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POUR  
L'EXPLORATION ET LA  
CONSERVATION DE LA NATURE

LEOPOLD III-FONDS  
VOOR  
NATUURONDERZOEK  
EN NATUURBEHOUD

L III

ACTIVITES DE L'EXERCICE 1997

ACTIVITEITEN TIJDENS HET DIENSTJAAR 1997

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## 1. Subsidies pour recherches à l'étranger Toelagen voor onderzoeken in het buitenland

Au cours de l'exercice 1997, le Fonds Léopold III a subsidié cinq chercheurs dont les rapports succincts sont repris ci-dessous.

In de loop van het dienstjaar 1997 heeft het Leopold III-Fonds aan vijf onderzoekers toelagen verstrekt. Hierna volgen hun beknopte verslagen.

### 1.1. Dr. Ph. WILLENZ (IRScNB)

*Field trip to Discovery Bay Marine Laboratory.*

24 April - 8 May 1997

Hypercalcified sponges, also formerly called "sclerosponges", are unique among all known organisms in combining two dissimilar mineral deposits, aragonite and silica or calcite and silica, to form their skeleton. About sixteen species are known to build up a massive calcareous skeleton, bearing a striking resemblance to that of various scleractinian corals. These sponges appear to be the survivors of reef-building organisms of the Paleozoic and Mesozoic Eras, such as stromatoporoids, chaetetids and sphinctozoans, which were believed to be extinct and the nature of which has been uncertain. On the North Jamaican Reefs, hypercalcified sponges of the family Ceratoporellidae thrive on the deep fore-reef escarpments and can be important contributors to the calcareous framework between 70 and 120 m (LANG *et al.*, 1975). In this family the siliceous monaxon spicules become entrapped within the aragonitic skeleton. *Ceratoporella nicholsoni*, the most abundant species on North Jamaican Reefs, is also more readily accessible in unusual cryptic habitats of coral reefs such as submarine caves or tunnels at depths ranging from 20 to 40 m. There, it provides us with the unique opportunity to study the growth rate of the calcareous skeleton of organisms which had an important geological role, as can be estimated by the abundance of ancient reefs they generated (HARTMAN & GOREAU, 1970, 1975; VACELET, 1983, 1984).

Specimen	$t_1$ Jul. 9, 1984	$t_2$ Feb. 15, 1985	$t_3$ Apr. 29, 1986	$t_4$ May 1, 1987	$t_5$ May 1, 1997
	← 221 days →		← 438 days →		← 363 days →
					← 10 years →
A	*	*	*	*	*
B	*	*	*	*	*
C	*	*	*	*	*
D		*	*	*	*
E		*	*	*	*
F		*	*	*	*
G		*	*	*	*
H	*	*	*	*	*
I			*	*	*
J		*			*
K		*			*

Fig. 1. Successive *in situ* labelling of *Ceratoporella nicholsoni* with calcein (\*).

In order to measure the contribution of sclerosponges to the reef framework, I developed a technique to record the growth rate of their skeleton by marking the newly deposited aragonite with calcein, a fluorochrome stain. Specimens were labeled *in situ* in a reef tunnel at a depth of 28 m near Discovery Bay, Jamaica. Without being removed from their substratum, specimens were incubated individually in plastic bags in presence of calcein at a final concentration of 100 mg/l for 24 h. Staining was performed five times from 1984 to 1997 (Fig 1). Skeletal samples, with attached tissue, about 2 cm<sup>3</sup> in volume were removed with hammer and cold chisel from the periphery of the sponges, leaving specimens in their place. Sections, cut perpendicular to the surface and ground to a thickness of  $\pm 10 \mu\text{m}$ , were photographed by fluorescence microscopy. The annual growth rate of the skeleton was calculated from measurements of the linear extension between calcein stained lines along the growth axes at the two following sites: the bottom of the lumen of pseudocalices (Fig. 2) and the apical edges of the wall separating two pseudocalices (Fig. 3).

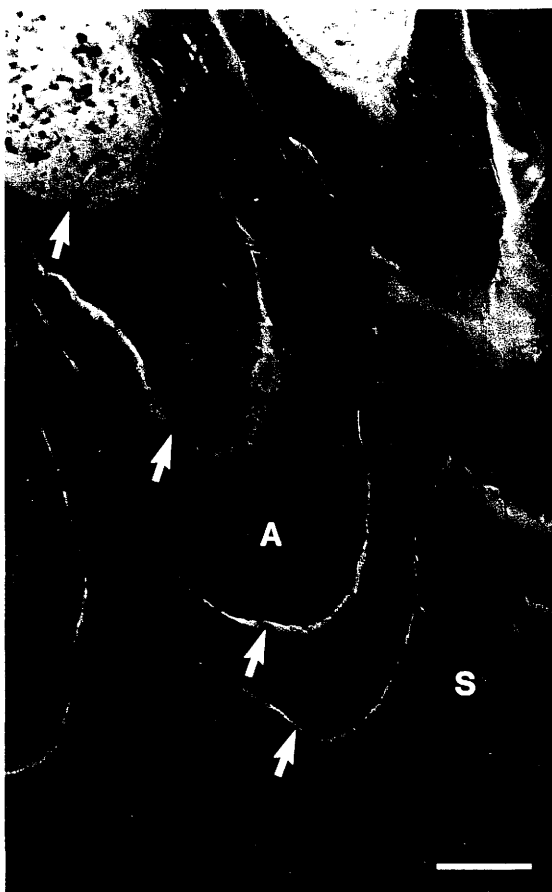


Fig. 2.  
Base of a pseudocalyx of *Ceratoporella nicholsoni*, viewed under fluorescent microscopy. Fluorescent lines (arrows) indicate where calcein has been incorporated into the skeleton. A = Aragonite, T = Living tissue, S = Siliceous spicule. Scale bar = 100  $\mu\text{m}$ .



Fig. 3.  
Apical edge of a wall separating two pseudocalices. Caption as Fig. 2. Intervals: 1 to 2 = 221 days, 2 to 3 = 438 days, 3 to 4 = 363 days. Scale bar = 100  $\mu\text{m}$ .

Data from 10 specimens indicate so far that the mean annual extensions vary in time, within and between specimens, from about 150  $\mu\text{m}$  to 300  $\mu\text{m}$  (Fig. 4). Depending on the specimens, a linear extension of 1 mm will then occur within about 3 1/2 and 7 years.

