

Centre International de Myriapodologie [CIM]
International Society for Myriapodology

Newsletter n°2 (October 2017)



Edited by Jean-Jacques Geoffroy & Stylianos Simaiakis

The present CIM Council and Board 2017-2019

The present Council 2017-2019 comprises 10 members:

Greg Edgecombe (UK) [**President**]

Bruce Snyder (USA) [**Vice-President**]

Stylios Simaiakis (Greece) [**General-Secretary**]

Nesrine Akkari (Austria)

Julian Bueno-Villegas (Mexico)

Peter Decker (Germany)

Piyatida Pimvichai (Thailand)

Ivan Tuf (Czech Republic)

Karin Voigtländer (Germany)

Thomas Wesener (Germany)

Please note that the CIM Council and Board will be replaced in 2019 during the 18th ICM in Budapest (Hungary).

Presidential Report 2017

By Gregory D. Edgecombe, President of the CIM

This 2017 edition of the CIM Newsletter continues our effort to produce an electronic successor to the former hardcopy Bulletin. I thank Jean-Jacques Geoffroy (Associate-Secretary) and Stylios Simaiakis (General-Secretary) for compiling and editing this edition, as well as other contributors of content.

The main event in the life of the CIM in 2017 was our 17th International Congress, which was held in Krabi, on the beautiful Andaman coast of Thailand in July. It is my pleasure to extend our thanks to Somsak Panha and his team for organising 17ICM and hosting us in Krabi. The hard work of our Thai colleagues was reflected in how professionally the Congress ran. 17ICM attracted delegates from all corners of the world and all career stages. Being our first Congress in Asia, it was a particularly welcome opportunity for many of our members in Asian countries to join us.

The future of CIM Congresses is bright. We eagerly await 18ICM in Budapest, thanks to the generous offer of Zoltan Korsós and his team to host us in 2019. Our colleagues in Mexico, Julián Bueno-Villegas and Fabio Cupul, have reiterated their offer to host a

Congress, with Puerto Vallarta in 2021 being the target, and European venues have presented themselves for 2013.

This edition of the Newsletter contains a full report from the General Assembly held in Krabi. I am pleased to be able to report positive developments with regards to our Treasurer Han Reip's on-line access to the CIM bank account in France (the state of play as of 26 July 2017 was reported by Jean-Jacques Geoffroy in the General Assembly report). Thanks to Jean-Jacques' persistent efforts, this impasse is closer to a solution so that the account will be accessible in Germany. Our vision of a CIM dispersed between different countries is one step closer.

I extend best wishes to all members of the CIM and invite everyone to offer content for future editions of the Newsletter.

Message from the Secretary

Dear Colleagues,

I would like to send you my sincere apologies for being unable to attend the 17th ICM in Thailand. Since 2002 (12th ICM in Mtuzini, South Africa), this was the first congress that I could not attend, for family reasons. With my wife Elsa we are happy to announce the birth of our baby boy on August 30th.

Jean-Jacques Geoffroy deserves special mention for stepping into my shoes accomplishing the work of Secretariat and dealing with so many other issues during the period of the congress in Krabi, as well as for his efforts to prepare our second Newsletter as fast as possible.

At this point, allow me also to express my warmest thanks to Greg Edgecombe for his support and understanding, and to all of you for your kindness.

Special thanks to our sponsors as nothing could be done without them, to the members of the myriapodological community and the participants of the 17th International Congress in Thailand. I also want to thank Professor Somsak Panha and the organizing committee for organizing a successful 17th ICM, our first congress in Asia.

I look forward to meeting you all at the 18th ICM, in Budapest (Hungary), in two years.

Cordially,

Stelios Simaiakis, General-Secretary of the CIM

Report on the CIM General Assembly held on Wednesday, 26 July 2017 Krabi, Thailand

By Jean-Jacques Geoffroy, CIM Associate-Secretary

Members of the CIM were formally invited to contribute to the General Assembly at Krabi (Thailand) on Wednesday 26 July 2017 during the 17th International Congress of Myriapodology, in accordance with the agenda below.

To be valid, the General Assembly must comprise a minimum of 20 active members in good standing. Those unable to join the General Assembly can formally be represented by an active member should they provide a written statement confirming this representation.

