Association Vahatra

Annual report for 2014

Scaphiophryne matsoko - © Vahatra

Mantella ebenaui - © Vahatra

Prepared by

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CONTENTS

A MESSAGE FROM THE PRESIDENT OF VAHATRA, DR. HDR ACHILLE RASELIMANANA

Two important aspects of the Vahatra mandate are improving knowledge about the unique biodiversity and natural history of Madagascar, which is critical to contribute effectively to the island's conservation, and dissemination of information to the general public and solid data to policy makers. The advancements made by the association last year and outlined in the 2013 annual report clearly illustrate the achievements of our team. This year lived up to the same high standard, and events such as the official launch of the book *Atlas of vertebrates selected Madagascar* and another book *Extinct Madagascar*, mark another set of important advancements. In addition, the publication of the sixth volume in Association Vahatra's guide series to the biodiversity of Madagascar, this one on the amphibians of dry forests, took place in 2014. Several book dealers located abroad (Europe and USA) contribute to the wide international sale of these works. The increasing interest in these books by the Malagasy people clearly demonstrates engagement concerning their national patrimony. These individuals, along with naturalists and conservationists from elsewhere in the world, will play the role of ambassador for the island's very unique biodiversity.

The Vahatra conservation vision has not changed since the creation of the association in 2007: improving knowledge on the island's biodiversity and natural history of Madagascar, to bring science to policy makers and the people of Madagascar in an accessible form, and advance generations at the university level of skilled biologists with the capacity to lead their country in the fields of management and biodiversity conservation. These aspects are apparent in the following figures for 2014 -- the scientific members of the association acted as direct mentors for 13 Malagasy students that presented their higher degrees and an additional 26 that are in preparation in the national university system, and Vahatra scientists and students published over 40 scientific papers in journals and two books. Over the past few years, new emphasis was given to expanding the association's scope through effective collaboration with different African institutions, for example as part of the StopRats project (discussed within this annual report), to marry research, training, and practice through the exchange and sharing of experience and knowledge between scientists, managers, and people working in a variety of fields. This is another way to create opportunities for Malagasy students to broaden their vision in applied research, working together with a multidisciplinary international development team, and increase their capacity.

Thanks to a grant from the Helmsley Charitable Trust, the past two years have been marked by the commencement of a different form of training by Vahatra scientific members in conservation biology, specifically for individuals working as field technicians and not necessarily with any formal scientific training (discussed within this annual report). Further, an important effort has been made to reach out to graduate students conducting their studies in the provincial areas of the island and outside the context of the Faculty of Science, University of Antananarivo, in the capital city. The direct sharing and exchange with national and international partners working in domains related to conservation science also marks this new trend towards an "all-out" approach by Vahatra for the validation of the natural sciences and the application of this broad domain in management and conservation of the island's natural resources.

The different paths turn out to be long and the challenges many, but as is often said, "With a valiant heart, nothing is impossible" – so the best of luck to all!

Achille Raselimanana

LONG-TERM GOALS

The long-term goals of the Association Vahatra are to advance Malagasy scientists, specifically graduate students within the university system, as well as other members of the national conservation biology community, and make important advances in understanding the island's unique biota. Our sincere intent is to create an organization with a long-term future, both in the sense of a vision and financial base. A critical aspect to mention is that we have created this vision largely based on the scientists and students working with the association, and, hence, distinctly Malagasy in prospective. This is in comparison, for example, to large international organizations that might not necessarily have the interests of Madagascar as their principal point of perspective. This "Malagasy-aspect" is fundamental for the long-term strength of the association, since members are engaged and committed by conviction with regard to the study and conservation of their natural heritage.

The seed was planted for Association Vahatra more than two decades ago in the context of a project organized by WWF-Madagascar and known as The Ecology Training Program (ETP). Steve Goodman and Achille Raselimanana were the coordinators of the project for many years, during which time several generations of Malagasy students finished their higher degrees within the university system in animal and conservation biology. Many of these graduates are amongst the major actors in the current community of Malagasy conservation biologists. These individuals are now responsible for the advancement of new generations of national field biologists in at least three different manners: 1) lecturers and professors within the national university system, 2) active scientific members of the Vahatra staff, and 3) playing important roles and holding key positions in the non-governmental and governmental sectors.

VAHATRA – PERMANENT STAFF

1. Professor Achille P. Raselimanana – President of Vahatra and Professor, Department of Animal Biology, The University of Antananarivo. Founding member. Achille was one of the first generation of ETP graduates and did his DEA and Ph.D. in the context of this program. In 2011, he presented his "Habilitation à Diriger des Recherches" (HDR) at The University of La Réunion, which is the highest scientific degree in the French university system. Achille is a herpetologist with considerable experience in domains ranging from field studies, classical taxonomy to molecular systematics. He held for nearly a decade the position of Biodiversity Program Officer for WWF-Madagascar and before the creation of Vahatra.
2. Dr. Marie Jeanne Raherilalao – Editor of the journal *Malagasy Nature* produced by Vahatra and Professor, Department of Animal Biology, The University of Antananarivo. Founding member. Marie Jeanne did her Ph.D. associated with the ETP. She works on bird ecology, biogeography, and systematics.
3. Dr. Voahangy Soarimalala – Scientific Coordinator at Vahatra; Head Curator, Department of Animal Biology, The University of Antananarivo; and Professor, The University of Fianarantsoa. Founding member. Voahangy did her DEA and Ph.D. associated with the ETP. Voahangy is a mammalogist with a particular interest in rodents and tenrecs.
4. Dr. Steven M. Goodman – Scientific Advisor at Vahatra and Lecturer, Department of Animal Biology, The University of Antananarivo. Founding member. Steve works with both mammals and birds. He holds the post of MacArthur Field Biologist, Field Museum of Natural History, Chicago, and is based in Madagascar most of the year.
5. Mrs. Malalarisoa Razafimpahanana – General Secretary of Vahatra. Founding member. Malalarisoa formerly worked at WWF and transferred to Vahatra in October 2007. She is responsible for the administration of the association. Further, with considerable technical and aesthetic skills, she does the design and type setting of the journal *Malagasy Nature*, as well as the different books published by the association. She is the point person for the maintenance of the association's website. She also designed and created the 12th ASMS website.
6. Mr. Rachel Razafindravao called "Ledada" – logistic coordinator. Ledada started working with the ETP some 23 years ago and transferred to Vahatra in October 2007. He has helped organize logistics for something approaching 300 field missions to some of the remotest areas on Madagascar.

7. Mrs. Françoise Ramalalatiana – domestic help. Françoise has worked with Vahatra since October 2007.

8-10. Mr. Elisa Malaimbohitsy, Mr. Mara Avisoa, and Mr. Mbola Marivosoa Alexandre – guardians.

VAHATRA'S BOARD OF DIRECTORS

In order to provide needed guidance and counseling for the current and future programs associated of Vahatra, a Board of Directors has been named, which includes the following individuals:

Malagasy nationals

Professor Daniel Rakotondravony – Department of Animal Biology, The University of Antananarivo.

Mrs. Nanie Ratsifandrihamanana – Country Director, WWF, Madagascar.

General Guy Ratrimoarivony – Général de Corps d'Armée, Director of Strategy Seminar, Center for Diplomatic and Strategic Studies.

Mrs. Chantal Andrianarivo – Former Head of Research and Biodiversity, Madagascar National Parks and now Technical Advisor at Western Indian Ocean Coastal Challenge – Islands Project.

Professor Joelisoa Ratsirarison – Forestry Department of the School of Agronomy, University of Antananarivo and Vice President of the University of Antananarivo in Charge of International Relations.

Mr. Jean Chrysostome Rakotoary – General Director of the National Office for the Environment (ONE).

Professor Raoelina Andriambololona – Institut National des Sciences et Techniques Nucléaires (INSTN), The University of Antananarivo, General Director of INSTN and Member of the Malagasy Academy.

Foreign members

Mr. John McCarter – Former president of the Field Museum.

Mr. Michael Polsky – President, Invenergy.

Mr. Olivier Langrand – Executive Director, Critical Ecosystem Partnership Fund (CEPF).

Professor Jörg U. Ganzhorn – Professor, Tierökologie und Naturschutz, University of Hamburg.

The annual meeting of the Board of Directors was held in the early portion of 2014.

STUDENTS

We are currently working directly with different Malagasy students registered within the national university system and conducting either their "Diplôme d'Etudes Approfondies" or DEA (roughly equivalent to a MSc), "Professional licence" or "Diplôme d'études supérieures spécialisées" (DESS and a sort of technical low MSc), or PhD degrees (see section below entitled "Active graduate students in 2012"). Further, the scientific members of Vahatra are also in contact with tens of other Malagasy students as secondary advisors and members of thesis and mémoire committees. We have made a dedicated effort to work with undergraduate and graduate students in universities outside of Antananarivo, including Antsiranana, Toliara, Fianarantsoa, and Mahajanga. In addition, Vahatra staff members advise many other Malagasy students with aspects of their research, access to literature based on the fine library housed by the association, and other forms of mentorship.

Since Vahatra opened its doors in late 2007, something approaching 1350 different student and research visitors not registered with the association's program have visited the office to use the library facilities or consult with the scientific staff. (These figures are based on a sign-in notebook.) In 2014 alone, something approaching 350 different student and researcher visits were made to the library and thousands of documents (books, reprints, theses, etc.) consulted. Over the past few years, the number of people consulting the Association Vahatra library has continued to increase, probably related with this resource becoming better known to young Malagasy scientists and the implementation of Anglophone License-Masters-Doctorate (LMD) system, a new higher education system with the Malagasy universities.

Steven M. Goodman also serves on the Ph.D. committees of students at The University of Kwa-Zulu Natal, where he is Honorary Professor, and other universities in North America and Europe; most of the research themes of these different Ph.D. projects are associated with Malagasy animals.

Malagasy students passing through the Vahatra program have considerable success finding permanent jobs within governmental and non-governmental sectors of Malagasy society. In many cases, these posts are in domains related to biology and conservation, for example, university appointments, working within NGOs, associated with the Madagascar National Parks, etc. Hence, one of the mandates of the association, to advance science and conservation in Madagascar with focused mentorship of graduate students, is indeed meeting the original expectations. A good example of this is the number of university appointments Vahatra graduates have received in the past few years (Table 1), which provides the means to increase substantially the impacts of the association's goals related to augmenting knowledge of the island's biota and using this data to advance its conservation. Another aspect to measure the success of the capacity building approach initiated by ETP and continue by Vahatra is the increasing number of NGOs that involve capacity development and reinforcement of young Malagasy scientist as a part of their higher education program. Vahatra staff scientists are on a regular basis solicited to co-supervise some of these students.

