessary for successful environmental conservation and sustainable development. Throughout this time Frontier-Tanzania has run Marine, Forest and Savanna projects, with the 1995 gazettement of the Mafia Island Marine Park resulting from our survey work being just one example of many notable successes.



The African elephant *Loxodonta africana* is often a source of human-wildlife conflict.

WILDLIFE & SAVANNA

Protecting the puku: For the past five years the Savanna Research Programme has conducted baseline biodiversity and human resource use surveys throughout the Kilombero Valley, on the northern border of the Selous Game Reserve. In addition, we conduct environmental education with the local communities and train local forest officers in monitoring and management methods. Biodiversity surveys of Miombo woodland, in conjunction with the Kilombero Valley Teak Company, are being conducted to assess the impact of plantations on the indigenous flora and fauna. Recommendations can then be made on which sites are of particular conservation concern, or should be set aside as wildlife corridors. Extensive studies conducted by Frontier-Tanzania on the ecology of the rare Puku antelope *Kobus vardoni*, of which over 70% of the remaining population is found in the Kilombero Valley, prompted an aerial survey by the Selous Conservation Programme, which showed a dramatic decline in the species population. We are now conducting large mammal surveys including the use of camera-traps to ascertain

if this has been mirrored in other charismatic species such as elephant and buffalo. Key finds include the remarkable sighting of a troop of Iringa Red Colobus monkeys *Piliocolobus gordonorum*, whose world-wide population is only 450 individuals. We have also discovered a range extension of Lindner's toad *Bufo lindner* and documented the endangered butterfly *Charaxes bipunctatus*.

MARINE

Searching for dugongs: Drawing on the success of previous marine projects such as Mafia Island and Misali Island in the Zanzibar archipelago, we are now initiating our new Marine Programme in the Mtwara region, on the outskirts of the Mnazi Bay-Ruvuma Estuary Marine Park in southern Tanzania. Frontier-Tanzania last conducted marine research in Mtwara in 1998, and further research here will enable us to determine the ecological trends in the intervening years, such as changes resulting from human impacts, global climate change, coral bleaching events and the recent tsunami. Surveys will record the wealth of biodiversity, with seahorses, sea turtles, large pelagic fish such as sailfish, and even the rare and elusive dugong rumoured to be present.



Marine surveys include reef fish inventories.

DONOR FUNDED FOREST RESEARCH PROJECTS

Uluguru North and South Forest Reserves Biodiversity and Resource-Use Assessment: Frontier-Tanzania's Forest Research Programme recently completed extensive surveying of the Uluguru North and South reserves, part of the Conservation and Management of the Eastern Arc Mountain Forests project. Highlights include the possible discovery of several new species of *Nectophrynoides* toads, a range extension of the Uluguru Two Horned Chameleon, and documenting the call of the extremely rare and endangered Bush Shrike. This was funded by the Global Environment Facility through the United Nations Development Programme and managed by CARE International.

The Forgotten Forests of Mtwara - A Reconnaissance to Prioritise Biological Knowledge for Community Conservation Initiatives: The Forest Research Programme is now undertaking a rapid assessment of Mtwara's coastal forests to identify and prioritise the region's biological and economic importance as part of the "Coastal Forests of Eastern Africa Hotspot" (Conservation International). This will create a legacy for future research and conservation of the area. Our research team has so far visited five forest reserves subject to varying levels of human disturbance, encountering lions *Panthera leo*, ground hornbills *Bucorvus leadbeateri*, the deadly vine snake *Thelotornis capensis*, the epauletted fruit bat *Epomophorus wahlbergi*, and recorded signs of leopard *Panthera pardus*. Additional collaborators include TRAFFIC; the governmental Forestry and Beekeeping Division; and the Missouri Botanical Gardens. It is funded by the Critical Ecosystem Partnership Fund (CEPF): a joint initiative of Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank, and a fundamental goal is to ensure civil society is engaged in biodiversity conservation.



Victims of poaching in forest reserves include this snared blue duiker *Cephalophus monticolor*.

PROJECT UPDATES: CAMBODIA TROPICAL FOREST

Frontier-Cambodia is a collaboration with the government Department of Nature Conservation and Protection.



VOLUNTEER PROGRAMME

Discovering Cambodia's hidden forests: Cambodia is a beautiful and fascinating country, and despite the years of civil war and political unrest, large areas of relatively undisturbed and sparsely populated forest remain. These forests form part of one of the world's most extensive protected area networks, yet are both poorly surveyed and increasingly under threat from human activity. Frontier-Cambodia's Tropical Forest Research Programme is well into its second year, having recently completed the surveying of Ream National Park in the south of the country, with many exciting and significant findings.