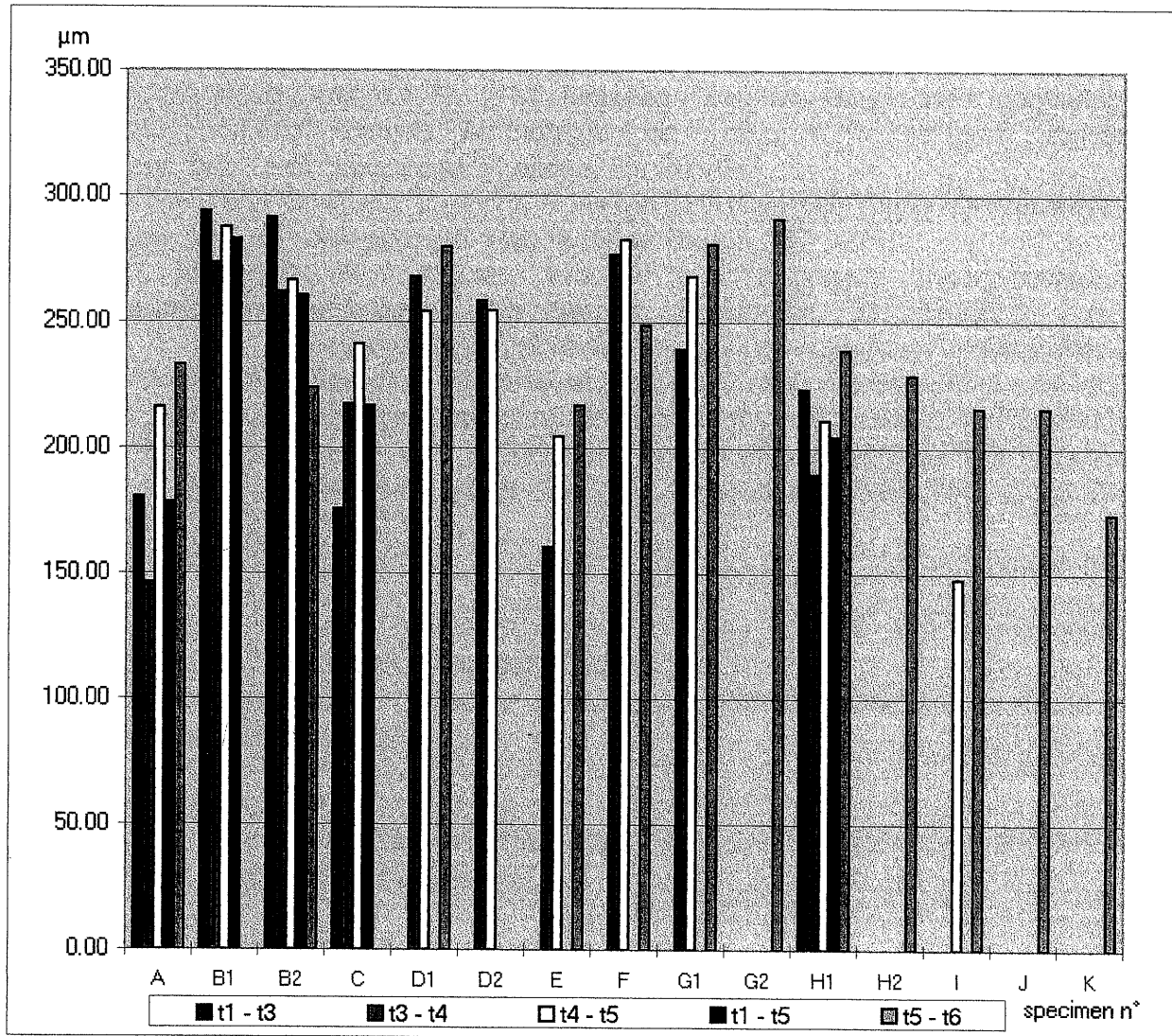


Fig. 4. *Ceratoporella nicholsoni*: Mean annual growth rates - Measured at the apical edges of the walls separating two pseudocalices.

Not all 10 specimens received calcein each time, either because another stain was unsuccessfully used (D, E, F, G, I, J, K), or because a specimen has been lost (C). Measurements were done in two different samples of four specimens, to evaluate the method (B1&B2, D1&D2, G1&G2, H1&H2). Values of t1, t3, t4, t5, t6: see Fig. 1.

Previous data obtained from a smaller number of specimens and on shorter periods had lead us to estimate a mean annual growth rate of 200  $\mu\text{m}/\text{y}$  (WILLENZ & HARTMAN, 1985).

This first long term study on *C. nicholsoni* brings important information on the variability of its growth rate, which will have to be considered for further studies on the use of sclerosponges as paleoenvironmental proxies.

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#### 1.2. Prof. ém. C. VANDEN BERGHEN (JBNB)

*Mission de prospection botanique en Casamance (Sénégal méridional).*  
29 juillet - 18 août 1997

Le territoire prospecté s'étend de la rive méridionale du fleuve Gambie jusqu'à Diouloulou-Kafoutine, au nord du fleuve Casamance.

Deux sites ont particulièrement retenu notre attention:

- les dunes littorales pâturées extensivement, situées aux environs de Abéné;
- les berges du 'bôlon' (=marigot) de Diana, actuellement sans communication avec l'océan, à eau stagnante, de type dystrophe.

##### A. Les reliques forestières sans les dunes littorales.

Nous avons effectué une quarantaine de relevés de la végétation de bouqueteaux qui subsistent dans une 'steppe' à *Aristida*. Trois groupements ont été reconnus.

- a. Une forêt basse, à *Neocarya macrophylla* et *Zanthoxylum zanthoxyloides*, sur des sables secs. L'élément 'soudain littoral' est dominant.
- b. Une forêt floristiquement plus riche que la précédente, signalée par la présence d'*Elaeis guineensis*, occupe les pentes descendant vers les dépressions humides. L'élément 'subguinéen' prend de l'importance dans le couvert.

- c. Un type forestier 'anthropisé' a été reconnu sur les sables couverts d'une accumulation de coquilles marines, témoin d'une civilisation ancienne. Le baobab et des espèces rudérales différencient ce type de station.
- B. Comme la saison des pluies n'a débuté, en 1997, que vers mi-août, le niveau de l'eau du 'bôlon' était anormalement bas. Le sable grossier, fortement enrichi en matières organiques, à odeur fétide, non inondé mais détrempe, était envahi par une roselière ouverte à *Bolboschoenus grandispicus*. Cette Cypéracée, à exigences écologiques très précises, n'est connue qu'en quelques localités: une île de l'archipel du Cap Vert, les vallons littoraux entre Dakar et le Saloum, la Basse Casamance littorale. Des relevés de cette végétation très particulière ont été notés et seront utilisés, avec d'autres documents, pour une publication en cours de rédaction.
- C. L'herbier récolté lors de la mission a été déposé au Jardin botanique national de Belgique, à Meise.

### 1.3. Prof. Fr. MALAISSE (FUScAG)

*Etude de la biodiversité (partim botanique) des forêts denses humides aux Comores.*  
1-17 octobre 1997

La mission en République islamique des Comores s'est déroulée sur l'île de Grande Comores.

Les recherches ont été effectuées en forêt dense humide de montagne du Mont Karthala, principalement dans l'étage moyen, entre 1200 et 1400 m d'altitude.

#### Buts

La recherche visait à atteindre plusieurs objectifs:

1. Une meilleure connaissance de la flore.
2. Une reconnaissance de la végétation.
3. Une étude préliminaire de la structure.
4. Une esquisse de propositions de gestion en vue du maintien de la biodiversité.