Table 1. Malagasy graduate students that worked with Vahatra and in the past years and obtained posts in the governmental or non-governmental sectors. Several retain a sort of adjunct status at the Association Vahatra or continue research programs with Vahatra scientific members and students.

1. Zafimahery Rakotomalala – Thesis title: Distribution des communautés des micro-mammifères dans l'Ouest de Madagascar: Détermination de l'implication des traits hydrographiques naturels dans les assemblages zoologiques – This thesis was presented in March 2010. Zafimahery has subsequently obtained the post of Professor in the Department of Animal Biology, The University of Antananarivo.
2. Harimalala Fanja Ratrimomanarivo – Thesis title: Inventaire des espèces de chauves-souris synanthropiques malgaches et étude de la variation morphologique, phylogéographique des quatre espèces de Molossidae dans des îles occidentales de l'Océan Indien et de l'Afrique – This thesis was presented in April 2010. Fanja has published numerous papers on her thesis research. She was engaged in an 18-month post-doc associated with Vahatra. Before the termination of her post-doc, she was named as Professor at The University of Toliara.
3. Claudette Patricia Maminirina – Thesis title: Etude systématique et phylogénétique de *Miniopterus* Bonaparte 1837 (Microchiroptera : Vespertilionidae) de Madagascar – This thesis was presented in April 2010. The student was engaged in an 18-month post-doc associated with Vahatra and published a series of papers associated with her research. She has recently obtained the post of Professor at the University of Ambositra.
4. Martin Raheriarisena – Thesis title: Les petits-mammifères non-volants (Afrosoricida, Soricomorpha et Rodentia) dans le complexe forestier de la région de Loky-Manambato : biodiversité, biogéographie et effets de fragmentation forestière – This thesis was presented in March 2010. Martin has subsequently obtained the post of Lecturer in the Department of Animal Biology, The University of Antananarivo. He has published several papers associated with his thesis research.
5. Julie Ranivo Rakotoson – Thesis title: Révision taxinomique des espèces de Microchiroptera de la région sèche de Madagascar et leur écomorphologie. This was presented in 2007. Subsequently, she was named Grant Officer at the Madagascar Biodiversity Fund and then Professor in the Department of Animal Biology, The University of Antananarivo.
6. Hery Andriamirado Rakotondravony – Thesis title: Etude de la distribution des communautés d'amphibiens et de reptiles à partir d'inventaires et analyses biogéographiques dans la région de Daraina. This was presented in 2007. Soon

after presenting his thesis, he took a post with the Ministry of the Environment, Service Climate Changes, and recently was hired by the Madagascar Biodiversity Fund as the person responsible for project evaluation. He was named Lecturer at The University of Antananarivo.

7. José Ralison – Thesis title: Biogéographie des lémuriens des forêts sèches de Madagascar. In preparation. He has published a series of papers associated with his research. He has recently named as responsible of terrestrial and aquatic fauna at BIOTOPE, Madagascar.
8. Juliana Rasoma Rahantavololona – Thesis title: Relation entre *Astrochelys radiata* (Testudinidae) et la végétation au Parc National de Tsimanampetsotsa. In preparation. Before the termination of her thesis, she was named as Lecturer at the GRENE Formation (Gestion des Ressources Naturelles et Environnement) of The University of Toamasina.
10. Harimpitia Haridas Zafindranoro – DEA title: Communauté de la faune micromammalienne de la forêt de Beanka, Région Melaky. This was presented in 2011. She was recently named as Regional Director of Environment and Forests Department of the Ministry of Environment in Toliara.
11. Eddy Nirina Rakotonandrasana – Thesis title: Etude de l'effet du changement climatique sur la distribution des espèces de reptiles et d'amphibiens dans les parcs nationaux d'Andringitra, d'Andohahela et de la Montagne d'Ambre. In preparation. Eddy has obtained a post in Andohahela National Park as the coordinator of biodiversity conservation.

Graduate diplomas presented in 2014 and under preparation of students working with Association Vahatra

As can be seen from the following lists, the scientific members of Vahatra are extensively involved in the advancement of a number of Malagasy graduate students. We consider this the hallmark of the association. Further, we encourage students to publish the results of their scientific work, as is the same case with Vahatra scientists (see below, "Scientific outputs of Vahatra during 2014").

A - DEA diplomas presented by student members of Association Vahatra

Rasoanoro, M. 2014. Bio-écologie des chauves-souris de la région de Kianjavato-Vatovavy. Mémoire de diplôme d'études approfondies, Département de Biologie Animale, Université d'Antananarivo.

Ramamonjisoa, D. L. 2014. Etude biologique et écologique de la communauté herpétofaunique de Bemanevika, Nord-Ouest de Madagascar. Mémoire de diplôme d'études approfondies, Département de Biologie Animale, Université d'Antananarivo.

B - Professional licence, DEA, and Ph.D. diplomas defended with implication of Vahatra scientific members as a supervisor, member of lecture committee or jury member

Andrianiaina, Z. 2014. Analyse de la vulnérabilité de la pêche traditionnelle face aux changements globaux dans la nouvelle aire protégée d'Antrema (Katsepy : Région Boeny-Madagascar). Diplôme d'Etude Supérieure Spécialisée (DESS) en Sciences de l'Environnement, Faculté des Sciences, Université d'Antananarivo.

Bao, R. F. 2014. Contribution à l'élaboration de modèle de restauration des mangroves : Cas du Fokontany d'Ambakivao, Commune Rurale de Belo sur Tsiribihina, Région de Menabe. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Fitahiantsoa, M. 2014. Contribution à l'étude des comportements de *Propithecus diadema* dans la zone de conservation d'Ambatovy Analamay-Moramanga. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Rahariniaina, R. P. 2014. Habitats potentiels des oiseaux terrestres de la forêt de Makira, Nord-est de Madagascar. Mémoire de diplôme d'études approfondies, Département de Biologie Animale, Université d'Antananarivo.

Rakotoarisoa, G. 2014. Génétique des populations de *Propithecus coquereli* A. Milné-Edwards, 1867 dans les fragments forestiers du nord-ouest de Madagascar. Thèse de Doctorat, Faculté des Sciences, Université d'Antananarivo.

Rakotonirina, J.-C. 2014. Révision taxonomique des fourmis du genre *Leptogenys* Roger (Hymenoptera : Formicidae : Ponerinae) de la région malgache. Thèse de Doctorat, Département d'Entomologie, Université d'Antananarivo.

Ramamonjisoa, D. L. 2014. Etude biologique et écologique de la communauté herpétofaunique de Bemanevika, Nord-ouest de Madagascar. Mémoire de diplôme d'études approfondies, Département de Biologie Animale, Université d'Antananarivo.

Ramamonjisoa, J. C. 2014. Etude de la biologie et de l'écologie d'Effraie de Soumagne *Tyto soumagnei* (Grandidier, 1878) dans la nouvelle aire protégée de Bemanevika, Bealanana. Thèse de Doctorat, Département de Biologie Animale, Université d'Antananarivo.

Ramanandraibe, F. G. 2014. Contribution au suivi et détermination des facteurs de mouvement de communauté d'oiseaux d'eau dans le lac d'Ambatovy. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Rasoamiaranjanahary, M. 2014. Utilisation de l'espace et domaine vital de *Propithecus diadema* dans le site minier d'Ambatovy. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Ratsimbazafy, M. M. 2014. Biodiversité, phylogénie et biogéographie des pipistrelles malgaches. Mémoire de Masters 2, Université de Paris, Sorbonne.

C - Professional licence, DEA, and Ph.D. diplomas in preparation in direct collaboration with scientific members of the Associated Vahatra

Andriafidison, D. In preparation. Ecologie et conservation des gites dortoirs de *Pteropus rufus* (Pteropodidae) dans les différents écosystèmes de Madagascar. Thèse de Doctorat, Département de Biologie Animale, Université d'Antananarivo.

Andriamiravo, M. F. In preparation. Les effets de la reforestation sur la population des papillons dans la région de Kianjavato, Mananjary. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Andrianaivo, B. T. D. In preparation. Micromammifères du Haut Plateau et les maladies émergentes. Thèse de Doctorat de Troisième Cycle, Département de Biologie Animale, Université d'Antananarivo.

Andrianjafy, N. P. In preparation. Etude du comportement alimentaire de *Falco concolor*. Mémoire de diplôme d'études, Département de Biologie Animale, Université d'Antananarivo, Antananarivo.

Kofoky, A. In preparation. Ecologie des chauves-souris d'Andranomanintsy, Besalampy. Thèse de Doctorat de Troisième Cycle, Département de Biologie Animale, Université de Toliara.

Magnina, T. G. In preparation. Contribution à l'étude de la taille du groupe de population de *Propithecus coquereli* pour l'amélioration de l'écotourisme de la forêt d'Anjiamangirana. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Mamialijona, N. In preparation. Les effets de la reforestation sur la population des lézards dans la région de Kianjavato, Mananjary. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Oninjatovo, R. H. In preparation. Impacts des rongeurs introduits sur le milieu d'agriculture dans la Commune Rurale de Ranomafana, Fianarantsoa. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Rabeniarisoa, M. Z. In preparation. Etude et analyse de la relation entre la morphologie et l'écologie de 12 espèces de Scincidae malgaches. Mémoire de diplôme d'études, Département de Biologie Animale, Université d'Antananarivo.

Rajaonarivelo, J. A. In preparation. Etude écologique des espèces d'oiseaux terrestres de la forêt sèche de Kirindy. Mémoire de Master 2, Département de Biologie Animale, Université d'Antananarivo.

Rakotomamonjy, A. T. In preparation. Etude de la structure de la communauté herpétofaunique de la Presqu'île d'Ampasindava : Composition, distribution

spatiale et abondance relative. Mémoire de diplôme d'études, Département de Biologie Animale, Université d'Antananarivo.

Rakotondramanana, C. F. In preparation. Etudes systématique et écologique des petites espèces de Vespertilioninae de Madagascar. Thèse de Doctorat, Faculté des Sciences, Université d'Antananarivo.

Rakotondrasana, R. E. N. In preparation. Etude de l'effet du changement climatique sur la distribution des espèces de reptiles et d'amphibiens dans les parcs nationaux d'Andringitra, d'Andohahela et de Montagne d'Ambre. Thèse de Doctorat de Troisième Cycle, Département de Biologie Animale, Université d'Antananarivo.