Were present or represented:

Nesrine Akkari (Austria-Tunisia), Dragan Antic (Serbia), Darina Bachvarova (Bulgaria: represented by Pavel Stoev), Amazonas Chagas-Junior (Brazil), Jui-Lung Chao (Taiwan), Chao Chun Chen (Taiwan), Peter Decker (Germany), Yan Dong (China), Henrik Enghoff (Denmark), Aleksander Evsyukov (Russia), Anne-Sarah Ganske (Austria), Jean-Jacques Geoffroy (France), Gonzalo Giribet (USA), Sergei I. Golovatch (Russia), Joseph T. Hannibal (USA), Cuong Huynh (Australia), Xuankong Jiang (China), Richard Desmond Kime (France: represented by Jean-Jacques Geoffroy), Zoltan Korsos (Hungary), Natdanai Likhitrakarn (Thailand), Yunxia Luan (China), Huigin Ma (China), Oliver Macek (Austria), Carlos Martinez-Muñoz (Germany), Jean-Paul Mauriès (France: represented by Jean-Jacques Geoffroy), Bojan Mitic (Serbia), Carsten H. G. Müller (Germany), Tarombera Mwabvu (Zimbabwe-South Africa), Pavel Nefediev (Russia), Anh D. Nguyen (Vietnam), Monique NguyenDuy-Jacquemin (France: represented by Jean-Jacques Geoffroy), Somsak Panha (Thailand), Sujian Pei (China), Piyatida Pimvichai (Thailand), Changyuan Qian (China), Helen Read (UK), Jörg Rosenberg (Germany), Veverle DA. San Juan (Philippines), Megan Short (Australia), Warut Siriwut (Thailand), Bruce A. Snyder (USA), Andy Sombke (Germany), Pavel Stoev (Bulgaria), Karel Tajovsky (Czech Republic), Tsutomu Tanabe (Japan), Ivan H. Tuf (Czech Republic), Eivind A. B. Undheim (Australia), Karin Voigtländer (Germany), Thomas Wesener (Germany), Nattarin Wongthamwanich (Thailand).

Were excused:

Hans Reip (Germany), Stylianos Simaiakis (Greece).

In accordance with the rules of the CIM Society, the number of members contributing to the General Assembly is large enough to make it valid.

The assembly is opened by the President Greg Edgecombe according to the proposed agenda.

1 Opening Words and moral report by the President Greg Edgecombe during the CIM General Assembly

The President's moral report is presented by Greg Edgecombe, CIM President 2014-2017, who delivers news and messages from Hans Reip (CIM Treasurer) and Stylianos Simaiakis (CIM General-Secretary), unfortunately absent for family reasons. The report will be published in the CIM Newsletter and posted to the CIM Website, in order to be distributed to every CIM member.

On behalf of the Council of the CIM, I'd like to start this report by thanking all of you for your attendance at our 17th Congress and for your participation at this General Assembly in particular. Over the past few days our focus has been on sharing and learning about the latest discoveries in myriapodology. We now have an opportunity to discuss some strategic and logistical aspects of the life of the CIM.

I'd like to first extend apologies from two key members of our team who couldn't be with us for family reasons, our Secretary, Stelios Simaiakis, and our Treasurer, Hans Reip. We thank them for preparing reports for us that helped organise this General Assembly and for their work since our last congress. In their absence, I am most grateful to be able to rely upon our Associate-Secretary, Jean-Jacques Geoffroy, for stepping into Stelios' shoes so that this meeting can proceed in a familiar manner. I thank our other Councillors and our webmaster, Peter Decker, for helping during the challenging period of transforming the CIM from a fixed base in Paris to a dispersed base around the world.

Foremost thanks today are to our friends in Thailand, for their invitation to come here, and for their great effort of organising and running the Congress. Somsak Panha, Head of the Organising Committee, has expertly led the team, backed up by his Secretariat, Piyoros Tongkerd, and Academic Chair, Chirasak Sutcharit. Our chairpersons for the congress, most of whom are our fellow myriapodologists, have also been vital members of the Organizing Committee. For this we thank Piyatida Pimvichai, Natdanai Likhitrakarn, Nattarin Wonthamwanich, Warut Siriwut and Ruttapon Srisonchai. Other students and staff of the invertebrates lab at Chulalongkorn University, Somsak's wider team, have also played an important role here in Krabi and over the past three years. The CIM appreciates their contribution very much and I hope everyone takes the chance to thank them personally at our Farewell Dinner.

The excellent congress that we have enjoyed over the past days demonstrates that primary business for the CIM is providing a forum for our community to get together in person to talk science – in the lecture halls and in social occasions. In 2014 we made the decision to schedule congresses every two years rather than every three. At the 16th CIM in Olomouc, Zoltan Korsós kindly invited us to Budapest for our next

congress in 2019 and we are delighted that Zoltan will renew this invitation this afternoon. I am also very pleased to be able to report that we have an exciting offer of a venue in the New World for 2021 that we will share in this General Assembly, and discussions are ongoing for potential European venues in 2023. The fact that a non-European Congress drew so many attendees, and from so many countries, is a measure of the continued support for our gatherings.

For the past two conferences and again here, we extend thanks to our colleagues at Pensoft who have offered support for publication of conference proceedings at *ZooKeys*. Our myriapodological contact at Pensoft, Pavel Stoev, has ensured that we have a straightforward path to having our work published in one of the leading journals of systematic zoology.

The CIM Council will meet after this General Assembly. Councillors elected in 2011 are eligible to serve one final term, this pertaining to all but one member of our Council because of the nearly complete turnover six years ago. We have a plan in place to allow a bit more succession planning and will outline that this afternoon.