#### Résultats

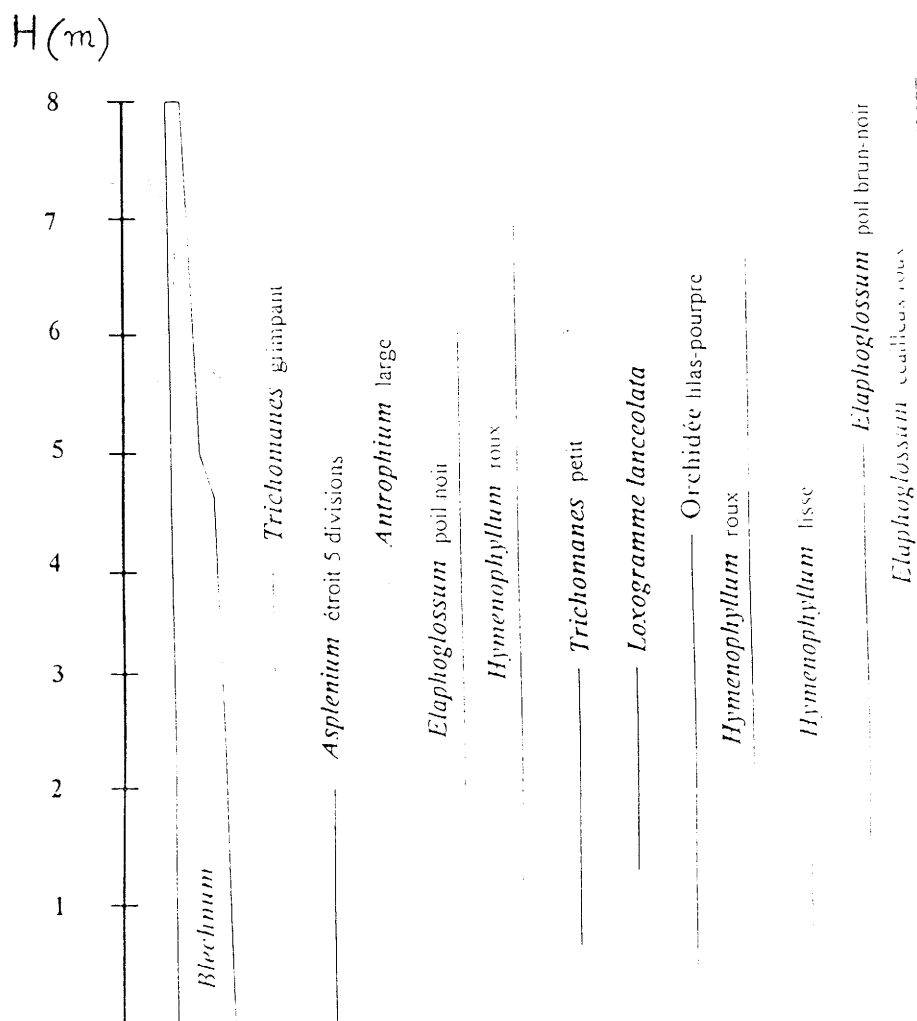
Les résultats suivants ont été obtenus:

1. Constitution d'un herbier de référence totalisant 202 numéros de récolte, dont 8 numéros de bryophytes, 44 de ptéridophytes et 150 de spermatophytes. La collection est déposée au Jardin Botanique national de Belgique (BR) à Meise. Les déterminations sont en cours.
2. Deux unités de végétation ont été reconnues:
  - la forêt dense humide de montagne (sur sol moyennement profond, en versant exposé au sud) ou laurisile (présentant trois faciès),
  - le couloir d'un ruisseau temporaire (sur sol squelettique et affleurements rocheux).

La première impression qui se dégage de l'ambiance si particulière de la laurisilve est celle d'un paradis de verdure que l'abondance de l'épiphytisme des troncs, des branches maîtresses des arbres dominants ainsi que celui des lianes provoquent.

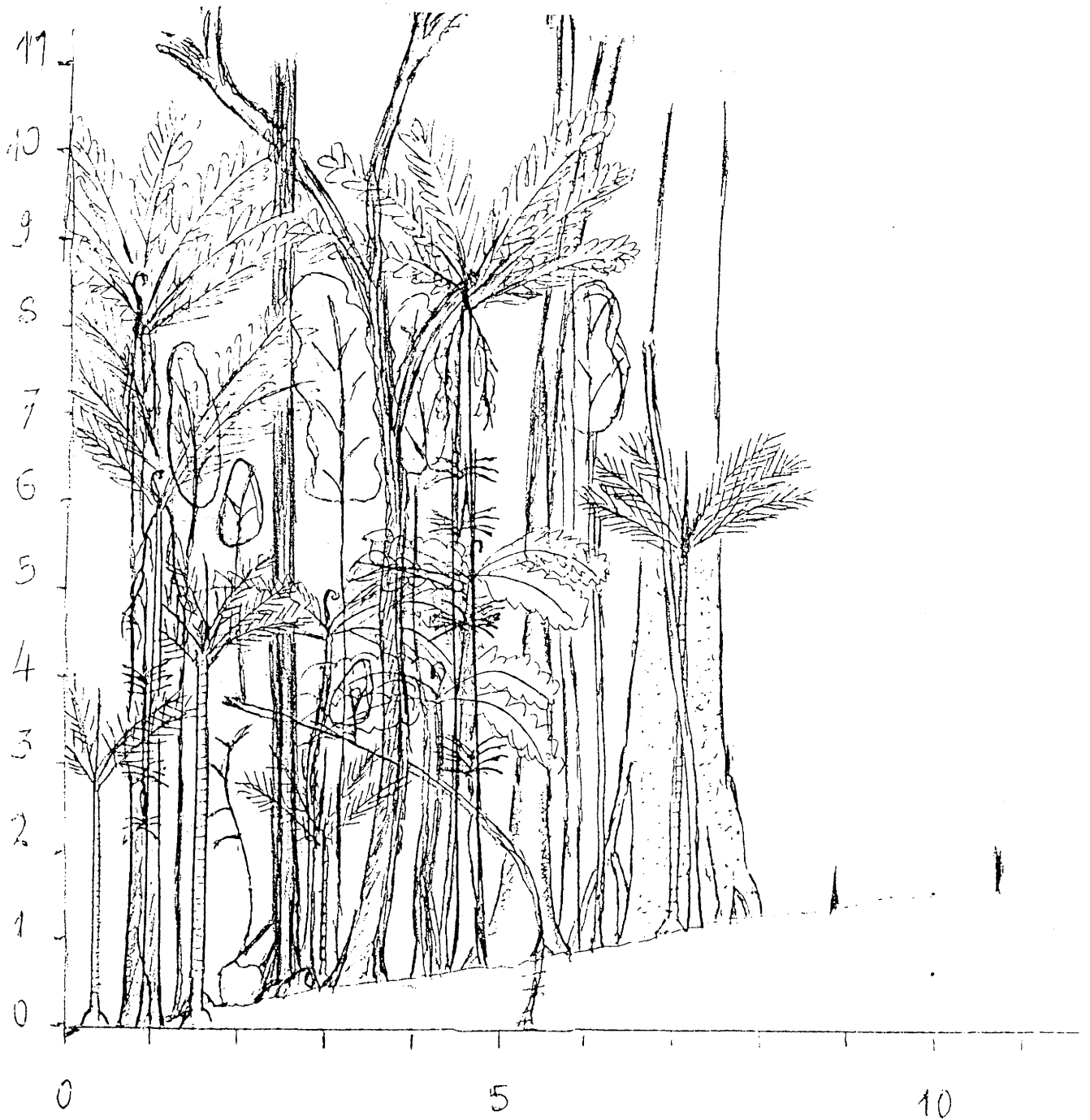
Peu de place pour d'autres teintes, si ce n'est les plages grises des troncs des *Weihmania* et le rouge sombre des 'vandrano' ou *Aphloia theiformis*.