Ralisata, M. In preparation. Ecologie de la chauve-souris à ventouse de Madagascar (*Myzopoda aurita*, Milne-Edwards et Grandidier, 1878). Thèse de Doctorat, Faculté des Sciences, Université d'Antananarivo.

Ramanana, T. L. In preparation. Evaluation des effets des changements climatiques sur la diversité et la distribution des petits mammifères non volants (Rodentia, Afrosoricida et Soricomorpha) suivant les transects altitudinaux dans les massifs montagnards de la Montagne d'Ambre, d'Andringitra et d'Andohahela. Thèse de Doctorat, Département de Biologie Animale, Université d'Antananarivo.

Ranaivoson, T. In preparation. Utilisation des bras chez les Propithèques (Handedness). Mémoire de diplôme d'études approfondies, Département de Biologie Animale, Université d'Antananarivo.

Randriamanana, J. P. In preparation. Impacts des rongeurs introduits sur le milieu agriculture dans la Commune Rurale de Kianjavato, Fianarantsoa. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Randriamoria, M. T. In preparation. Etude écologique des petits mammifères terrestres du District de Moramanga et de leurs ectoparasites. Thèse de Doctorat, Faculté des Sciences, Université d'Antananarivo.

Randriamparany, Y. A. In preparation. Contribution à l'étude de la population des lémuriens nocturnes pour l'amélioration de l'écotourisme de la forêt d'Anjiamangirana. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Randrianasolo, J. P. In preparation. Etude comparative du comportement et régime alimentaire de la population d'*Eulemur macaco* en captivité dans le Parc Botanique et Zoologique de Tsimbazaza. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Razafimahatratra, A. In preparation. Etude comparative du comportement et régime alimentaire de quatre espèces d'*Eulemur* en captivité dans le Parc Botaniques et Zoologique de Tsimbazaza. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Razafindramasy, O. G. In preparation. Impacts des rongeurs introduits sur le milieu d'agriculture dans la Commune Rurale de Mahasoabe, Fianarantsoa. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Razafindranaivo, S. In preparation. Effets de la lisière sur la communauté aviaire de la forêt humide de Bemanivika, Nord-ouest de Madagascar. Mémoire de diplôme d'études approfondies, Département de Biologie Animale, Université d'Antananarivo.

Razanajatovo, O. N. In preparation. Contribution à l'étude de la taille du groupe de population d'*Eulemur fulvus* pour l'amélioration de l'écotourisme de la forêt d'Anjiamangirana. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

Zazarohavana, D. H. In preparation. Contribution à l'étude des plantes consommées par des lémuriens diurnes dans le site minier d'Ambatovy. Mémoire de Licence Professionnelle, Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa.

PRESENTATIONS MADE IN 2014 BY VAHATRA MEMBERS

Names in bold are those of scientific staff and those in *italics* of collaborating students.

Goodman, S. M. Madagascar's biodiversity: origins, patterns and future. The University of Pretoria, Pretoria.

Goodman, S. M. Madagascar's biodiversity: origins, patterns and future. Tropical Biology Association course. Kirindy, Morondava.

Goodman, S. M. Extinct Madagascar: Picturing the island's past. Tropical Biology Association course. Kirindy, Morondava.

Goodman, S. M. Atlas of selected land vertebrates of Madagascar. Field Museum of Natural History, Chicago.

Goodman, S. M. Atlas d'une sélection de vertébrés terrestres de Madagascar. Université d'Antananarivo, Antananarivo.

Goodman, S. M. The splendors of Madagascar. Denver Museum of Natural History, Denver, Colorado.

Goodman, S. M. Les extraordinaires animaux et écosystèmes de Madagascar récemment disparus. Lycée Française d'Antananarivo, Antananarivo.

Goodman, S. M. La biodiversité de Madagascar : historique, importance et avenir. Lycée Française d'Antananarivo, Antananarivo.

Goodman, S. M. & W. L. Jungers. Extinct Madagascar: Picturing the island's past. Field Museum of Natural History, Chicago.

Raherilalao, M. J. Bird fauna of Madagascar. Tropical Biology Association course. Kirindy, Morondava.

Ramasindrazana, B. Les chauves-souris: Potentialités et risques. Séances Spéciales Section des Sciences fondamentales, Sciences appliquées sur le thème: Les aspects de la biodiversité. Académie Malgache, Antananarivo, Madagascar.

Ramasindrazana, B. Filarial infection in Malagasy bats. Département de Biologie Animale, Université d'Antananarivo, Madagascar.

Ramasindrazana, B., P. Tortosa, **S. M. Goodman** & K. Dellagi. Host specificity of haemosporidian parasites in Malagasy bats. Département de Biologie Animale, Université d'Antananarivo, Madagascar.

Raselimanana, A. P. Biodiversité malgache : une richesse et un patrimoine naturel en voie de disparition ? Place des jeunes scientifiques malgaches. Séances Spéciales Section des Sciences fondamentales, Sciences appliquées sur le thème: Les aspects de la biodiversité. Académie Malgache, Antananarivo, Madagascar.

Raselimanana, A. P. Les amphibiens des zones arides de l'Ouest et du Sud de Madagascar. Association Vahatra, Antananarivo.

VAHATRA MEMBERS AS REVIEWERS OF PAPERS SUBMITTED TO SCIENTIFIC JOURNALS

As an indication of the role of Association Vahatra scientific members in the realm of published scientific papers, they served in 2014 as reviewers for about 25 papers submitted to the following international journals:

Acta Chiropterologica,
Biological Journal of the Linnean Society,
BMC Evolutionary Biology,
Journal of Mammalogy,
Journal of Zoology,
Malagasy Nature,
Mammalia,
Molecular Ecology,
Science,
Plos One,
Proceedings of the National Academy of Sciences, USA,
Zoological Society of the Linnean Society,
Zoosystema,
Zootaxa.

MALAGASY NATURE

Our intention with the scientific review *Malagasy Nature* is to publish a peer-reviewed journal with articles of high scientific and technical standards. As the journal has an ISSN number, it is considered an international scientific review published in Madagascar. Manuscripts in French or English are passed through an editorial process, including a review process of international standards. We work closely with Malagasy authors, particularly graduate students and young researchers, to help them understand the process of composing, writing, and editing scientific articles. In many cases, the first publication of a researcher poses considerable hurdles and *Malagasy Nature* provides the means for these individuals to negotiate such problems. Based on this approach, this journal plays an important role in regional capacity building, which in turn separates it from most other journals of international standards. Further, the journal allows Malagasy scientists to return information to the worldwide scientific world. All of these aspects together, provide professional advancement for the Malagasy scientific community, specifically a certain sense of responsibility and for national authors to understand the importance of invested efforts when producing scientific articles of international standards. *Malagasy Nature* also guarantees the local availability of research results in the fields of ecology and biology conducted on the island, as compared to foreign scientific journals with copies not always being repatriated to Madagascar. All recent numbers of the journal are available on line and for free downloading of articles (http://www.vahatra.mg/malagasynaturefr.html).

Marie Jeanne Raherilalao is the Editor of *Malagasy Nature* and a group of Associated Editors assists her. At least one volume of the journal is published each year. The editorial board of *Malagasy Nature* is composed of both national and international scientists, from the Anglophone and Francophone worlds, made up of the following individuals:

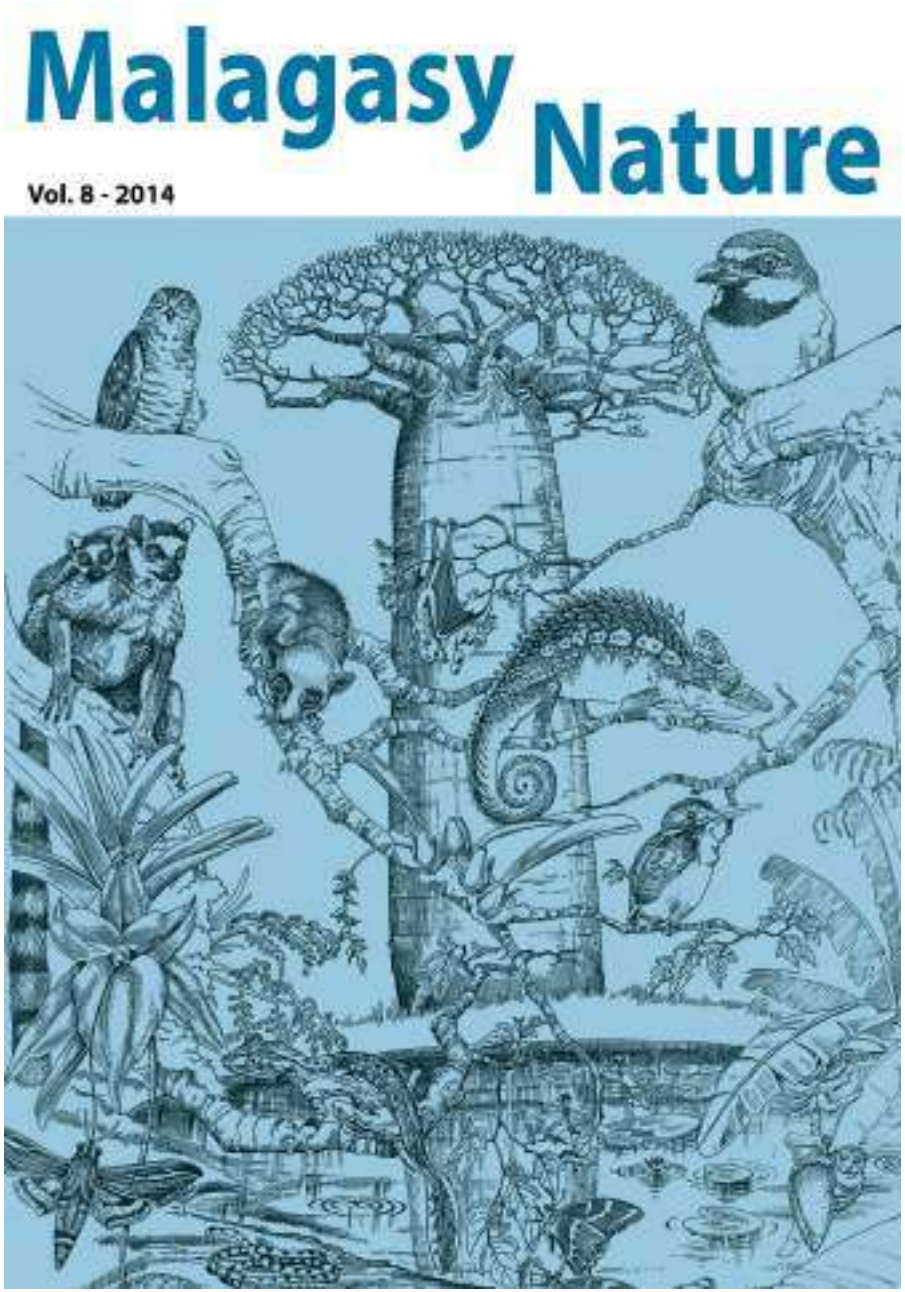
Contents of the most recent issue of *Malagasy Nature*

