BEM VINDO A ILHÉUS

WELCOME TO ILHÉUS

Programação/ Program

DOMINGO, 18 / *SUNDAY, 18*

13:00 - 17:00: Entrega de material / *Registration*

17:00 - 21:00: Cerimônia de abertura / *Opening ceremony*

"**The predatory behavior of tropical ants - from generalists to specialists**". Alain DEJEAN (University of Toulouse – France)

21:00 - 24:00: Cocktail

ANT MOSAICS IN NEOTROPICAL FORESTS AND ELSEWHERE

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The existence of ant mosaics, or the mutually exclusive distribution of numerically dominant ants (NDA) in tropical tree canopies, has been demonstrated for plantations but remains challenging to study in primary forests due to the difficulty in collecting and observing ants in trees that grow up to 30m in height. Our goal was to overcome this problem and study the three-dimensional distribution of NDA in primary rainforests across four continents. We developed the baitline method allowing us to collect arboreal ants every 5 meters along tree trunks and to conduct aggressiveness tests between ants collected from neighboring trees. These direct observations allowed us to define ant numerical dominance, species coexistence and to delineate NDA spatio-temporal extension. Ant colonies were mapped in quarter hectare forest plots in French Guiana (Amazonia), Brazil (Atlantic forest), the Democratic Republic of the Congo (RDC), Mozambique, Laos and Papua New Guinea (PNG). Our results indicate that territorial NDA species are found in every lowland forest site investigated. However, there seems to be a gradation in the ant mosaic structure according to the high (e.g. in PNG, RDC), intermediate (e.g. in French Guiana) to low (e.g. in Laos) prevalence of NDA on the trees. In some instances (e.g. in Mozambique or in PNG), *Crematogaster* supercolonies completely dominated the plots. Trees where NDA only forage intermittently can be observed at the border of a large NDA territory (e.g. that of *Azteca* in French Guiana) and create temporary gaps. Two mutually aggressive NDA are sometimes briefly observed on the same tree (e.g. the vertical segregation of *Crematogaster* and *Oecophylla* foragers along a tree trunk in PNG). These results emphasize the three-dimensional and dynamic structure of ant mosaics. More surveys are clearly needed to elucidate the genesis and functioning of ant mosaics in Neotropical forests. Hopefully they should be facilitated by the use of the newly developed baitline method.

DATA FLOW IN IBISCA PROJECTS

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IBISCA is an international and informal network of biodiversity experts conducting large-scale biotic inventories in various regions of the World (www.ibisca.net). Each IBISCA project is a collective effort addressing a global ecological question. For example, IBISCA-Panama (2003-2004) aimed at estimating the overall arthropod diversity of a lowland rainforest while the Papua New Guinea survey (2012-2014), conducted in the framework of the "Our Planet Reviewed" programme, aimed at assessing the diversity generated by the altitudinal factor, from sea level up to the natural limit of tree distribution. All projects are multi-taxa (with an emphasis on plants and arthropods), multi-strata and multi-methods. A central database (DB) is at the heart of each project. The data flow follows a 10 steps standard process: (1) sampling design which is often a trade-off between sampling effort and representativeness; (2) pre-printing of permanent labels with unique codes for samples and specimens; (3) collection of specimens with standardized mass collection methods; (4) on-site pre-sorting of materiel by helpers (para-taxonomists, students) to Order level; (5) further sorting to Family level by (or under the supervision of) Taxonomic Working Group (TWIG) leaders and dispatching of specimens to experts; (6) identification of the material to (morpho-)species level by taxonomic experts who send afterwards the results to their TWIG leader; (7) control of the quality of data by TWIG leaders who fill a data entry template and send it to the database administrator; (8) import and cleaning of the data by the database administrator; (9) analysis and publication of the data by participants, either collectively or individually; (10) export of the DB to a public repository of data. Data entry and analysis for ants require special care because of their social organization and sessile nest. Ants' studies benefit from global biotic surveys from a methodological, taxonomical and ecological point of view. Methodologically because the efficiency of unusual methods for collecting can be assessed, taxonomically because many microhabitats are explored, ecologically because a better picture of the whole ant community and of the interactions with other organisms can be obtained. Assisted data entry with high tech equipment (GPS, barcode scanner, PDA, image analyser) reduces the risk of errors. By contrast, participants are often reluctant to use a DB management system and prefer to use simple spreadsheets to enter their data even if data integrity is less guaranteed. Our experience shows that the main bottleneck in the data flow is the processing of the huge quantity of specimens collected. Solutions include securing enough funds for this critical step, training research technicians (parataxonomists and paraecologists) to assist main investigators and focusing on a limited number of informative yet tractable taxa such as ants.