Nous avons reconnus trois faciès principaux dans la laurisilve étudiée, à savoir: les pentes fortes, les replats à faible déclivité et les clairières de régénération successive à un chablis. Sur les replats, les arbustes effilés, rectilignes sont fréquents alors que la strate herbacée est dominée de façon presque exclusive par les ptéridophytes auxquelles se mêlent une *Areaceae*.



Note de terrain relative à la répartition verticale des épiphytes.





Aspect structural de la laurisilve.

3. La structure a été approchée par plusieurs techniques:
  - Etablissement de la surface terrière. Vingt parcelles d'un are ont été inventoriées; l'inventaire prend en considération toutes les tiges à diamètre supérieur ou égal à 5 cm à 1,3 m de hauteur. Le dépouillement rapide indique des valeurs de G (surface terrière) de l'ordre de 80 à 120. Elles sont proches, mais supérieures aux valeurs rapportées lors d'une étude effectuée à la Réunion. Elles pourraient constituer les valeurs les plus élevées connues pour des peuplements naturels.
  - Etablissement d'un profil structural (bande de 50 x 5 m) prenant en compte toutes les tiges et les encombrements spatiaux des houppiers. La présence de deux espèces de fougères arborescentes apporte un cachet particulier et remarquable.
  - Observation de la répartition verticale des épiphytes en vue de la reconnaissance d'une stratification.

Divers groupes écologiques ont été reconnus au sein des épiphytes dont un groupe héliophile qui comprend diverses orchidées (*Bulbophyllum* sp. 1 et 2, *Tridactyle* sp., etc.).

4. Récolte d'échantillons:
  - De sols pour caractérisation des conditions édaphiques (pH, granulométrie, chimie) et des thécamoebiens de litière.
5. L'ensemble des observations effectuées doit permettre:
  - une meilleure description de l'écosystème laurisilve comorienne. Ce dernier a été très peu étudié et la littérature est particulièrement pauvre à ce sujet. Cette démarche pourra utilement être intégrée dans des études écologiques ultérieures (avifaune, mammifères, etc.),
  - une première approche de l'importance de la diversité des peuplements ptéridologiques et des spermatophytes.

Le dépouillement des résultats se poursuit et plusieurs notes sont programmées.

Nous remercions le Fonds Léopold III pour les facilités mises à notre disposition et sans lesquelles cette recherche n'aurait pu être réalisée.

#### 1.4. Dr. aggr. P. GROOTAERT (KBIN)

*In search for ancestral groups in South-East Asia. Report on an expedition to Thailand.*

18 October - 20 November 1997

The present expedition was undertaken in the scope of a zoogeographical and phylogenetic study of Diptera in South-East Asia and Papua New Guinea. The Wallace line is questioned by certain authors (GRESSIT, 1983; MILLER, 1991) which was the direct reason to collect material in South Thailand. Surprisingly enough we found during an earlier, short expedition in South Thailand no less than 6 new genera for science and a remarkable high diversity. Several of the new taxa appeared to be quite ancestral and this helps us to understand the phylogeny of the group even on a world basis.

During her visit in Brussels on October 6th 1997, Professor Dr. Sumonta PROMBOON, rector of the Srinakharinwirot University in Bangkok, requested us to prepare several research proposals for the study of the biodiversity of Thailand.

A proposal for a training course in the scope of the "Thailand network for Training and Research on Environmental Management (THANTREM)" has been prepared. It will be submitted to UNED. The programme is called: "Training on Ecosystem management in Nakhon Nayok province" and it will aim the formation of parataxonomists.

The co-ordination of the programme is done by Dr. Yuvadee Nakapadungat, head of the Biology department and Ass. Prof. Punsin Ketudat. The research teams of the RBINS become consultants and are requested to assist in lecturing during the training and to do inventory studies in the Nakhon Nayok province. In fact the inventory of the fauna was requested by the Governor of the Nakhon Nayok province himself and the area is particularly interesting since it borders to the famous Khao Yai National Park, which is considered as the largest intact monsoon forest in mainland Asia and which was recently designated as an ASEAN National Heritage Site.

We were officially requested to participate in a second programme: "Biodiversity of University Study area at Na Haew (Loei province). This project aims to be a model study on the inventory of the biodiversity in tropical countries and to be a first step to start longterm monitoring of biodiversity in the area. The programme started on June 1997 and will last till May 2000. The area at Na Haew was chosen because it belongs to the university and because it has a permanent field station.

Copies of both projects are available upon request (first in Thai; second in English).

During a meeting on November 17th, with the rector of the university, we were asked to prepare a convention between the Srinakharinwirot University and the Royal Belgian Institute of Natural Sciences. This convention will deal with joined research programmes, training of students, establishment of a field station, establishment of a natural history museum at the new university in Nakhon Nayok and the preparation of a book or CD-rom on the fauna and flora of the Nakhon Nayok Province.