Volume 8 (2014, 110 pp.):

- **Paleoecological analysis of elephant bird (Aepyornithidae) remains from the Late Pleistocene and Holocene formations of southern Madagascar** - Tsimihole Tovondrafale, Théodore Razakamanana, Koike Hiroko & Armand Rasoamiaramanana
- **Endemic non-bambusoid genera of grasses (Poaceae) in Madagascar: Review of current knowledge** - Maria S. Vorontsova & Solofo E. Rakotoarisoa
- **Investigating behavior and ecology of *Aphaenogaster swammerdami* (Formicidae) in selectively logged forest: 20 years later – a happy ant?** - Marie T. Dittmann, Melanie Dammhahn & Peter M. Kappeler
- **First record of Corethrellidae (Diptera), frog-biting midges, in Madagascar** - Vincent Robert & Art Borkent
- **The species composition and distribution of hematophagous insects collected by light-traps in and near cave systems of Madagascar** - Vincent Robert, Beza Ramasindrazana & Steven M. Goodman
- **The dietary habits of Barn Owls (*Tyto alba*) in the spiny bush of southwestern Madagascar** - Steven M. Goodman, John C. Mittermeier, Juliot Ramamonjisoa & Lily-Arison Rene de Roland
- **Duchemin's 'Linnet': Was there a second species of native fody *Foudia* sp. in the Granitic Seychelles? – with additional evidence for the mid-19th century introduction of *F. madagascariensis*** - Anthony S. Cheke & Gérard Rocamora
- **Vocalisations de *Pipistrellus* spp. *sensu lato* de Madagascar : Expérience sur l'effet de confinement** - Claude Fabienne Rakotondramanana, Steven M. Goodman, Beza Ramasindrazana & M. Corrie Schoeman
- **The bats of the Kianjavato-Vatovavy region, lowland eastern central Madagascar** - Steven M. Goodman, Mercia Rasoanoro, Mahefatiana Ralisata & Beza Ramasindrazana

NOTES

- **An albino molossid bat from the southwestern Indian Ocean region** - Beza Ramasindrazana, David A. Wilkinson, Marina Beral & Muriel Dietrich



- **A record of vertebrate carnivory by the Crested Drongo (*Dicrurus forficatus*)** - Charlie J. Gardner & Louise D. Jasper

Following the request of different Malagasy students and researchers, close to 100 examples of previous printed volumes of *Malagasy Nature* were distributed for free during the presentation of the recent guide « Les Amphibiens de zones arides de l'Ouest et du Sud de Madagascar » (see below). This clearly demonstrates that national students and researchers are engaged to learn about and obtain information on the natural history and biodiversity of Madagascar and neighboring islands, which is part of the continuing Vahatra mandate.

THE PUBLISHING HOUSE OF ASSOCIATION VAHATRA

The year 2011 marked an important advancement for Association Vahatra with the creation of its own publishing house, focusing on a series entitled "Guides sur la diversité biologique de Madagascar" [Guides to the biological diversity of Madagascar].

For individuals that have grown up over the past 40 years in, for example, North America, portions of Latin America or western Europe, information on regional biota (plants and animals) are readily available in field guide format. These types of books, generally presented by taxonomic group (e.g. ferns, reptiles, birds, etc.) and region, revolutionized making information on biodiversity available and penetrable for members of different age and social groups. Such guides provide the means for individuals to become familiar with different plants and animals found in areas where they live or travel, and, most critically, integrating this familiarity into how they conceive the beauty and importance of the natural world. It is not an exaggeration to state that this type of guides have led to the "greening" of different sectors of society in a numerous countries. For Madagascar, which is so rich in biological diversity and one of the principal conservation priorities in the tropics, the lack of such books is a considerable void that Association Vahatra strongly believes need to be filled.

In 2011, three different books were published in the series, which is edited by Marie Jeanne Raherilalao and Steven M. Goodman and designed and typeset by Madame Malalarisoa Razafimpahanana:

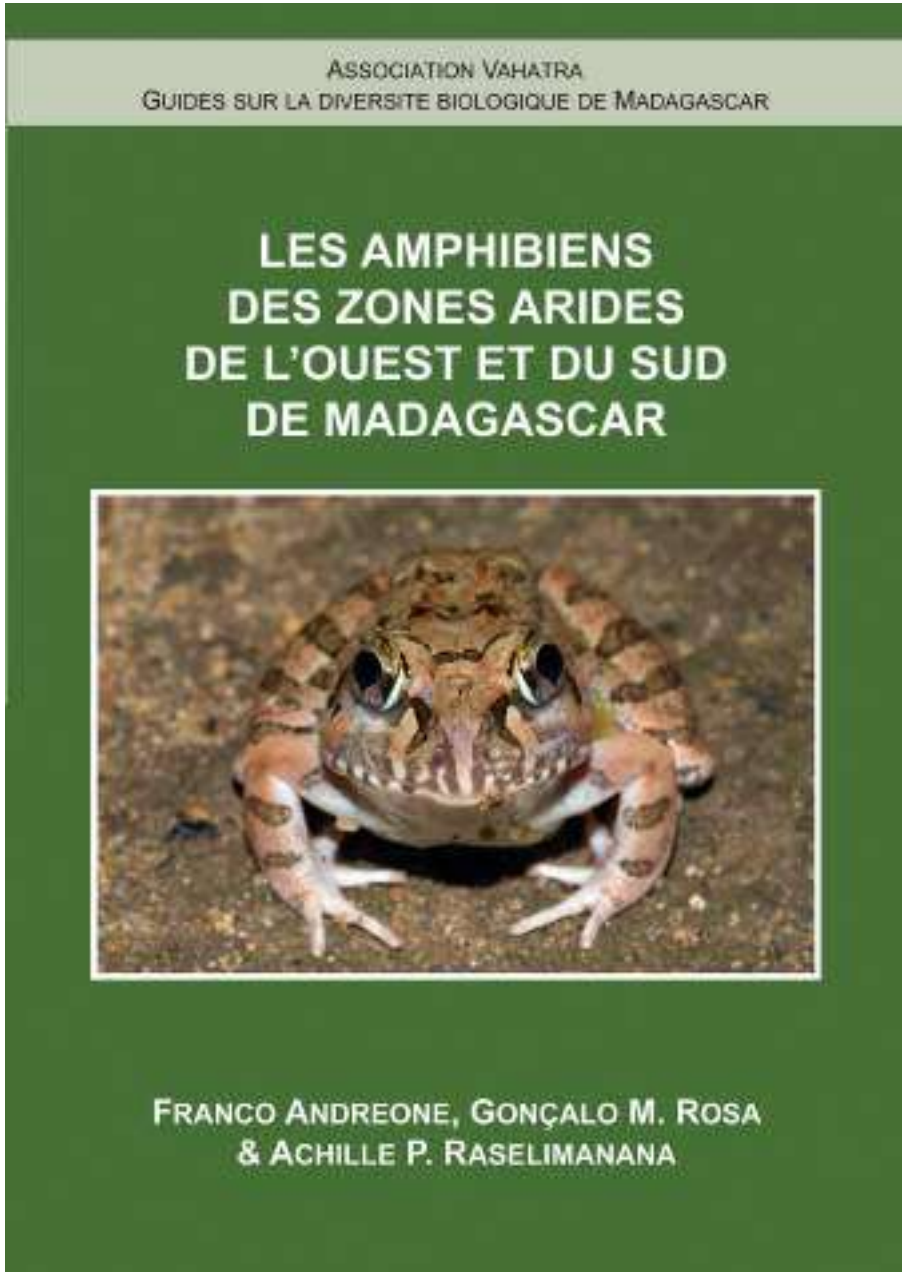
1. *Les chauves-souris de Madagascar* [The bats of Madagascar] by Steven M. Goodman, 2011, 129 pp.
2. *Les petits mammifères de Madagascar* [The small mammals of Madagascar] by Voahangy Soarimalala and Steven M. Goodman, 2011, 176 pp.
3. *Histoire naturelle des familles et sous-familles endémiques d'oiseaux de Madagascar* [The natural history of the families and subfamilies of endemic Malagasy birds] by Marie Jeanne Raherilalao and Steven M. Goodman, 2011, 146 pp.

The fourth volume entitled *Les Carnivora de Madagascar* [The Carnivora of Madagascar] by Steven M. Goodman was published in the first half of 2012 and *Les animaux et écosystemes de l'Holocene disparus de Madagascar* [The extinct Holocene animals and ecosystems of Madagascar] by Steven M. Goodman and William L. Jungers in mid-2013. In 2014, the sixth volume in the series was released, this one entitled *Les amphibiens des zones arides de l'Ouest et du Sud de Madagascar* [The amphibians of the dry west and southwest of Madagascar] and written by Franco Andreone, Gonçalo M. Rosa, and Achille P. Raselimanana. (For further details on this book, please see section below, "Presentation of Vahatra's latest published book, The amphibians of the dry west and southwest of Madagascar".)

The production of the first three books in the series was financed by a grant from the Critical Ecosystem Partnership Fund (CEPF). A generous grant was received from the Ellis Goodman Family Foundation for additional guides in the series, which include the already published Carnivora, extinct animals, and dry forest amphibian books. The additional volumes to be published in the series over the next few years, graciously subsidized by the Ellis Goodman Family Foundation, include:

1. *The reptiles of the dry forests of Madagascar* – by Achille Raselimanana, which is currently being written.
2. *The genera of ants of Madagascar* – by Brian Fisher, the first draft is anticipated in the first half of 2015.
3. The scorpions of Madagascar – by Wilson Lourenço, recently commissioned.