The vulnerable lesser adjutant is often kept as a pet in local communities.

Important conservation priorities for Ream include sites with particularly high biological diversity, and those inhabited by vulnerable, low-mobility species, such as caecilians, turtles, and nesting birds. This is especially important considering that Ream may host some of the largest populations of turtles in the whole of Cambodia. Snakes made up some of the most exciting discoveries, including two small-spotted coral snakes *Calliophis maculiceps*, two out of the only three specimens of its kind to be found in Cambodia, and a large slender wolf snake, which is awaiting identification and may be a new record for the country. Vegetation studies have identified at least 80 tree species, five of which are endangered (two critically) and one endemic to Cambodia.

Ream has several charismatic mammal species that have the potential to provide key foci for eco-tourist and fundraising activities. These include silvered langur *Presbytis cristata*, crab-eating macaque *Macaca fascicularis*, the vulnerable fishing cat *Prionailurus viverrinus*, and a variety of species of otters, deer and flying foxes. In addition, a pod of critically endangered Irrawaddy dolphins *Orcaella brevirostris* have been a frequent and beautiful sighting in the estuary, and these may be one of Ream's greatest biological assets. Bird surveys resulted in an inventory of 125 species, of which five are IUCN Red Listed and five of regional conservation concern, including the extraordinary discovery of the great hornbill *Buceros bicornis*, previously thought to be extinct in Ream. The Park is also a key breeding site for the regionally-threatened Brahminy kite *Haliastur indicus* and vulnerable lesser adjutants *Leptoptilos javanicus*. Our data will be made available to the government and national park authorities and managers, and we have built the capacity for forest rangers to continue long-term monitoring through the provision of training in survey techniques. Ream's future is bright, and although heavily modified by human activity in the past, the now-regenerating forests are rich in native, endemic and rare primary forest trees, which in turn provide habitats for the great diversity of native mammals, birds, amphibians and reptiles found here.

Frontier-Cambodia has now embarked on an exciting new research project in the little studied Botum Sakor National Park, one of the Protected Areas in the Cardamom Mountains Priority Landscape on the south-west border of Cambodia. This new project has great potential, as a great diversity of habitats have already been reported, including extensive lowland, mangrove and swamp forests, potentially harbouring the complete assemblage of Cambodian fauna including large carnivores. Excitingly, tracks and signs have indicated the presence of sun-bear *Helarctos malayanus*, elephant, large deer and leopard cat *Felis bengalensis*, and there are even rumours of tiger and leopard in the park.



Frontier-Cambodia confirmed the presence of the endangered elongated tortoise *Indotestudo elongata* in Ream.



Frontier-Cambodia staff and volunteers with local community helpers after all their hard work cleaning up the beach.

DONOR-FUNDED PROJECT

Litter Removal in Ream National Park: Funded by PADI Project AWARE, Frontier-Cambodia staff and research assistants organised litter picks of Koh Sampot beach, Ream National Park, in December and February. Posters were put up around the towns and adverts were put in local newspapers in English and Khmer to encourage local people to take part, thus raising awareness as well as improving the environment for Ream's marine and terrestrial wildlife. Both outings were a huge success with many local people turning out to help and providing positive feedback after the event. Among other environmental hazards, volunteers collected plastic bags, picnic waste, fishing nets, lures and polystyrene buoys, thoroughly cleaning up the area.

WORKING WITH LOCAL COMMUNITIES

ENVIRONMENTAL EDUCATION

Frontier's policy of building environmental awareness in local communities hinges on our provision of environmental education. This is an invaluable tool for raising awareness of the worth of the biodiversity with which communities share their environment and often rely on for their livelihoods. Education about the sustainable use of natural resources and the role of wildlife and their habitat can help the community to understand that conserving their natural resources is a real investment in their future.



Making Masks in Nicaragua: Environmental education projects were initiated in the remote and impoverished communities of Salinas Grandes on the Pacific north-west coast of Nicaragua, near the protected area of Isla Juan Venado. Frontier-Nicaragua worked with teachers and community leaders to visit schools from the villages of Villa Esperanza, Divino Nino and Omar Torijo. Classes for primary school children included novelty games and ideas, making animal masks, painting maps, and playing ball games to help teach basic concepts about wildlife and the protected area of Isla Juan Venado. Both the children and volunteers thoroughly enjoyed themselves and this initiative will continue to be a regular feature of the work programme.



Children wearing animal masks they made themselves with the help of Frontier-Nicaragua staff and volunteers.