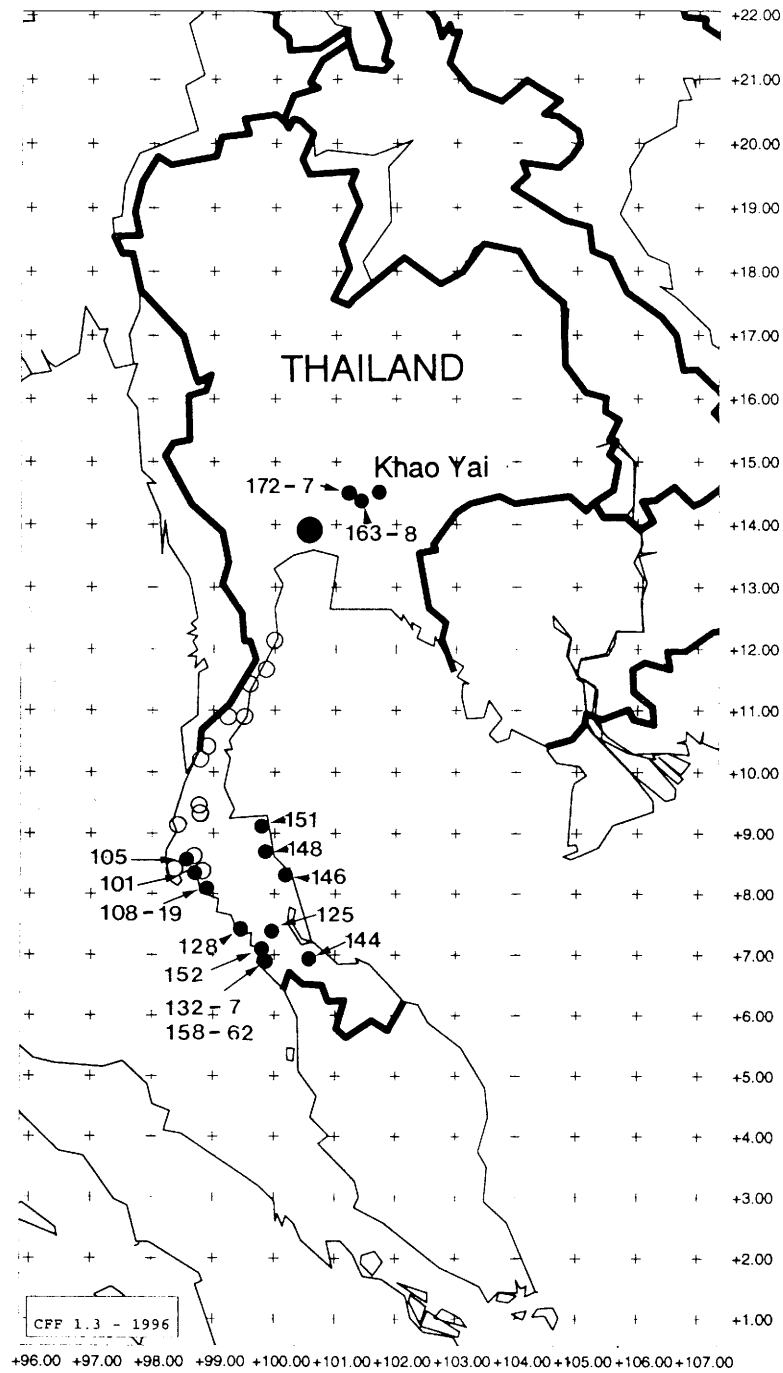


Fig. 1. Map of Thailand with collection stations.



Fig. 2. *Steleura* gen. nov., sp. nov.; habitus, head, antenna and fore tarsus. This new genus and species is quite remarkable in possessing a long stalked male genital apparatus.

### Material and methods

During the first part of the expedition we collected in the South of Thailand in rainforests, in mangroves and along the coast. We collected especially at the western side of the peninsula near Phang-Nga, Krabi, Trang and Pak Bara since there the dry season had just started. Attempts to collect at the eastern side of the peninsula were not very successful because of heavy monsoons in that area (hurricane Linda).

Thanks to the help of the Srinakharinwirot University we collected during a second period near Nakhon Nayok in central Thailand. So we covered 2 areas more than 1,500 km (Fig. 1) apart. Data on all collection stations are available in a Data-base.

Specimens were mostly collected by net sweeping and conserved in 70% alcohol. Specimens for DNA-sequencing were fixed in 96% alcohol. A few specimens were pinned dry.

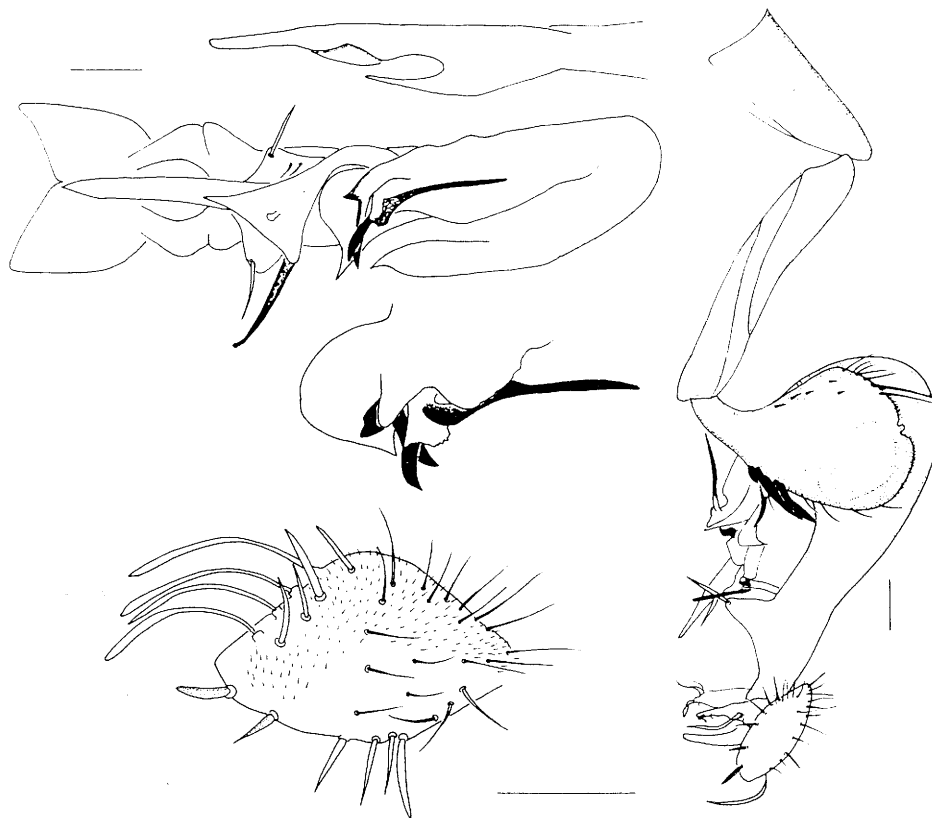


Fig. 3. Details of the male genitalia of *Steleura* which bear remarkable spines on the 8th sternum and which have a very complex aedeagus structure.

## Results

We were able to find the locality in the rainforest where in 1996 we found an amazing great diversity of dolichopodid flies and where we found several new genera. Some of the descriptions are published already, others were not due to the lack of specimens. In the neighbourhood we found a similar very rich area.

For the first time we found also several swamp forests comparable to those in New Guinea. We had the opportunity to collect in primary rainforest and also in the inside of mangroves. Last year we could only collect at the border of a single mangrove. The exact number of empidoid species is at the moment not yet known, but is near 100 and as far as could be seen during a preliminary sorting in the laboratory of the Srinakharinwirot University, we probably found 4 additional new genera for science.

We prepared also a database in Access of the localities and uniformised the dataset of the biotopes of 1996 and 1997 which are linked to a database of the species (1996 and 1997). In the near future we hope to finish the databases on Papua New Guinea, Irian Jaya, Borneo and Sumatra.