To date, other than the free diffusion of Vahatra Press books to Malagasy students and scientists, a notable number of copies have



been sold to people coming to the Vahatra office, at different fairs in Antananarivo or through overseas booksellers. We are pleased with the interest these books have generated, which includes seeing young Malagasy students and naturalists carrying and consulting the books on field trips to different protected areas. Further, these books are important resources for national students and researchers, as well as reference works for different university courses. The University of Chicago Press is now responsible for the distribution of books in this series in North America and Europe, as well as the 2013 *Atlas of selected vertebrates of Madagascar* (see http://www.press.uchicago.edu/ucp/books/publisher/pu3431914_3431915.html).

SOME PROJECT ACTIVITIES OF VAHATRA

The association is involved in a number of collaborative projects and below are details on some of these.

1. Wellcome Trust

In the context of a project financed by the Wellcome Trust, in collaboration with Dr. Sandra Telfer, University of Aberdeen, and the Institut Pasteur of Madagascar, Association Vahatra is responsible for the portion on the ecology of endemic and introduced small mammals. The intent is to overlay natural history traits of captured small mammals and their ectoparasites on different aspects of diseases they are in contact with and potentially transmit. The

year 2014 marked the second year of the project and Toky Andriamora is conducting the fieldwork in the context of his Ph.D. thesis. During this past year, nine sites were surveyed in the general vicinity of Moramanga with a variety of habitats: natural forest (sometimes disturbed), agricultural fields and rice paddy, regenerating anthropogenic savanna (*savoka*), and zones surrounding villages.

2. Helmsley Charitable Foundation

This project, entitled, "Capacity building for conservation project field staff and young Malagasy scientists" has a three-prong approach to augment scientific aptitude for nationals: 1) special field schools for technicians working for different conservation organizations on Madagascar as field agents and subsequent seminar courses in Antananarivo to validate data obtained during the field school; 2) advancement of five Malagasy graduate students conducting their DEA diplomas, in two

cases at the same sites as the field schools; and 3) support for Association Vahatra to help with the mentoring of students and conservation biologists. In May 2014, the second phase for conservation agents that assisted a field school in late 2013 took place in Antananarivo. Twelve individuals that work for the Peregrine Fund Madagascar at different sites in western Madagascar participated in a weeklong seminar series, which involved training techniques to analyze field data, identification of specimens, utilization of the

published literature, and scientific writing. In October 2014, a second field school in the context of this project was held at Andendemo Forest, Bemanevika, a conservation site of the Peregrine Fund and eight individuals associated with this organization took part. The group will come to Antananarivo in the first half of 2015 for the subsequent seminars and further refinement of skills. Two of the five DEA students engaged in this project have successfully presented their DEA diplomas and the other three will be completed in the first half of 2015.

3. StopRats: Sustainable technology to overcome pest rodents in Africa through science

This multi-partner project, financed by a grant from The Secretariat of the African, Caribbean and Pacific Group of States, includes participating organizations from Namibia, Madagascar, Sierra Leone, South Africa, Swaziland, Tanzania, and United Kingdom, and the central organizing group is The Natural Resources Institute, University of Greenwich. The Association Vahatra is the Madagascar partner. The overall objectives of the action are to strengthen science, technology, and innovation about rodent biology and management and contribute to African-Malagasy sustainable development by enabling institutions to address key indicators of poverty through the impacts of rodents on agricultural production systems and food security. Furthermore, the action specific objectives are to build and strengthen Africa's science technology and innovations capacity across a range of specialties that will enhance socio-economic development by tackling policy issues, knowledge dissemination, and technical competence to deliver sustainable rodent management. The principal role of Vahatra in this project is capacity building for Afro-Malagasy participants, largely through field schools. Secondarily, a number of Malagasy student projects have been launched to understand the impacts of rodents in different areas of the country on agricultural output and other problems these animals cause (destruction of grain stocks and other domestic contexts). In April 2014, Association Vahatra hosted 15 scientists part of the StopRats

consortium for a 10-day field school held in a forest about 3 hours from Antananarivo. The participants came from France, Madagascar, Namibia, South Africa, Swaziland, Tanzania, and United Kingdom.

4. Centre de Recherche et de Veille sur les maladies émergentes dans l'Océan Indien (CRVOI)

For several years, Association Vahatra has been collaborating with CRVOI, based on La Réunion, on different projects on the diseases wild animals are in contact with and their role in transmission. Over the past two years, one of the foci of this collaboration has been the study of paramyxovirus in wild animals. The current project aims to understand the persistence of this virus group, as well as other known or possible pathogens, in populations of wild mammals. This project focuses on if lateral transmission occurs between different groups of mammals (introduced and native rodents, introduced shrews, native tenrecs, and native bats) living in the same forest block or if co-speciation and differentiation has occurred between different native groups and their associated pathogens. In 2014, three different field trips were conducted to obtain material for this and other studies in collaboration with CRVOI, which include dry and wet season trips to Ambohitantely and a dry season trip to Anjohibe Cave. Beza Ramasindrazana, who did his DEA and Ph.D. in collaboration with Vahatra, has a post-doctoral position at CRVOI, which is funded by the Field Museum of Natural History.

5. John D. and Catherine T. MacArthur Foundation – Science for the people

Over the last few years, a Vahatra project, entitled « Science for the people » and graciously financed by the John D. and Catherine T. MacArthur Foundation focuses on the transfer of scientific and ecological information to local people living in vicinity to natural forests. In many cases, these are immediate to places Association Vahatra or the former Ecology Training Program of WWF conducted biological inventories, and different methods are used to communicate a variety of messages: public forums, films, posters, special lessons at primary schools, and t-shirts and posters with different texts. These activities aim to inform local people about different aspects, based on well-founded scientific information, on the importance of biodiversity in their everyday lives, particularly the critical role of functional ecosystems, the manner human habitat perturbation will impact the future for their children and grandchildren, and to instilled a level of pride with regards to their local natural patrimony. In 2014, during an extension phase, a new aspect was added to the project in a village in close proximity to the Forest of

Anjiamangirana, Antsohihy, to advance concrete actions, which include amelioration of aspects associated with advancing ecotourism and help with advancing some new agricultural techniques.

RECENT AND CURRENT GRANTS

- John D. and Catherine T. MacArthur Foundation – Assessing the impacts of climatic change on high mountain animals and tests of new biogeographic hypotheses to understand biotic diversity on Madagascar, 2009-2012, extended until 2015.
- Vontobel Foundation – Constitution of a team of Malagasy biologists trained in flora and fauna studies for conservation planning, 2011-2013.
- John D. and Catherine T. MacArthur Foundation – The dissemination of scientific information to the Malagasy people, 2010-2013, extended until 2015.
- Ellis Goodman Family Foundation – Financing for the "Guides sur la diversité biologique de Madagascar" series, 2012-2015.
- Irene Pritzker Foundation – Financing for two Malagasy Ph.D. projects, one to be present at the University of Antananarivo and the other at the University of Kwa-Zulu Natal, 2012-2015.
- Wellcome Trust – Zoonotic disease risk in Madagascar, 2013-2016.
- Helmsley Charitable Trust – Science for the people – the interface between applied knowledge, community conservation projects, and capacity building for young Malagasy scientists, 2013-2015.
- The Secretariat of the African, Caribbean and Pacific Group of States – Stoprats or Sustainable technology to overcome pest rodents in Africa through science, 2014-2017.

ASSOCIATION VAHATRA MOVES TOWARDS RENEWABLE ENERGY

Thanks to funds from the John D. and Catherine T. MacArthur Foundation, Association Vahatra is in the process of mounting solar energy panels on the office roof. The installation is intended to cover all of the electrical energy needs of the association and create complete independence from the national provider, which all too often imposes power cuts. Further, a series of power regulators will decrease surcharges and greatly reduce damage to different electrical gadgets in the association's office. The installation should be running by early February 2015.

STEVE GOODMAN RECEIVES RESEARCH AWARD FROM THE ALEXANDER VON HUMBOLDT FOUNDATION

In March 2014, Steve Goodman was in Bamberg, Germany, to attend the award ceremony of the Alexander von Humboldt Foundation associated with a research award he was nominated for (http://www.humboldt-foundation.de/pls/web/pub_hn_query.humboldtianer_details?p_lang=en&p_externe_id=7000273967). The award is for a project to assess population dynamics of fruit bats in northern Madagascar based on marked individuals and zoonotic cycles using different types of samples obtained from the bats before being released. This project is in collaboration with Dr. Jörg Ganzhorn, University of Hamburg, and Dr. Christian Drosten, Institute of Virology, Bonn University Hospital. The first site visit was conducted in September 2014, together with two DEA students from The University of Antananarivo and working with Vahatra (Olivà Santarni Noroalintseheno and Faneva Iharantsoa Rajemison) .

PRESENTATION OF VAHATRA'S LATEST PUBLISHED BOOK, "THE AMPHIBIANS OF THE DRY WEST AND SOUTHWEST OF MADAGASCAR"

On 26 September 2014, the formal presentation of the most recent book in the Association Vahatra guide series was made to the Malagasy scientific and conservation community. This book, entitled *Les amphibiens des zones arides de l'Ouest et du Sud de Madagascar* is the result of a collaborative project between two Italian herpetologists, Franco Andreone and Gonçalo M. Rosa, as well as the President of Association Vahatra, Achille P. Raselimanana.

In attendance were about 80 national students, university professors, scientists, and conservation biologists, as well as members of the press. The main presentation, made by Achille Raselimanana, was a broad overview of amphibian biology and precise details on the Malagasy fauna, which was followed by a lively questions and answers period,

Biodiversité : 29% des amphibiens menacés d'extinction

Écrit par Les nouvelles
Lundi, 29 Septembre 2014 12:00

L'association Vahatra a présenté un livre sur les amphibiens des zones arides de l'Ouest et du Sud de Madagascar, vendredi dernier en son siège à Ankatso.

Le livre a été conçu dans le cadre de la production d'une série de guides qui couvrent la biodiversité de Madagascar. Cette 6é édition a été écrite par Franco Andreone, conservateur zoologue au Musée régional des sciences naturelles de Turin, Gonçalo Rosa, chercheur rattaché au « Durell institute for conservation ecology » en Grande-Bretagne, et Achille Raselimanana, enseignant-chercheur au département de Biologie animale de l'université d'Antananarivo et président de l'association Vahatra. Elle relate des informations relatives à la biologie et à l'écologie des amphibiens, en général, et aux espèces malgaches, en particulier. « *Le livre parle aussi de l'origine et de la particularité de la faune batrachologique à Madagascar ainsi que sa relation avec la culture et la vie quotidienne des malgaches* », a souligné un des auteurs, Achille Raselimanana.