TRAINING & VOCATIONAL QUALIFICATIONS

Frontier is involved in the long-term training of local university students and environmental staff from local NGOs and government departments, as part of its collaboration with host-country universities and institutions. Through free scholarships we provide training in scientific survey methods leading to our unique BTEC (British Training and Education Council) vocational qualification in Tropical Habitat Conservation, accredited and awarded by Edexcel; and dive training to PADI Advanced Open Water. This is often the only opportunity for local people to receive this type of training and experience. For university students it forms part of their university education and higher degrees; and for environmental staff it provides the experience to carry out the monitoring and scientific work necessary to actively execute their conservation and management plans.

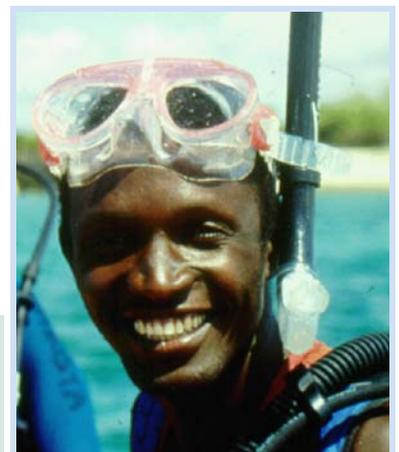


Malagasy Master's student Lalao giving Malagasy lessons to Frontier volunteers.

Madagascar University Students: As part of our collaboration with the University of Toliara's Institut Halieutique et des Sciences Marines (IH.SM), Frontier-Madagascar has been training students for the last 5 years. Lalao, Jimmy and Bienvenue joined Frontier-Madagascar's marine camp in September 2004 and have since completed their master's degrees with our support. Whilst on the marine camp they were actively involved in all areas of camp life and marine survey work. Throughout their time with us, the students' contribution to the project was invaluable, assisting with the science programme and vital socio-economic research conducted in the local village of Anakao; and enhancing the experience of the international volunteers and staff through Malagasy lessons. For their field projects, Jimmy assessed the effectiveness of the community management of coastal and marine resources in Anakao and Nosy Ve; Lalao analysed the pressure and threats on the Nosy Ve coral reef; and Bienvenue studied the economic and ecological impacts of tourism in Anakao.

Gap Year Qualifications: Frontier also provides training opportunities to international volunteers. As well as the BTEC Advanced Diploma in Tropical Habitat Conservation (equivalent to an A-level); we also offer the BTEC Advanced Certificate in Expedition Management (biodiversity research) that is equivalent to an AS-Level. These qualifications were established on the principle that volunteer participation would be enhanced if formal qualifications were available that consolidated and validated the practical skills that volunteers learn during their overseas expeditions. Structuring our scientific training around these qualifications also ensures that the quality of the research and scientific survey work conducted by our volunteers is consistently high in order to produce accurate and useful data.

Tanzanian student awarded 'Distinction': Nuhu Daniel, a local Tanzanian Field Assistant / Liaison Officer, recently achieved a distinction for his BTEC portfolio which included an assessment of the effect of the age of teak plantations on the abundance and diversity of terrestrial invertebrates. After working for Frontier for a year Nuhu is now going on to work with the Wildlife Conservation Society in Tanzania. These qualifications have given many of our volunteers a head start in their conservation careers, securing them places in higher education and enhancing their career prospects.



Roque Muidumbe, a Mozambican volunteer Research Assistant from the Institute for the Development of Small Scale Fisheries, dive trained with Frontier.

LONDON HEADQUARTERS NEWS

Harvard Research & Development Interns: We will be welcoming three bright and enthusiastic international Research and Development Interns to our London team for the summer. Naabia Ofoosu-Amaah and Jason Yeo are undergraduate students studying Environmental Science and Public Policy at Harvard University, USA. Roy Katayama is a Master's student studying at the JFK School of Government, Harvard University, who will be helping to develop conservation strategies for Madagascar. With keen interests in international development, environmental conservation, and natural resource management we look forward to welcoming them and to their valuable contribution to the organisation.

Research & Development Training:

Frontier will be collaborating with a number of outside experts for the new Biodiversity Research Project in the Eastern Arc Mountains, and the London Headquarters' Research and Development Unit will travel to Tanzania to receive training in field techniques along with the Tanzanian field staff. Specialists include Dr. A. Perkins of the Nocturnal Primate Research Group, Oxford Brookes University, on primates and hyrax; Mr. F. Rovero and Mr. M. Menegon of the Museo Tridentino di Scienze Naturali, on camera trapping, mammal and herpetological work. This is an exciting opportunity to expand Frontier's expertise and for the London staff to contribute more to field work.