IN THE TREETOPS OF PAPUA NEW GUINEA

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Papua New Guinea rainforests are among the most biodiverse on Earth. They still cover extensive areas but are being altered at a rapid rate. Their biodiversity is still largely unexplored especially in the treetops, called the canopy. For exploring the canopy biodiversity, new tools based on hot air or helium balloons are being developed. They allow collecting *in situ* plants and insects. Ants reign in the canopy. They are sometimes found living inside extraordinary epiphytes, which adapted their structure to accommodate the ants. For protecting native rainforests, an innovative approach, linking biodiversity research and capacity building, is implemented. Gifted naturalists, called parataxonomists and paraecologists, are recruited in villages and trained by internationally renowned scientists. Research stations create local employment. This source of income added to money from sponsors allow local communities to obtain access to a higher level of education and health care without having to give in to the pressure related to deforestation. (Author & director: Maurice Leponce, 2015, HD, 16min)

ARBOREAL ANT MOSAICS MELTDOWN WITH ELEVATION

M. LEPONCE[1] & P. KLIMES[2,3]

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Mosaics of ant territories resulting from the mutual exclusion of dominant arboreal ants from tree crowns are common in tree plantations and in lowland tropical forests. In temperate zones, arboreal-nesting ants, especially territorial ones, are much less abundant probably because of unfavourable climatic conditions. Therefore, along a tropical mountain one can expect the decay of ant mosaics with increasing elevation. We mapped the distribution of numerically dominant ant colonies, often spreading on several neighbour trees, in ¼ ha plots distributed between 200 and 2700m along Mt Wilhelm, Papua New Guinea. Ants were captured at tuna/honey baits spread along tree trunks from the ground to the top of canopy trees. In lowland forests (200-700m), *Crematogaster polita* large carton nests were omnipresent and often formed supercolonies. Other major players were *Oecophylla smaragdina* nesting in leaves and Anonychomyrma cf scrutator nesting in live plant tissues. At mid-elevation (1200-1700m) dominant ants were *Anonychomyrma* spp. and two species found in myrmecophytes (*Monomorium* sp. nov. aff. *edentatum* and *Philidris* cf. *cordata*). At 2200m ants found in the canopy (e.g. *Ancyridris*, *Pheidole*) were probably living in suspended soil. No ants were observed at 2700m. In conclusion, with increasing elevation it seems that there is a progressive filtering of the most abundant arboreal ant species. Typical territorial ants, living in carton or leaf nests are eliminated first. At mid-elevation myrmecophytes allow to maintain high ant populations in trees. At high elevation only species nesting in suspended organic matter remain.

October, 20 – Tuesday		
Schedule	**Program**	**Place**
09:30 - 10:30	Plenary talk 3 **"Advances in our understanding of ant phylogeny and evolution".** Philip WARD (University of California, Davis – USA)	**Jequitibá Room**
10:30 - 12:00	Round table 5 **"Anthropic Impacts on Ants".** Invited speakers: Heraldo L. Vasconcelos (UFU - Brazil) (Coordinator), Alan Andersen (CSIRO - Austrália), Maya Rocha (UFU, Brazil), Xavier Arnan Viadiu (UFPE - Brazil)	**Jequitibá Room**
	Round table 6 **"Chemical ecology and myrmecology: challenges and perspectives in Brazil)".** Invited speakers: Yves Patric Quinet (UECE - Brazil) (Coordinator), Ana Maria Matoso Viana-Bailez (UENF - Brazil), Fábio Santos do Nascimento (USP – Brazil), Abraham Hefetz (University of Tel Aviv - Israel)	**Jacarandá I and II**
12:00 - 14:00	Lunch time	
14:00 - 15:00	Oral presentation sessions	
15:00 - 16:00	Plenary talk 4 **"Exploring the ant organs to understand how they work".** José Eduardo SERRÃO (UFV – Brazil)	**Jequitibá Room**
16:00 - 17:00	Poster session & Coffee break	
17:00 - 18:30	Round table 7 **"Ant Ethnobiology".** Invited speakers: Eraldo Medeiros Costa Neto (UEFS - Brazil) (Coordinator), Rosa Gabriela Castaño Meneses (Universidad Nacional Autónoma de Mexico - Mexico), José Rodrigues de Almeida Neto (UFPI - Brazil), Cajetano Vera (Guarani Kaiowá, Aldeia Pirajuí - Brazil)	**Jacarandá I and II**
	Round table 8 **"Canopy Ants in the Neotropical Region".** Invited speakers: Frederico Neves (UFMG – Brazil) (Coordinator), Sérvio Pontes Ribeiro (UFOP - Brazil), Wesley Duarte da Rocha (UFMG - Brazil), Maurice Leponce (Royal Belgian Institute of Natural Sciences - Belgium)	**Jequitibá Room**