45 espèces d'amphibiens parmi les 283 connues à Madagascar fréquentent les zones arides et sèches de la partie occidentale et méridionale de la Grande île, comme à Tsimanampetsotse, Taolagnaro, Isalo, Bemaraha, Sahamalaza, Kirindy Mitea. Plus de 29% sont menacées d'extinction suivant la liste rouge de l'Union internationale pour la conservation de la nature (IUCN) publiée cette année et 20% ne sont pas encore officiellement évaluées. Et il est important de rappeler que le taux d'endémisme des amphibiens avoisine les 99% à Madagascar. « Ces espèces font face à diverses pressions, entre autres la dégradation considérable de leur habitat naturel, l'exploitation commerciale abusive des certains amphibiens, la consommation des espèces autochtones », a révélé le président de Vahatra, Achille Raselimanana.

Patrimoine naturel unique au monde

Toutefois, le livre de 180 pages informe que les amphibiens participent activement au bon fonctionnement écologique des écosystèmes et ils constituent un patrimoine naturel unique au monde. Et les auteurs sont convaincus, qu'à travers ce livre, les Malgaches pourront connaître davantage leur richesse inestimable et la préserver pour les générations futures, a-t-il conclu. Etant donné que le guide a été écrit de manière simple et compréhensible pour les utilisateurs grâce à des informations fournies en pictogramme concernant la répartition des individus d'amphibiens dans les sites et leur statut de protection.

Bref, l'ouvrage constitue un outil pour attirer l'attention des touristes, des élèves et des enseignants, à Madagascar et ailleurs, ainsi que la curiosité des gens afin de susciter le besoin de conserver cette unique biodiversité qu'est l'amphibien.

Noro Niaina

a cocktail reception, and book signing. In total, about 80 copies of the book and about 100 copies of *Malagasy Nature* were distributed free. A few articles appeared in local newspapers about the presentation and the book contents.

ASSOCIATION VAHATRA TO HOST 12TH AFRICAN SMALL MAMMALS SYMPOSIUM

In collaboration with the Département de Biologie Animale of the Université d'Antananarivo, the Association Vahatra will be hosting an international scientific meeting in Madagascar from 12 to 18 April 2015. The meeting is part of a series known as the African Small Mammals Symposium (ASMS), which occurs at four-year intervals. The previous meeting, 11th ASMS, was held in 2011 at The University of Swaziland. Voahangy Soarimalala and Steve Goodman were present for the Swaziland meeting and Madagascar was proposed for the 2015 venue. On the behalf of Malagasy mammalogists, the request was graciously accepted and the national Malagasy scientific community together with some international committee members will host the 12th ASMS. Over the past year, Voahangy and Steve have been actively involved in organizing the meeting, which will take place at the Hotel l'Ermitage in Mantasoa.

In order to maximize the number of African and Malagasy students and scholars able to attend the meeting, two grants were submitted and graciously accorded: 1) Volkswagen Foundation – for the funding of 12 different African and German participants, including airfare, registration fees, and room and board, 2) Field Museum of Natural History – for the funding of an additional 12 Malagasy students and scholars to attend the meeting, including local transport, registration fees, and room and board. Further, the Alexander von Humboldt Foundation cordially agreed to support the opening cocktail-reception, as well as travel and local expenses of two Alexander von Humboldt fellows to attend the meeting and present plenary lectures.

The response for the 12th ASMS has been rather overwhelming and to date about 110 individuals from over 20 countries have registered for the meeting. The hotel is overbooked, which has resulted in the need to build a dormitory of sorts on the hotel grounds, which will principally be occupied by African and Malagasy students receiving scholarships. For more information on the organization of the meeting, please see http://www.vahatra.mg/asms/asmseng.html.

NEW SPECIES OF ANIMALS DESCRIBED IN 2014 BY VAHATRA SCIENTISTS

One of the direct results of the biological inventories conducted by Vahatra and associated collected specimens, is the discovery of animal species previously unknown to science. Two new species were described in 2014:

1. Beaucournu, J.-C. & **S. M. Goodman**. 2014. Une nouvelle espèce de Puce du genre *Paractenopsyllus* endémique de Madagascar (Siphonaptera, Ceratophyllidae, Leptopsyllinae). *Bulletin de la Société entomologique de France,* 119(4): 427-431.
2. **Raselimanana, A. P.**, C. J. Raxworthy, F. Andreone, F. Glaw & M. Vences. 2014. An enigmatic new *Scaphiophryne* toadlet from the rainforests of north-eastern Madagascar (Amphibia: Microhylidae). *Vertebrate Zoology*, 64 (1): 95-102.

A number of papers are in press with descriptions of a variety of new animals to science (see section below entitled, "Scientific outputs of Vahatra during 2014").

ACTIVITIES OF VAHATRA PERMANENT MEMBERS DURING 2014

Members of the Vahatra scientific staff were involved in a variety of different actions, which are summarized below.

January

The scientific members of Vahatra spent the month in Antananarivo, working on a variety of different activities. Achille was the internal reviewer for a thesis by Gilbert Rakotondrasoa, providing detail comments and an evaluation to the Faculty of Science commission. He also worked with Dina Ramamonjisoa (Vahatra student) on the final identifications of amphibians and reptiles associated with her Diplôme d'études approfondies" (DEA) diploma, a sort of high Master's degree in the French university system. Together with Marie Jeanne and Steve, Achille made important advances on revising the manuscript on the amphibians of the arid regions of Madagascar.

Voahangy and Steve were also involved with the local organization committee for the 12th African Small Mammals Symposium (ASMS; see above), which will be held in Madagascar in April 2015. Voahangy was also took part with Achille and Marie Jeanne in preparing documents for the 5th National Report on the Conservation of Biology Diversity (CBD). She also supervised the advancement of the writing phase of mémoires for three students conducting research at the Ambatovy mine site for their "Professional license", a sort of low Master's in the French university system. In collaboration with Madagascar National Parks, she took part in a workshop on revising definitions of the island's ecoregions.

February

Achille concentrated his activities on working on different scientific articles and his academic activities at the University of Antananarivo. He participated in a day symposium at the Malagasy Academy dedicated to the subject Biodiversity and Environment and made a formal presentation on the evolution of information concerning the country's biodiversity and programs associated with capacity building. At the same meeting Beza Ramasindrazana, a Vahatra post-doc working in the CRVOI laboratory on La Réunion (see "Some project activities of Vahatra", above), made a presentation at the University of Antananarivo in collaboration with Steve Goodman and other colleagues from the La Réunion laboratory entitled "Host specificity of haemosporidian parasites in Malagasy bats".

Voahangy, together with Achille and Marie Jeanne, continued with the preparation of documents associated with the 5th National Report to CDB. In the context of this report, Marie Jeanne was responsible for the topics of taxonomy and ecosystems and the compilation of information on faunal biodiversity trends, threats, and conservation strategies developed to date by Madagascar to protect threatened species. Voahangy was actively involved with different aspects for a project on small mammal diseases financed by Wellcome Trust, in collaboration with the Institut Pasteur de Madagascar and The University of Aberdeen. She completed certain teaching responsibilities at the University of Fianarantsoa, as well as helping to develop two "Professional licence" projects at the same university. In tandem with Steve, she continued with the preparation of the 12th ASMS.

Together with Marie Jeanne and Malala, Steve helped with advances in the selection of illustrations for the dry forest amphibian book, as well as its design. Marie Jeanne and Steve also spent time editing the associated text. In the first portion of the month, Steve attended a meeting at CRVOI, La Réunion, to define research sites on Madagascar for a project on paramyxoviruses in wild animals and associated with field trips in April and September of this year. He also made two presentations to science teachers working within the Lycée Française system on Madagascar. In the middle portion of the month, on his way to Chicago to work at the Field Museum, Steve had a meeting in Bonn, Germany, with colleagues from The Alexander von Humboldt Foundation, as well as colleagues at the University of Hamburg and Institut of Virology, University of Bonn, associated with a forthcoming project.

March

Achille, together with colleagues, Marie Jeanne, Malala, and Steve, worked on the final stages of revising and editing the dry forest amphibian guide. Achille was designated as one of the commission members to select new students for the first semester in the new License-Masters-Doctorate (LMD) system recently initiated at The University of Antananarivo.

Voahangy was actively involved in the preparations for the April field school at Ambohitantely, in collaboration with a CRVOI project. She also took part in the finalization of a proposal for the adaptation of the LMD system at the University of Fianarantsoa. Marie Jeanne worked together with different researchers and participated in workshops associated with the finalization of the 5th National Report on CDB. Steve returned to Madagascar in the first portion of the month from the Field Museum and then was in Germany in the later portion of the month to attend an award ceremony of The Alexander von Humboldt Foundation (see section above "Steve Goodman receives research award from the Alexander von Humboldt Foundation").

All of the permanent members of Vahatra took part in a large-scale presentation of the *Atlas of selected vertebrates of Madagascar* associated

with the President's office at The University of Antananarivo. Different presentations were made by the General Director of Madagascar National Parks, the President of the University of Antananarivo, representatives of the Ministry of the Environment and Ministry of Higher Education, and Steve Goodman. A rather informal reception followed, with lots of nice things to eat and drink, as well the distribution of over 130 copies of the atlas and associated book signing.

April

Voahangy, Achille, and Steve, together with two Vahatra DEA students (Malala Nirina Rakotomanga and Herman Rico Randrenjarison Andriniaina) took part in field work in the Ambohitantely Reserve in the context of a CRVOI project associated with zoonoses of small mammals. The two students collected material for their DEA research. Voahangy and Marie Jeanne also helped to prepare aspects of logistics for a field school in the Tsimanampetsotsa National Park associated with the SULAMA (Sustainable Land Management on the Mahafaly Plateau) project in the latter portion of the month. This field school involved 12 students coming from the Animal Biology Department, University of Antananarivo; the Institut des Sciences et Techniques de l'Environnement (ISTE), University of Fianarantsoa; and the Animal Biology Department, University of Toliara. Furthermore, three SULAMA staff members joined the field school.

In collaboration with Biodiversity Conservation Madagascar (BCM), a presentation was held at the Vahatra office to formally present to the Malagasy conservation and scientific community a monograph published as a special number of *Malagasy Nature* dedicated to the Beanka Forest managed by BCM. Presentations were made by different members of the BCM and Vahatra staffs. After the presentations, a reception was held and about 90 copies of the monograph were distributed.