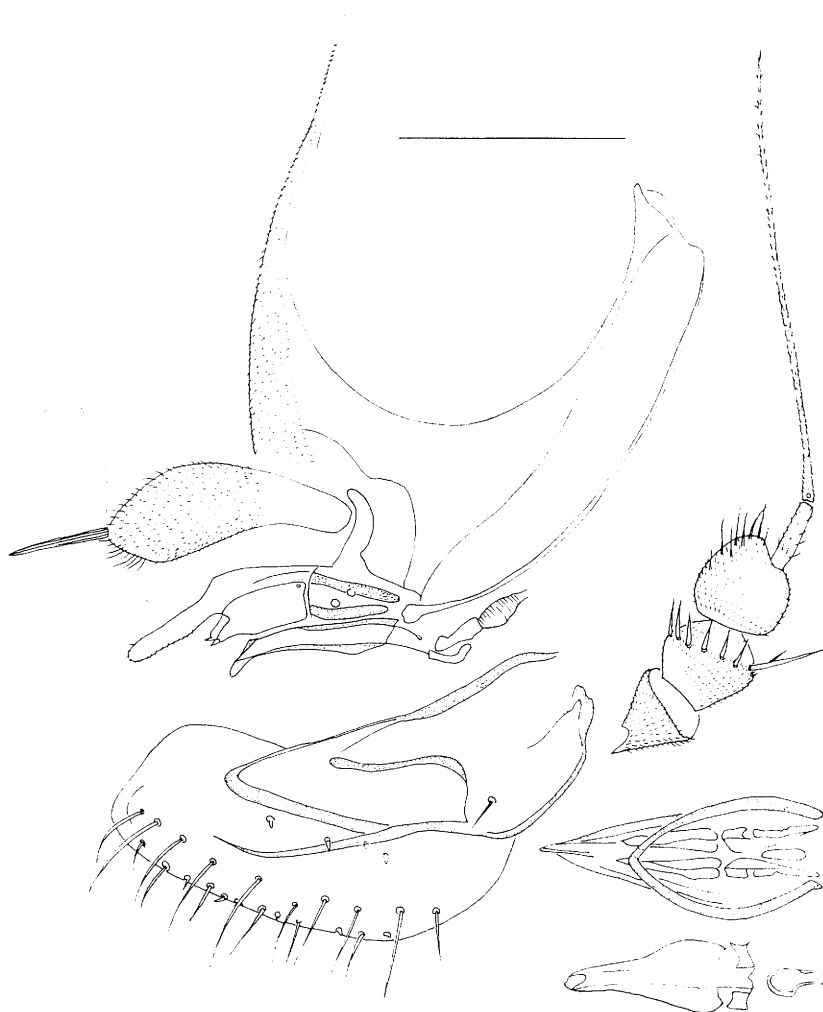


Fig. 4. An unknown dolichopodid genus, originally known from a single male; now many males and a female are available. The genus is quite remarkable in that the male lacks pseudotracheae in the labellae, which is unique in dolichopodids. The male genitalia are also quite unusual in structure.

## Acknowledgements

We thank the Leopold III Fund for the important financial help which made the present expedition possible. The present study is in the scope of project n° 2.9008.90 financed by the Fund for Scientific Research.

The very fruitful contact with the authorities of the Srinakharinwirot university in Bangkok, rector Dr. Sumonta PROMBOON and Assist. Prof. Pansin KATUDAT, Dr. Yuwadee NAKAPADUNGAT, Head of Biology Department and Dr. La-aw AMPORN PAN have been an enormous stimulus for our research project. We thank them for their very heartily hospitality.

We greatly appreciated the help of the authorities of some National Parks who allowed us to make observations in certain areas.

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GROOTAERT, P. & MEUFFELS, H.J.G. (in prep.) A revision of the marine genus *Cymatopus* KERTÉSZ with the establishment of new genera and the re-establishment of old genera (Diptera: Empidoidea, Dolichopodidae).



- 1.5. **Dr. K. VAN WAEREBEEK (Un. Gent & Centro Peruano de Estudios Cetologicos, Lima, Peru)**  
*Environmental and Awareness Programme: Summary of Cepec Activities in 1996-1997*  
 by M.-F. VAN BRESSEM, J.A. SHIGUETO & K. VAN WAEREBEEK.

Remark: this report is complementary to the scientific work carried out in 1996-97.

## 1. BASIC EDUCATION

### ► Environmental classes

Environmental classes first started in 1993 were continued at the primary school "Colegio Nacional N° 6010 Hilda B. Carrillo A." and the high school "Colegio Nacional Mixto Manuel F. Calvo Pérez", both at Pucusana. Each educational session, attended by 30-40 students, consists of an introduction to a relevant environmental subject, followed by the commented projection of a carefully selected video or the reading of one of the comic booklets written by CEPEC's members (see below). Afterwards, a guided discussion takes place and the students are invited to raise questions. Some teachers of the primary school also participate soliciting children to create compositions or invent tales related to the current topic of interest (Annex 1).

Since this year classes were started at the primary school of Chilca and contacts have been made with the director of the other primary school of Pucusana (Colegio Estatal Miguel Grau) to start classes overthere too.

Since 1995 some environmental classes are also given at the primary school "José Olaya Balandra, No. 20131" of Cerro Azul (130km south of Lima), a fishing community long monitored by CEPEC researchers because of its high numbers of dolphins and porpoises being captured each year, including by a harpoon fishery. Children (6-12 years) show a keen interest and the school director and professors kindly invited us to continue to work with them. Pupils from the first and second grades will visit the museum for the first time (see below) at the end of September 1997.

Finally, miscellaneous environmental talks were given year-round to students of several primary and high schools in Lima, focusing on dolphin biology and conservation.

### ► Educational booklets

To stimulate the interest of fishermen's children about cetaceans and other endangered marine animals and strengthen their bonds to these species, we composed a new comic booklet "Clara y Cometa" based on the friendship between a young Peruvian girl and a bottlenose dolphin in a fishing port. Numerous drawings illustrate the story, emphasising features of dolphin biology and the threats they face. A request for financial support presented to the Peruvian *Banco de Credito* was approved and the booklets were printed. These were distributed to 9-12 year old children in schools and the story was read during environmental classes (Figure 1). Small hand-made prizes rewarded the children who had done the best job in colouring the line drawings of their booklets. A limited follow-up enquiry revealed a greatly increased awareness.

Following the success of the previous booklet 'La Vida de Colita y de sus amigos del Mar Peruano', the Banco de Credito has printed 1,000 additional copies which are being distributed to young students. Plans are made to write a third comic booklet dealing with the daily threats from human encroachment faced by aquatic animals.

► Educational poster

In order to reach a larger number of children in Lima and coastal provinces, Alfaro and Van Bresselem designed a poster explaining the basic biological characteristics of cetaceans and turtles (which suffer a high mortality in gillnet fisheries too) and the needs for their protection. One thousand copies were printed by the Banco de Credito. They have been distributed to the schools of Pucusana, Cerro Azul and Lima, to the governmental Instituto del Mar del Perú (IMARPE), other NGOs and the 'Ecological Police' (policia ecológica), a Peruvian entity responsible for enforcement of the laws protecting cetaceans and turtles.

► Miscellaneous

*Exhibitions on Natural Sciences*

In August, the primary school "Colegio Nacional N° 6010 Hilda B. Carrillo A." organized an exhibition on Natural Sciences. Four groups of pupils of each grade presented a project on this theme (Figure 2). Joanna Alfaro and the director of the other primary school of Pucusana were the examiners.

In September 1997, the high school "Colegio Nacional Mixto Manuel F. Calvo Pérez" is organizing a similar exhibition. Joanna Alfaro will be again be a member of the jury and CEPEC will offer two prizes to the winners of the competition.

*Leaflet on dolphins and whales*

A leaflet on the basic biology of cetaceans has been prepared and copies are being distributed to children of 12-15 yrs during an environmental classes dealing with dolphins and whales (Annex 1). These leaflets are also distributed during the workshops organized at the schools.

*Marine plays and books for children*

With the prospect to develop weekly creative workshops on the themes of aquatic animals and conservation of natural resources, several 'marine' jigsaw puzzles and plays have been developed. They will be proposed to children attending the workshops. One of the play we name "looking for free cetaceans" was proposed to pupils of the secondary school of Pucusana during an environmental class.

A library with educational and recreational books for children is being built with the collaboration of several institutions such as the Cetacean Society International, Marine Education and Research and Banco de Credito del Peru.