October, 21 – Wednesday		
Schedule	**Program**	**Place**
09:30 - 10:30	Plenary talk 5 **"The evolution of the multifaceted hydrocarbon pheromones in ants".** Abraham HEFETZ (Tel Aviv University – Israel)	**Jequitibá Room**
10:30 - 12:00	Round table 9 **"Ant-Plant Interactions".** Invited speakers: Alexander Christianini (Universidade de São Carlos) (Coordinator), Celine Leroy (IRD, UMR AMAP - France), Ricardo Ildefonso Campos (UFV – Brazil), Inara Roberta Leal (UFPE - Brazil)	**Jequitibá Room**
	Round table 10 **"Ant Morphology and Social Biology".** Invited speakers: Maria Izabel Camargo Mathias (UNESP - Brazil) (Coordinator), Jane Carla Soares Moreira (UNESP - Brazil), Alexsandro Santana Vieira (UNESP - Brazil), Raphael Vacchi Travagli (UNESP - Brazil)	**Jacarandá I and II**
12:00 - 14:00	Lunch time	
14:00 - 15:00	Oral presentation sessions	
15:00 - 16:00	Tribute session	**Jequitibá Room**
16:00 - 17:00	Poster session & Coffee break	
17:00 - 18:30	Round table 11 **"Ant Behavior".** Invited speakers: Nicolas Châline (USP - Brazil) (Coordinator), Stéphane Chameron (LEEC, Université Paris 13, Villetaneuse - France), Lorenzo Roberto Sgobaro Zanette (UFC - Brazil), Lúcia C. Neco (USP - Brazil); Dina L. O. Azevedo (UFRN - Brazil)	**Jacarandá I and II**
	Round table 12 **"Mega-samples and large series of data".** Invited speakers: Fabrício Beggiato Baccaro (UFAM-Brazil) (Coordinator), Maurice Leponce (Royal Belgian Institute of Natural Sciences - Belgium), Fernando Augusto Schmidt (UFAC - Brazil); Jorge L.P. Souza (INPA - Brazil)	**Jequitibá Room**

Salão/ Room: **Jacarandá 3**	
14:00	**WHAT DRIVES CHANGES IN COMPOSITION OF ANT ASSEMBLAGES ALONG A VERTICAL GRADIENT? -** F.M. REZENDE, R.S. JESUS, F.A. SCHMIDT, C.R. RIBAS & J.H. SCHOEREDER
14:15	**TEMPORAL PATTERNS OF ANT DIVERSITY ACROSS A MOUNTAIN WITH CLIMATICALLY CONTRASTING ASPECTS IN THE TROPICS OF AFRICA -** T.C. MUNYAI & S.H. FOORD
14:30	**PLANT RICHNESS DETERMINES THE DIVERSITY OF ANTS IN A TROPICAL MOUNTAIN** - F.S. NEVES, H. BRANT, T. LANA, M.C. DOS ANJOS & G.W. FERNANDES
14:45	**IN THE TREETOPS OF PAPUA NEW GUINEA -** M. LEPONCE
Salão/ Room: **Jequitibá**	
14:00	**REDUCTION IN PRECIPITATION AND INCREASE OF ANTHROPOGENIC CHRONIC DISTURBANCE REDUCE ANT-MEDIATED SEED-DISPERSAL SERVICES IN THE CAATINGA -** F.M.P. OLIVEIRA & I.R. LEAL
14:15	**WATER AVAILABILITY DETERMINES MUTUALISM OUTCOME OF PROTECTIVE ANT-PLANT INTERACTION -** F.C.S. PASSOS, B.G. MELATI & L.C. LEAL
14:30	**ENVIRONMENTAL STRUCTURE AFFECTS THE ANT DIVERSITY AND SEED REMOVAL IN COFFEE AGROSYSTEMS** - C.S. OLIVEIRA, M.A. ANGOTTI, R.G. CUISSI, E.O. CANEDO-JUNIOR & C.R. RIBAS
14:45	**IMPLICATION OF CHRONICAL ANTHROPOGENIC DISTURBANCE AND PRECIPITATION REDUCTION ON THE IDENTITY OF ANTS SPECIES INTERACTING WITH PLANTS BEARING EXTRAFLORAL NECTARIES IN A SEASONALLY DRY TROPICAL FOREST -** D.Q.A. REIS, T.C.S. BEZERRA, F.M.P. OLIVEIRA, E.C.P. ARRUDA & I.R. LEAL