Steve also traveled to South Africa to meet with colleagues at The University of Pretoria. He learned techniques on tattooing bats to provide permanent individual markings, with the specific goal of applying this technique for work on Madagascar. He also made a presentation on current research programs in Madagascar. The dry forest amphibian guide was finalized and sent to the printer. Marie Jeanne reviewed and edited the 5th National Report on CDB before its final submission.

May

Voahangy, Marie Jeanne, Achille, and Steve orchestrated a workshop in Antananarivo as part of a project funded by the Helmsley Charitable Trust (see section above entitled, "Some project activities of Vahatra") to help with capacity building of individuals working for the Peregrine Fund as field technical agents. This was the follow up stage of an inventory conducted in late 2013. The different participants were also able to visit the Parc Botanique and Zoologique of Tsimbazaza and the collection room at the University in the context of the workshop. Voahangy also

carried out a field school in the Andasibe National Park and Maromiza Forest for students from The University of Fianarantsoa. Steve gave a talk to a group of students visiting Madagascar from Michigan State University, which focused on the island's biodiversity.

Voahangy and Steve continued with different aspects associated with the organization of the ASMS meeting. Achille and Steve were jury members for the thesis defense of Jean-Claude Rakotonirina concerning the ants of the Malagasy Region. Achille also assisted Dina Ramamonjisoa in the finalization of her DEA mémoire before its submission to the lecture commission. This month was the start of the new academic year at The University of Antananarivo and Marie Jeanne commenced her courses and spent most of her time at the university. The number of student visits to the Vahatra office to use the library was rather exceptional, specifically for the new cadre of Masters students, and Marie Jeanne spent a considerable portion of time serving and advising these students.

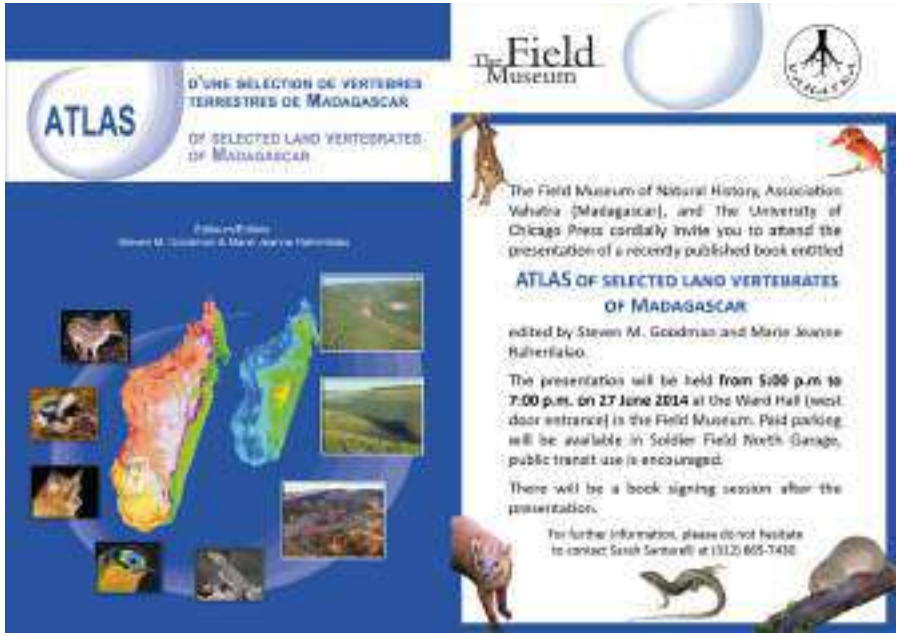
June

During the first week of the month, Achille conducted fieldwork in a forest near Mantadia with 4th-year students from the Animal Biology Department, The University of Antananarivo. The intent was to initiate these students in techniques associated with field studies and sampling methods for biological assessment. He devoted nearly a week to commenting on and discussing the thesis of one of his PhD students

(Mahefatiana Ralisata), working on bat ecology. He also participated in a special mission with the Water and Forest Department and its partners to Toamasina for a rapid assessment of the situation of the invasive frog *Dattyphrynus melanostictus*.

In the context of the Stoprats project (see "Some project activities of Vahatra", above), Voahangy was actively involved in the preparation and realization of different field surveys by three students from the Institut des Sciences et Techniques de l'Environnement, Université de Fianarantsoa, associated with problems imposed upon villagers and agriculturalists by introduced rodents. Further, in the context of the "Science for the people project" (see "Some project activities of Vahatra", above), she also provided technical and scientific assistance to the team in the preparation of new activities to improve the training of tourist guides and helping with improvement of local agricultural techniques.

At the beginning of the month, Steve left Madagascar for a week in the Muséum National d'Histoire Naturelle (Paris) and two weeks in The Natural History Museum (London) for work associated with taxonomic studies on Malagasy bats. Afterwards he continued on to Chicago for his annual northern summer visit to The Field Museum of Natural History. In late June at the Field Museum of Natural, Steve presented a lecture associated with the recent Vahatra book, *Atlas of selected vertebrates of Madagascar.* During this month, Marie Jeanne continued her teaching activities at The University of Antananarivo and coordinating bibliographic work of students in the Vahatra library.



July

In addition to his usual teaching activities, Achille Raselimanana spent one week in Maromizaha Forest to train Diplôme d'Etude Supérieure spécialisée en Science de l'Environnement (DESS-SE) students from the Professional Formation on Environmental Science of the Faculty of Sciences, University of Antananarivo. During the month, he participated

in a grantees workshop held in Antananarivo and organized by Helmsley Charitable Trust. Vahatra has a grant from this foundation for the augmentation of scientific capacity of Malagasy scholars and conservation technicians (see "Some project activities of Vahatra", above).

Voahangy continued to supervise the three students involved in the Stoprats project mentioned above under the month of June. She also pursued her teaching responsibilities at the University of Fianarantsoa. She helped to develop a student project to collect data on ecotourism management in the Anjiamangirana Forest in context of the "Science for the people" project (see "Some project activities of Vahatra", above).

In collaboration with Sushma Reddy, Loyola University, Chicago, Steve and Marie Jeanne helped to finalize a grant application to the National Science Foundation (NSF) to fund a project on the genetic diversification of endemic Malagasy birds. During the balance of the month, Marie Jeanne worked closely with students on papers submitted to *Malagasy Nature* and to supervise the advancement of a DEA student working with her on the effects of the forest edge and bird community structure. During the month, Steve traveled to Denver, Colorado, where he made presentations at the Denver Museum of Natural History and to a private group of donors associated with the same institution.

August

During the month, Achille was actively involved with his teaching responsibilities at The University of Antananarivo. Voahangy was engaged in the preparation of fieldwork associated with a study of small mammal diseases in the context of the Wellcome Trust project in Moramanga area and the field school in Ambohitantely Reserve in context of Stoprats project (see above, "Some project activities of Vahatra"). She also supervised the advancement of three students working on their "Professional license memoire" at The University of Fianarantsoa and conducting research at the Ambatovy mine site. Marie Jeanne worked with two students on the advancement of their DEA mémoires and was also a jury member for another DEA. She was designated as the head of a Baccalaureate exam center, allowing high school students to pass in the university system, and the complete process took about one week.

During the last few days of his northern summer visit to the USA, Steve took part in different activities associated with his recently released book entitled *Extinct Madagascar: Picturing the island's past* co-authored with William L. Jungers and published by The University of Chicago Press. The different activities included the opening of an exhibit at the museum on the artist, Velizar Simeonovski, and how he worked with Steve and William Jungers to produced the plates for the book. The subsequent event was a public lecture by Bill and Steve on their research surrounding the book, followed by a book signing session. The series of events received some notice in the Chicago Press (http://www.chicagotribune.com/entertainment/chi-giant-lemurs-come-to-life-in-new-field-museum-exhibition-20140828-column.html)

September

As members of the taxonomic leader board of the Rebioma database project based in Antananarivo, Voahangy, Marie Jeanne, and Achille reviewed a considerable quantity of recently entered records coming from numerous localities across the island. Under the mentorship of Voahangy, three students from The University of Fianarantsoa presented

their “Professional license mémoire” degrees. She was also actively involved in preparing different logistics aspects for the forthcoming field school in Bemanevika. At the beginning of the month, Steve returned to Madagascar from the USA. Voahangy, Achille, Marie Jeanne, and Steve were interviewed by a group of European students involved in alumni program (www.lab-alumni.org) of scientists. They were in Madagascar to make contact with different students and organizations associated with advancing science.

This month marked the exam period at The University of Antananarivo and Achille and Marie Jeanne were notably occupied. During the first half of the month, Steve was in the Ankarana in northern Madagascar with two Malagasy graduate students from the University of Antananarivo working with Vahatra starting a long-term project on the population dynamics of a fruit bat and their associated zoonoses. Marie Jeanne and Steve helped to write, in collaboration with Island Conservation, a grant application to the Helmsley Charitable Trust (HCT) to fund a project on the eradication of invasive bird species on Madagascar.

October

During the first portion of the month, Voahangy, Achille, and Marie Jeanne, carried out a field school in the Bemanevika Forest for training of eight conservation agents from the Peregrine Fund Madagascar and during the second half of the month, Voahangy, Steve, and Achille organized a large scale field school in the Ambohitantely Forest in the context of the StopRats project for a number of African and Malagasy students and researchers.

Both Achille and Marie Jeanne were jury members for the DEA presented by a Vahatra student, Dina Ramamonjisoa, at the Faculty of Sciences, University of Antananarivo. Marie Jeanne also helped a new student, Narindra Perlie Andrianjafy, to develop a DEA proposal on the study of a migratory falcon.

November

Achille devoted a good portion of the month preparing his courses for the upcoming semester at the University of Antananarivo. He was able

to visit the Ampasindava Forest to supervise a Vahatra student, Tiana Andrianomenjanahary Rakotomampianina, conducting her DEA research on the local amphibian and reptile community. Voahangy was involved in the preparation of different aspects of fieldwork associated with vertebrate monitoring on the Ampasindava Peninsula forest complex in the context of a project orchestrated by Missouri Botanical Garden. She also supervised two students from the University of Fianarantsoa and two others from Flinders University, Australia, working on a Rufford Foundation project at Kianjavato, and assisted three students from the Institut des Sciences et Techniques de l'Environnement, University of Fianarantsoa in the termination of their research mémoires conducted in the context of the StopRats project. Both Voahangy and Steve devoted considerable time to aspects of organizing the upcoming 12th ASMS meeting (see above). Mercia Rasoanoro, a student working with Vahatra, presented her DEA mémoire on the bats of the Kianjavato area.