Open Days: Interested in finding out more about Frontier? Come along to one of our information sessions, held one Wednesday evening and one Saturday morning every month. Visit our website for the latest dates.

CAREER OPPORTUNITIES

With the start of several new projects and the expansion of our current projects we are busy recruiting new members of staff for our overseas field teams. Key new positions include Project Co-ordinator for Nicaragua and Country Co-ordinator for Madagascar. We also have an opening for a Volunteer Co-ordinator in our London office, and we are always on the look-out for capable and dedicated interns wishing to gain experience working in an international conservation NGO. Visit our website for all the latest vacancies.

MEETINGS & CONFERENCES

ReefUK Conference - Reef Conservation UK; 6th Nov 04, UK. A. McVean poster presentation: "Traditional Shark Fisheries in South West Madagascar".

Stakeholder Conservation Workshop - FI.MI.NA.NO; 4th Dec 04, Madagascar. Launch of PADI Project Aware funded activities and information booklet.

Coral Reef Conference - The Zoological Society of London; 16th - 17th Dec 04, UK. C. Poonian poster presentation: "Effects of Artisanal Exploitation on fish assemblages of a remote East African coral reef".

Destinations 2005 - University of Aberdeen & RSGS; 16th Feb 05, UK. N. Owen & C. Watson hosted Tropical Field Methods Workshop.

Student Conference for Conservation Science (SCCS) - Cambridge University, RSPB, Tropical Biology Association; 22nd - 24th Mar 05, UK. Poster presentation on Frontier projects.

Darwin Initiative Workshop - DEFRA; 6th Apr 05, UK.

Marine Science Conference - The Institute of Marine Engineering, Science and Technology (IMarEST); 25th Apr 05, UK. C. Poonian talk on "Careers in Marine Conservation".

IUCN UK Committee AGM & Members meeting - IUCN; 27th Apr 05, UK.

CARE Uluguru Presentation - Apr 05, Tanzania. F. St. John & C. Bracebridge presented preliminary findings of the Uluguru Component Biodiversity Survey to CARE International.

EACF Stakeholder Monitoring Workshop - Birdlife International & Wildlife Conservation Society of Tanzania; 30th May - 1st Jun 05, Tanzania. G. Wegner & M. Gillis presented Frontier-Tanzania's work in the Eastern Arcs.

Fourth WIOMSA Scientific Symposium - Western Indian Ocean Marine Science Association (WIOMSA) & Mauritius Oceanography Institute (MOI); 29th Aug - 3rd Sept 05, Mauritius. Poster presentation: "Preliminary Assessment of the Anakao Artisanal Fishery, South-West Madagascar".

World Maritime Technology Conference - IMarEST; 6th - 10th Mar 06, UK. H. Markham abstract submitted: "Is coral bleaching the most significant threat to Madagascan coral reefs?"

26th Annual Sea Turtle Symposium - International Sea Turtle Society; 4th - 8th Apr 06, Crete. Presenting Frontier-Nicaragua's sea turtle conservation and training work.



LATEST SCIENTIFIC PUBLICATIONS

Beharrell NK & Ryder S. 2004. Innovative conservation initiatives: Bai Tu Long Bay, Vietnam. *Tropical Conservancy: Biodiversity*. 5 (2):3-11.

D'Cruze NC *et al.* (in press). The reptiles of the Southern Mikea Forest, Madagascar. *The Herpetological Bulletin*.

Emmett DA. 2004. Altitudinal distribution of the Short-Tailed pygmy chameleon (*Rhampholeon breviceaudatus*) and the Usambara Pitted pygmy chameleon (*R. temporalis*) in Tanzania. *African Herp News*. 37:12-13.

Grainger M & Hengeveld F. 2005 Puku of the Kilombero valley. *Gnusletter* 23(2)19-20.

Hengeveld F. (in review). The future of wildlife outside protected areas, an example from the south of Tanzania. *Tanzania Wildlife Magazine*.

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MacFarlane W. & Wortley A. (in review). Ream National Park supports some of Cambodia's largest freshwater turtle populations. *Asian Turtle Conservation Network*.

Marshall AR *et al.* 2005. Monkey abundance and social structure in two high elevation forest reserves in the Udzungwa Mountains of Tanzania. *International Journal of Primatology*. 26(1):127-145

Menegon M *et al.* 2004. Five new species of *Nectophrynoides* Noble 1926 (Amphibia Anura Bufonidae) from the Eastern Arc Mountains, Tanzania. *Tropical Zoology*. 17: 97-121.

Muurmans M. & Farmer A. (in review). A note on marine turtle conservation of the Volcano Cosiguina nature reserve, Pacific coast, Nicaragua. *Marine Turtle Newsletter*.