*Marine puppets show*

Puppets of dolphin, sealion, marine turtles, penguin and pelican were handmade and are used for presentations (shows) on the life of marine animals of the Peruvian sea and the threats they face. Targeted so far are the 6-8 yrs old pupils of the primary school "Colegio Nacional N° 6010 Hilda B. Carrillo A." (Figure 3), but new shows and groups are scheduled. Each puppet's name was chosen by the children.

## 2. ADVANCED EDUCATION

Several CEPEC members made important progress in their university education. Biologists Aquiles García-Godos (Universidad Agraria de la Molina) has defended his licentiate thesis on the "Feeding of the common dolphin *Delphinus capensis*" in May 1997. Biologist Karina Ontón (Universidad Ricardo Palma) is soon presenting a thesis

on the immunology of cetaceans.

Veterinarian Marie-Francoise Van Bressem (University of Liège, Belgium) will be defending her PhD thesis (Natural History of Virus Infections in Cetaceans) in October 1997. Biologist Laura Chávez (University of Hamburg, Germany) is completing her Ph.D. thesis on the reproduction of the Peruvian dusky dolphin *Lagenorhynchus obscurus*.

Several university students visited CEPEC in search of information on the biology and conservation of cetaceans for various assignments.

Bachelor Diana Vega (Peru) is preparing to analyse female reproduction of the Burmeister's porpoise for a licentiate degree and carry out histological investigations. Bach. Marcelo Zucci (Peru), is helping to revise and re-tag the CEPEC osteological collection and generally assisting in the preparation of the museum.

Lic. Leticia Gil Martin (Spain) received training on parasites and techniques to gather field data on small cetacean fishery interactions.

### 3. PUBLIC AWARENESS CAMPAIGN

#### ► Museum

A small but permanent museum on cetaceans and other marine animals has been arranged at CEPEC, Pucusana. Skulls of 20 species of Peruvian cetaceans, two species of sealions and marine turtles and one species of penguin, mounted skeletons of a common dolphin *Delphinus sp.* and a melon-headed whale *Peponocephala electra* and vertebrae of a blue whale *Balaenoptera musculus*, recently stranded in Peru, are presented to the public. Each sample has an illustrated chart providing basic biological characteristics of each species, distribution and a coloured drawing of each species.

The differences in the cranial morphology emphasize the diversity of Peruvian cetaceans. Natural-size models (two-dimensional to save space) of the most representative species provide the public a sense for the animals' dimensions and colouration patterns.

Fetuses at different stages of development of Burmeister's porpoise *Phocoena spinipinnis* and the mounted skeletons permit easy comparisons with humans and other mammals. Talks are underway to borrow skulls of fossil dolphins from Peru. Explicative panels on the biology of cetaceans, posters and drawings made by students are exhibited. Songs of the whales and sounds of other cetaceans are played-back as a background "music". Next we plan to set up a VCR with TV to show videos about cetaceans when large groups are expected.

#### ► Collaboration with other conservation groups in Peru

The collaboration with the NGOs *RENACE-Peru* and *Cruzada por la Vida* is continued. A joined paper was presented at the '7a Reunión de Trabajo de Especialistas en Mamíferos Acuáticos de América del Sur' in Viña del Mar, Chile in October 1996.

#### ► Collaboration with official institutions

CEPEC scientists have been trying to engage the official 'Instituto del Mar del Perú' (IMARPE), in particular its marine mammal group, in collaborative activities and to interchange information of mutual interest, with varying success.

► International cooperation

Close long-term cooperative ties were maintained with, among others in Latin America, the Fundación Ecuatoriana de Estudios de Mamíferos Marinos (FEMM, Ecuador), Universidad de Antofagasta (Chile), Museo Nacional de Historia Natural de Santiago de Chile, Universidad Jorge Tadeo Lozano de Bogotá, Centro Informativo Peninsular de Guaymas (CINAP, Ecuador), the Antarctic and Southern Ocean Coalition (ASOC), FIDE XII (Magallanes), etc. Increasingly CEPEC is implementing a policy of South-South cooperation without however neglecting its valuable traditional links with technologically advanced Europe and North America.

#### ACKNOWLEDGEMENTS

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2. **Rapport d'activité de la Station biologique Léopold III à l'île de Laing, Papouasie Nouvelle-Guinée.**  
**Verslag over de activiteiten op het Biologisch Station Leopold III, Laing Island, Papoea-Nieuw-Guinea.**

2.1. **Situation de la Station biologique Léopold III**

Au cours de l'année 1997, la Station biologique Léopold III a connu des événements dramatiques qui, couplés à des problèmes financiers, ont amenés le Prof. M. JANGOUX à fermer anticipativement le laboratoire de l'île de Laing.

La mort accidentelle en mars 1997, de M. Miller MAGAP, Chef Technicien papou entièrement dévoué à la station depuis sa fondation, a porté un coup terrible à la gestion de cette dernière. De plus, le départ inopiné du manager, M. Jean Marc OUIN, en juin 1997 n'a plus permis d'assurer la logistique sur place. Fin juin, la station a été semi-fermée, une maintenance minimale étant assurée par des papous. Fin août 1997, MM. Guy SEGHERS et Igor EECKHAUT se sont rendus sur place afin de fermer définitivement la station. Une surveillance des bâtiments est toutefois encore assurée par un fils de M. Miller MAGAP.

2.2. **Activités logistiques**

La responsabilité technique, la maintenance, l'accueil et la gestion journalière de la Station biologique Léopold III ont été assurés avec grande compétence par Monsieur Jean Marc OUIN (janvier-juin).

2.3. **Activités scientifiques**

2.3.1. **Scientifiques ayant effectués des recherches à la Station**

- **Université Libre de Bruxelles**

Lic. D. DEHEYN  
 Dr A. LIONI  
 M. J.-M. OUIN  
 Mme B. RENNET  
 Dr Ch. SAUWENS  
 M. G. SEGHERS  
 Prof. B. TURSCH

- **Université de Liège**

Dr A. BORGES  
 Prof. J.M. BOUQUEGNAU  
 Lic. G. CASTILLO  
 Prof. V. DEMOULIN  
 Dr L. HOFFMAN

- **Université de Mons-Hainaut**

Dr I. EECKHAUT

Dr D. VAN DEN SPIEGEL

- **Universiteit Gent**

Prof. P. VAN DER VEKEN

Dr. M. VERBEKEN

- **Autres Institutions**

Dr. Y. KANTOR (Moscow University)

Dr. A. KOHN (New York University)

### 2.3.2. Publications

Quinze publications sont parues ou étaient sous presse à la fin de l'année 1997, portant à 377 le nombre total de publications issues de recherches menées en Papouasie Nouvelle-Guinée depuis la fondation de la Station Léopold III.

## 3. Divers - Varia

### 3.1. Conférence - Voordracht

*Parcours dans une exposition en chantier:*

*'Vivre ou survivre? Quel monde pour demain?'*

*Wandeling doorheen een tentoonstelling in voorbereiding:*

*'Leven of overleven? In welke wereld leven wij morgen?'*

par / door Michèle ANTOINE, Pascale CORTEN, Claire DE VISSCHER & Philippe VAN HAVER, Services éducatif et muséologique / Educatieve en museologische diensten, IRScNB / KBIN.

*Vivre ou survivre?*

*Quel monde pour demain?*

A l'aube du XXI<sup>e</sup> siècle, une exposition sur l'environnement et le développement.