In the first portion of the month, Steve in collaboration with Beza Ramasindrazana and other colleagues from CRVOI, as well as two Malagasy DEA students, conducted bat work in the Anjohibe caves, largely associated with zoonosis research (see above, "Some project activities of Vahatra"). Steve also was a jury member for the Ph.D. thesis of Julio Ramamonjisoa, which was presented at The University of Antananarivo.

In the latter portion of the month, Marie Jeanne and Steve took part in the Tropical Biology Association (TBA) course held in the Kirindy Forest, north of Morondava. Steve made several introductory presentations to Madagascar and demonstrated how to net bats and Marie Jeanne made a presentation on Malagasy birds and conducted bird-watching walks. She was able to take advantage of her presence at the site to supervise four DEA students from The University of Antananarivo, who were in the process of collecting data on different groups of animals.

December

During this month, Achille and Marie Jeanne were principally occupied with teaching responsibilities at The University of Antananarivo. Achille was a jury member for a thesis presented at The University of Antananarivo by Gilbert Rakotoarisoa, Director of the Parc Botanique et Zoologique de Tsimbazaza. Voahangy and Steve continued with increasing intensity in the organization of the 12th ASMS. She also continued the supervision of two students from the University of Fianarantsoa and two students from the Flinders University, Australia, in the context of Kianjavato project financed by The Rufford Foundation.

Achille, Marie Jeanne, and Voahangy prepared a detailed report on the results of the biological inventories carried-out in the transitional dry-humid forests of the Ampasindava Peninsula; a project in collaboration with Missouri Botanical Garden. Both Marie Jeanne and Steve took part in the presentation of student research projects associated with the Tropical Biology Association field school that took place in the Kirindy Forest last month.

SCIENTIFIC OUTPUTS OF VAHATRA DURING 2014

Publications from 2014, including in press and submitted manuscripts. Names in **bold** are those of scientific members of Vahatra and those in *italics* are current or past Malagasy student members working with Association Vahatra.

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A taxonomic mystery for more than 150 years: Identity, systematic position and Malagasy origin of the snake *Elapotinus picteti* Jan, 1862, and synonymy of *Exallodontophis* Cadle, 1999 (Serpentes: Lamprophiidae)

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Abstract

Elapotinus picteti Jan, 1862 is an enigmatic snake taxon that has been described without locality data. Genus and species, both based on the unique holotype, were considered to belong to the venomous African Aparallactinae for more than a century, but although this taxon was never rediscovered it was accepted as a valid species until present. To clarify the taxonomic status of *E. picteti* its characters were compared with literature and determination keys for the whole world. This literature survey and the subsequent study of type specimens revealed that the monotypic *Elapotinus* is a subjective senior synonym of the monotypic Malagasy pseudoxyrhophiine snake genus *Exallodontophis* Cadle, 1999 which is characterized by its unique aglyphous dentition. We therefore transfer *Elapotinus* from the lamprophiid subfamily Aparallactinae to the subfamily Pseudoxyrhophiinae. Furthermore, *Elapotinus picteti* strongly resembles the Malagasy species *Exallodontophis albignaci* (Domergue, 1984) in external morphology, coloration and dentition. As a consequence we consider *Elapotinus picteti* a subjective senior synonym of *Exallodontophis albignaci*.

Key words: *Elapotinus picteti*, *Exallodontophis* **syn. nov.**, *Pararhadinaea albignaci* **syn. nov.**, Lamprophiidae, Aparallactinae, Pseudoxyrhophiinae, Madagascar, Africa, morphology, dentition, coloration, micro-computed tomography

Introduction

In 1862 Jan described the monotypic snake genus *Elapotinus* with the species *picteti* based on a single specimen without locality data (Jan 1862a, and reprint in the same year 1862b), which is still housed in the collection of the Muséum d'Histoire naturelle de Genève (MHNG). The description itself lacks an explanation for the species name "Picteti", but it has been named almost certainly in honour of François Jules Pictet de la Rive (27 September 1809 –15 March 1872), professor of zoology, palaeontology, and comparative anatomy at the University of Genève, from whom Giorgio Jan received specimens for examination (Beolens *et al*. 2011, Weber pers. com. 2011). For his time the description was unusually comprehensive and Jan classified the species within his very diverse "Calamaridae" group. Later in 1863 Jan listed his new taxon again in the "Elenco", the annotated checklist to the Iconografia Generale, a book with illustrations of snakes, where the holotype is pictured (Jan & Sordelli 1865: 13 Livr., pl. III, fig. 1). In the "Elenco" *Elapotinus* is listed as "Aglyphodonta" in the subfamily Elapomorphinae as part of the family Calamaridae, whereas the remaining genera of the today Aparallactinae are mentioned under the group "Glyphodonta" of the Elapomorphinae. In 1873 the new genus was listed in the Nomenclator Zoologicus (Marschall 1873). In his contribution to the Neotropical genus *Elapomorphus*, Strauch (1884) mentioned *Elapotinus picteti* in a footnote concerning the comparison of *Elapomorphus scalaris* [=*Xenopholis scalaris*] with *Elapotinus picteti*. Strauch emphasized that both have 17 dorsal scale rows but *Elapotinus* shows ungrooved

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An enigmatic new *Scaphiophryne* toadlet from the rainforests of north-eastern Madagascar (Amphibia: Microhylidae)

ACHILLE P. RASELIMANANA[1], CHRISTOPHER J. RAXWORTHY[2], FRANCO ANDREONE[3], FRANK GLAW[4] & MIGUEL VENCES[5, *]

Abstract

Key words

Introduction

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Species interactions during diversification and community assembly in Malagasy *Miniopterus* bats

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Abstract The habitat first rule (HFR) proposes that radiating species initially diversify into habitat specialists and later into dietary specialists within a given habitat, whereas the general vertebrate model (GVM) adds divergence of sexually selected traits as a possible third axis of specialization subsequent to habitat and dietary divergence. In this study, using 12 *Miniopterus* spp. from Madagascar we test predictions of the HFR and GVM from ecological and evolutionary perspectives on Grinnellian and Eltonian niche structures. We used environmental niche models (ENMs) to quantify the Grinnellian niche, both for current and last inter-glacial climates. We used null models to examine Eltonian niche patterns of sympatric species in terms of their phylogenetic relatedness and phenotypic and sensory characters associated with the trophic niche—body size, skull morphology and echolocation. As predicted by the HFR, we found evidence for labile Grinnellian niches: there was no similarity in ENMs between sister species; overlap in ENMs was significantly low in >65 % of all possible species pairs; there was no relationship between ENM niche overlap and phylogenetic distances between species; and there was no phylogenetic signal in suitable bioclimatic zones among species. Conversely, we found equivocal support for

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Une nouvelle espèce de Puce du genre *Paractenopsyllus*, endémique de Madagascar (Siphonaptera, Ceratophyllidae, Leptopsyllinae)

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Résumé. – *Paractenopsyllus cooperatus* n. sp., dix-neuvième espèce du genre *Paractenopsyllus* Wagner, 1938, est décrit. Cette Puce est parasite d'une espèce endémique de Tenrecidae, *Microgale cowani* Thomas, 1882, espèce-hôte de petite taille, montrant une large distribution dans la forêt humide malgache.

Abstract. – **A new species of flea of the genus *Paractenopsyllus*, endemic to Madagascar (Siphonaptera, Ceratophyllidae, Leptopsyllinae).** *Paractenopsyllus cooperatus* n. sp., nineteenth species in the genus *Paractenopsyllus* Wagner, 1938, is described. This flea is a parasite on a species of Tenrecidae, *Microgale cowani* Thomas, 1882, endemic to Madagascar, which is relatively small and with a broad distribution across the humid forest formations of the island.

Keywords. – Flea, taxonomy, new species, Tenrecidae, *Microgale cowani*.

Parmi les Siphonaptères, *Paractenopsyllus* Wagner, 1938, et *Traractenus* Klein, 1968, sont les deux genres de Ceratophyllidae Leptopsyllinae endémiques de Madagascar. Une nouvelle espèce appartenant au genre *Traractenus* Klein, 1968, a été décrite récemment (Beaucournu & Laudisoit, 2014). Nous étudions ici une espèce inédite de *Paractenopsyllus* Wagner, 1938.

De 1898, date de la récolte d'un spécimen qui sera assigné à *Paractenopsyllus kerguistelli* Wagner, 1938, jusqu'en 1962, date du signalement d'une deuxième espèce congénérique, *P. pauliani* Lumaret, 1962, on eut l'impression que le genre *Paractenopsyllus* était monospécifique. Mais, à partir de cette période, grâce aux travaux de Klein puis de Duchemin, ce dernier favorisé par l'apport de nouvelles collectes faites sur le terrain par les mammalogistes, de multiples taxa d'hôtes et d'ectoparasites furent découverts à Madagascar, de Puces en particulier, dont de nombreux nouveaux *Paractenopsyllus*. Curieusement, *P. kerguistelli*, collecté au total cinq fois, introuvable depuis son dernier signalement en 1946 sur *Tenrec ecaudatus* (Schreber, 1778), près de Tananarive (Hopkins & Rothschild, 1971), vient seulement d'être retrouvé le 29.X.2007 sur *Mus musculus* Linné, 1758, hôte introduit, à 31,5 km au NNO de Lakato, dans la province de Toamasina (*V. Soarimalala rec.*).

Le genre *Paractenopsyllus* comprend à ce jour 18 espèces décrites : *P. kerguistelli* Wagner, 1938, *P. pauliani* Lumaret, 1962, *P. grandidieri* Klein, 1965, *P. petiti* Klein, 1965, *P. vietsi* Klein, 1965, *P. vauceli* Klein, 1965, *P. raudrimasolai* Klein, 1968, *P. albignaci* Klein, 1968, *P. goodmani* Duchemin, 2003, *P. rousi* Duchemin, 2004, *P. ratovonjatoi* Duchemin, 2004, *P. duplantieri* Duchemin, 2004, *P. jullumarimo* Duchemin, 2004, *P. gemelli* Duchemin, 2004, *P. beaucournui* Duchemin & Ratovonjato, 2004, *P. ocomori* Duchemin & Ratovonjato, 2004, *P. raxworthyi* Duchemin & Ratovonjato, 2004 et *P. madagascarensis* Hastriter & Dick, 2009. Une seule, *P. goodmani*, se rapporte à un sous-genre différent du sous-genre nominatif, *Conosoleniopsyllus* Duchemin, 2003.

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