25	**CHECKLIST OF THE SOIL ANT SPECIES (HYMENOPTERA, FORMICIDAE) IN AN URBAN FRAGMENT OF CERRADO FROM WEST-CENTRAL BRAZIL** - M. TIBCHERANI, S.S. SUGUITURU & R.L. MELLO
26	**TEMPORAL CHANGES IN APHID-TENDING ANT COMMUNITY** - L.F. ZURLO, E.O. CANEDO-JÚNIOR, G.S. SANTIAGO, M.C.S. CARVALHO, G.P. ALVES & C.R. RIBAS
27	**EFFECTIVENESS OF GENERA AS SURROGATE TO SPECIES DIVERSITY IS NOT AFFECTED BY SAMPLING TECHNIQUE** - J.L.P. SOUZA, P.A.C.L. PEQUENO, F.B. BACCARO, E. FRANKLIN & W.E. MAGNUSSON
28	**HOW DOES FIRE FREQUENCY AFFECT ANT DIVERSITY, SEED REMOVAL AND PREDATION IN SOUTHERN AMAZON?** - L.N. PAOLUCCI, T.G. SOBRINHO A.N. ANDERSEN & J.H. SCHOEREDER
29	**ANT (HYMENOPTERA: FORMICIDAE) COMMUNITY COMPOSITION IN RELATION TO ALTITUDINAL GRADIENT IN BRAZILIAN PANTANAL** - S.S. CARVALHO, R. ARANDA, E.M. SANTOS, V.A.F. NACAGAVA & P.R. SOUZA
30	**ARBOREAL ANTS SAMPLED WITH TWO DIFFERENT BAIT TYPES IN A SEMI-DECIDUOUS DRY FOREST, BAHIA STATE** - C.F. MATOS-OLIVEIRA, S. LACAU, P.S.D. SILVA, R. PÉREZ-MALUF & A.G.D. BIEBER
31	**EFFECT OF THE URBAN ENVIRONMENT ON ANT ASSEMBLIES (HYMENOPTERA: FORMICIDAE) OF SALVADOR, BRAZIL** - T.S. MELO, M.C.L. PERES & J.H.C. DELABIE
32	**ARBOREAL ANT MOSAICS MELTDOWN WITH ELEVATION** - M. LEPONCE & P. KLIMES
33	**IMPORTANCE OF ANTS IN THE ARCHITECTURE AND ROBUSTNESS OF PLANT-ANIMAL MUTUALISMS WITHIN THE DARWIN'S ENTANGLED BANK** - W. DÁTTILO, N. LARA-RODRÍGUEZ, P. JORDANO, P.R. GUIMARÃES, J.N. THOMPSON, R.J. MARQUIS, R. ORTIZ-PULIDO, M.A. MARCOS-GARCÍA & V. RICO-GRAY
34	**HERBIVORY BY *Atta opaciceps* BORGMEIER IN A SEASONALLY DRY TROPICAL FOREST** - F.F. SIQUEIRA & I.R. LEAL
35	**LEAF-CUTTING ANTS AS ECOSYSTEM ENGINEERS: REDUCTION IN LEAF-LITTER AROUND *Atta cephalotes* AND *Atta sexdens* NESTS** - F.C. LIMA JR & I.R. LEAL
36	**THE ROLE OF ANTS AS POLLINATORS OF *Blutaparon portulacoides*** (A. ST.-HIL.) MEARS (AMARANTHACEAE) - J. IBARRA ISASSI & S.F. SENDOYA