Owen M. 2004. Sihanoukville. *Cambodia Bird News*. Pizzolla P. 2005. The secret lives of the ghost crabs of Pemba island. *Kakakuona (Tanzania Wildlife Magazine)* 36:30-31.

Poonian CNS. (in review). A preliminary assessment of the artisanal finfish resources of a remote Pemban fringing reef by Frontier-Tanzania. *WIOMSA*.

Poonian CNS. (in review). Sustainable Management of the Intertidal Fisheries of Misali Island, Pemba. *MIOMBO*.

Walker RCJ *et al.* 2004. The Trade of Marine Turtles in the Toliara Region, South West Madagascar. *Marine Turtle Newsletter*. 106: 7-10.

Wortley A & Cowling P. (in review). Ream National Park- Key Site for Brahminy Kite and Threatened Water Species. *Cambodia Bird News*. *Frontier also regularly publishes technical and consultant reports, visit our website for a comprehensive publications list.*



VOLUNTEER NEWS

NEW CONSERVATION APPRENTICESHIPS



As a celebration of seventeen years of successful conservation expeditions Frontier is launching a new Conservation Apprenticeship scheme to give exceptional volunteers a boost to their career in conservation and development. From summer 2005 Frontier will be searching out the best volunteer Research Assistant from each of our marine and terrestrial camps to promote to a Frontier Conservation Apprentice. Apprentices will have the opportunity to stay on camp for a further 10 weeks or more and assume a leadership role, assisting with running the camp, liaising with staff and scientists, and supervising the scientific programme. Contact us for more information about this exciting scheme.



FRONTIER FIELD SCHOLARSHIP AWARDED

Frontier's commitment to aiding the careers of our volunteers has led to the initiation of the Frontier Field Scholarships – heavily subsidised expeditions available to excellent candidate research assistants. The first scholarship has been won by Phillip Whiting from Hereford, who will be joining Frontier-Madagascar in July, spending 10 weeks on Frontier's Madagascar Marine Research Programme and a further 10 weeks on Frontier's Madagascar Wilderness Research Programme. Phil has recently completed his MA in Sustainable Development Advocacy at University College Worcester, and has chosen to join Frontier to gain valuable practical field experience and to complete the vocational BTEC (British Training and Education Council) qualification in Tropical Habitat Conservation. Applicants are required to write a short essay on 'Why they think the work Frontier conducts is globally important', and following is an excerpt from Phil's winning composition:

"Deforestation, loss of habitat, extinction of species and climate change, all of these are caused by the continuous onslaught of man. Frontier strives, through conservation research, to map the damage done to the planet and the life on it to give an indicator for the future. They gather information that can be used by organisations and governments to help to protect the future for all. They educate not just volunteers but the indigenous people, from the areas where they carry out their research. It is through education that people realise that there are alternatives and that change is truly born. Through education future generations will grow to know the importance of looking after our small, lonely planet."

LIFE IN THE FIELD

Tanzanian camp life: Some of the best moments of the trip; early morning in the cool, standing on the back of the pick up truck and being driven over bumpy roads, through the miombo forests of the Kilombero Valley on the way to site; feeling immense satisfaction at being one of the first to master the 'art' of sweep netting and finally clasping a butterfly between my fingers; finding my first elephant tracks whilst performing transect lines; cooling down in the river with friends after a really hot day in the field and watching a troop of baboons amble along the riverside; working with two camp duty friends and making the tastiest curry anyone had eaten for a long time; playing the water cycle game with children at the local school and hearing their laughter when we taught them the 'Macarena' song!

These are just a few snapshots of my days on my ten week Frontier expedition in Tanzania which provided me with such a great experience both personally and in gaining necessary conservation knowledge and skills. Having worked with Frontier I am now developing my career within conservation and I am working as a volunteer for the Wildlife Conservation Research Unit in Oxford, helping to reintroduce endangered Water Voles back into Oxford's wildlife which, so far has been very successful!

Laura Owens, Tanzania Savanna & Forest, Jan 2005



Trekking to trap-sites in the Tanzanian wilderness.

LATEST VOLUNTEER DISCOUNTS & SPECIAL OFFERS

We're pleased to announce a whole range of special offers and discounts available to prospective volunteers!

- Frontier Field Scholarships: 30% off selected expeditions for 2005 and 2006 for exceptional candidates.
- Returning volunteers get 60% off their next expedition.
- Group discounts are also available, discount depending on numbers.
- School Expedition discounts available.
- Volunteers on our marine conservation expeditions receive free dive training to PADI Advanced Open Water (normal UK price ~£475)

Terms and conditions apply. For further information contact us.

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