En octobre 1998, le Muséum de l'Institut royal des Sciences naturelles de Belgique ouvrira les portes d'une grande exposition scientifique, à la fois spectaculaire, éducative et ludique, mettant en lumière les impacts des activités humaines sur l'environnement et les enjeux d'un développement durable.

*Leven of overleven?*

*In welke wereld leven wij morgen?*

Bij het aanbreken van de 21<sup>ste</sup> eeuw, een tentoonstelling over milieu en ontwikkeling.

In oktober 1998 opent het Museum van het Koninklijk Belgisch Instituut voor Natuurwetenschappen haar deuren voor een grootse wetenschappelijke tentoonstelling die tegelijkertijd spectaculair, educatief en ludiek is over de impact van de menselijke activiteit op het milieu en over het belang van de duurzame ontwikkeling.

Multidisciplinaire, l'exposition traitera de questions aussi diverses que l'effet de serre et les changements climatiques, la crise de la biodiversité, le dépérissement forestier, le trou dans la couche d'ozone, la surexploitation des ressources naturelles, l'évolution démographique, les indicateurs de développement, les nouvelles technologies environnementales... Globalisante, elle soulignera les liens qui existent entre ces problèmes sans en masquer la complexité. L'exposition se fera ainsi l'écho des préoccupations et des découvertes des chercheurs. Elle tentera aussi de répondre aux questions du public et surtout à celles des jeunes qui plus que tout autres sont concernés par les défis que représentent les changements qui s'opèrent un peu partout sur la planète. Elle les incitera à tirer des leçons des expériences passées pour assurer aux générations futures un avenir durable.

Cette exposition, dont le maître mot est "interactivité", mettra en scène des moyens aussi divers que des reconstitutions de décor, des simulations par ordinateur, des maquettes animées, des jeux didactiques, des projections vidéos, etc.. Elle couvrira une superficie de 1.800 m<sup>2</sup> et sera présentée au public jusqu'à la date symbolique du 1er janvier de l'an 2000, dans les tout nouveaux espaces d'expositions temporaires du Muséum.

Deze multidisciplinaire tentoonstelling zal onderwerpen van verschillende dimensies aansnijden zoals het broeikaseffect en de klimaatsveranderingen, de biodiversiteitscrisis, het afsterven van de bomen, het gat in de ozonlaag, de overexploitatie van natuurlijke bronnen, de evolutie van de wereldbevolking, de indicatoren van ontwikkeling, de nieuwe milieu-technologieën... Zij zal de onderlinge verbanden tussen deze problemen benadrukken, zonder de complexiteit ervan te verzwijgen. Zij zal het klankbord vormen voor de bekommernissen en de ontdekkingen van de wetenschappelijke onderzoekers. Zij zal ook trachten te antwoorden op de vragen van het publiek en vooral van de jongeren die meer dan wie ook betrokken zijn bij de veranderingen die zo'n beetje overal op aarde optreden. De tentoonstelling zal hen oproepen tot lering uit voorbije ervaringen om de komende generaties een duurzame ontwikkeling te verschaffen.

Met reconstructies van omgevingen, computer-simulaties, animaties, didactische spelletjes, videoprojecties... is "interactiviteit" het sleutelwoord in deze tentoonstelling. Zij zal haar deuren openen voor het publiek tot de symbolische datum van 1 januari van het jaar 2000 en zal een oppervlakte beslaan van 1.800 m<sup>2</sup> en dit in de nieuwe zalen voor tijdelijke tentoonstellingen van het Museum.

### 3.2. Expositions - Tentoonstellingen

Het Leopold III-Fonds voor Natuuronderzoek en Natuurbehoud verleende zijn medewerking aan 'Orinoco', Festival van Wetenschappen en Kunsten 1997-1998, dat plaats heeft in het 'Museo de Ciencias' Caracas, Venezuela, van oktober 1997 tot in de loop van 1998.

Le Fonds Léopold III pour l'Exploration et la Conservation de la Nature a contribué au Festival des Sciences et des Arts 'Orinoco', au 'Museo de Ciencias' à Caracas, Vénézuéla, octobre 1997 - mi 1998.

Prêt de six photos n/b grand format réalisées par S.M. le Roi Léopold III à l'Orénoque en 1952, ainsi que du film ELATA, expédition de S.M. le Roi Léopold III aux Territoires vénézuéliens de l'Amazonie. Film réalisé par J.M. CRUXENT, Professeur d'anthropologie à l'Université et Directeur du Musée des Sciences naturelles de Caracas.

### 3.3. Livres et documentation reçus - Ontvangen boeken en documentatie

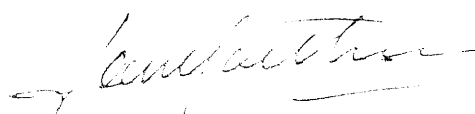
De nombreux livres et tirés-à-part ont été reçus en 1997, notamment du Musée royal de l'Afrique centrale.

Het Fonds heeft talrijke boeken en overdrukken ontvangen in 1997, vooral van het Koninklijk Museum voor Midden-Afrika.

### 3.4. Publications scientifiques réalisées avec l'appui du Fonds Wetenschappelijke publicaties verwezenlijkt met de steun van het Fonds

- DE MEESTER, L. & VYVERMAN, W., 1997. Diurnal residence of the larger stages of the calanoid copepod *Acartia tonsa* in the anoxic monimolimnion of a tropical meromictic lake in New Guinea. *Journal of Plankton Research*, 19 (4): 425-434, figs 1-2.
- GROOTAERT, P. & MEUFFELS, H.J. G., 1997. *Griphomyia* (Diptera, Dolichopodidae, Peloropecodinae) a new genus from Southern Thailand. *Belg. J. Zool.*, 127 (2): 107-114, figs 1-15.
- REYES, J.C., VAN WAEREBEEK, K., CARDENAS, J.C. & YANEZ, J.L., 1995. *Mesoplodon bahamondi* sp.n. (Cetacea, Ziphiidae), a new living beaked whale from the Juan Fernández Archipelago, Chile. *Bol. Mus. Nat. Hist. Chile*, 45: 31-44, figs 1-2.
- VAN WAEREBEEK, K., VAN BREE, P.J.H. & BEST, P.B., 1995. On the identity of *Prodelphinus petersii* LÜTKEN, 1889 and records of dusky dolphin *Lagenorhynchus obscurus* (GRAY, 1828) from the Southern Indian and Atlantic Oceans. *S. Afr. J. mar. Sci.*, 16: 25-35, figs 1-3.
- VAN WAEREBEEK, K. *et al.* Distribution on the minke whale *Balaenoptera acutorostrata* in the southern Northeast Atlantic and the Mediterranean Sea. pp. 1-16 (for submission to the IWC Scientific Committee).
- VAN WAEREBEEK, K. *et al.*, 1997. Mortality of dolphins and porpoises in coastal fisheries off Peru and southern Ecuador in 1994. *Biological Conservation*, 81: 43-49.
- VERSCHUREN, J., 1995. Un pionnier de la conservation de la nature: Henri DE SAEGER, 1901-1994. *Parcs Nationaux*, 50 (2): 35-39, photos 1-3.

Bruxelles-Brussel, 15.04.1998



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