Finally, we are very pleased to be able to welcome some new Members to the CIM, colleagues who joined us here in Krabi for the first time. We look forward to your ongoing participation at future congresses.

The general assembly formally votes on this report

Against = 0

Abstention = 0

The President's moral report is unanimously adopted.

The report will be sent to members by the General-Secretary. It would be of great interest to have the report on the General Assembly published in the CIM website.

2 Introduction and activity report by the Associate-Secretary Jean-Jacques Geoffroy

The Associate-Secretary Jean-Jacques Geoffroy introduces the General Assembly by summarizing the present situation and important decisions we have to consider or take. This does not need any formal vote. The Secretary comments on the present and future of the CIM.

Dear colleagues,

The preceding period has been mainly devoted to a transition from the former CIM Secretariat and Treasury at Paris to new officers: a new Treasurer and a new Secretary.

As you may know, I served in the CIM as General-Secretary for three decades and Monique NguyenDuy-Jacquemin served as General-Treasurer for a similarly long period. We are now formally retired and it was time to face an obligatory period of transition. Since 2011, we worked together with the CIM President Greg Edgecombe in order to manage this interesting but difficult period. The new General-Secretary Stylianos Simaiakis has been appointed in 2014 and can be appointed again in 2017. Unfortunately, Stylianos Simaiakis was unable to join the Congress and the General Assembly 2017 but he sent us a message.

The organization of the CIM meetings, Council and General Assembly, are prepared by the secretariat in collaboration with the President. The directory of CIM members is managed by the Secretary and the next issue of the CIM Newsletter has to be published by the Secretary via the CIM Webpage and e-mailing.

The most difficult part is the treasury. The Treasurer Hans Reip has been appointed in 2014 and can be appointed again in 2017. Unfortunately, Hans Reip was also unable, for family reasons, to join the Congress and the General Assembly 2017 but he also sent a message. The situation with the CIM bank and bank account is something very difficult and not yet totally solved. It was decided to maintain the CIM Bank account as it is and where it is in the Banque Postale Paris (France) and to find solutions for the Treasurer to manage and access the account on-line.

I personally discussed the different aspects of the question with the bank and it appeared to be rather difficult to rapidly and completely solve some aspects of the situation with a President in England, a Treasurer in Germany, and a Secretary in Greece. In addition, the bank needs a representative of the Society in France to manage part of the financial affairs.

Nevertheless, things are going ahead and becoming better and we will discuss this point within the CIM Council in order to obtain a final result, a way to receive subscriptions and realize expenses.

3 Renewal of the Council 2017 - 2019

This is one of the main points of the meeting.

The previous Council 2014-2017 comprised 10 members (in alphabetical order)

(el: elected, re: reelected, rl: reelligible, nr: non-reelligible, P: President)

	2008	2011	2014	2017	2019	2021
Nesrine Akkari (Austria)			el	rl	rl	nr
Julian Bueno-Villegas (Mexico)		el	re	rl	nr	
Greg Edgecombe (UK) P		el	re	rl	nr	
Megan Short (Australia)	el	re	re	nr		
Stylios Simaiakis (Greece)		el	re	rl	nr	
Bruce A. Snyder (USA)		el	re	rl	nr	
Pavel Stoev (Bulgaria)		el	re	rl	nr	
Ivan H. Tuf (Czech Republic)		el	re	rl	nr	
Karin Voigtländer (Germany)		el	re	rl	nr	
Thomas Wesener (Germany)		el	re	rl	nr	

ARTICLE II - OFFICERS (revised edition 2007 of the CIM Constitution and By-Laws)

Section 1: 5 to 10 Council Members shall be elected by a majority of the votes cast by members in good standing in a ballot at the General Assembly.

Section 2: The President serve for two-three years, or until his successor is elected, and can be re-elected twice; his two-three-years duty period shall begin with the closure of one International Congress of Myriapodology and cease with the closure of the next International Congress. The President may serve an extra period if necessary.

Section 3: The Council Members shall each serve for two-three years. Their duties shall begin with the closure of one International Congress of Myriapodology and cease with the closure of the next International Congress. Council Members can be re-elected for one or two times.

Megan Short cannot be reelected in 2017 and Pavel Stoev is no longer candidate to reelection. We have a list of 10 (ten) candidates to a seat in the CIM Council 2017-2019.

Nesrine Akkari (Austria)
 Julian Bueno-Villegas (Mexico)
 Peter Decker (Germany)
 Greg Edgecombe (UK)
 Piyatida Pimvichai (Thailand)
 Stylianos Simaiakis (Greece)
 Bruce A. Snyder (USA)
 Ivan H. Tuf (Czech Republic)
 Karin Voigtländer (Germany)
 Thomas Wesener (Germany)

The General Assembly votes immediately on this list. The ten candidates are unanimously elected as CIM Councillors 2017-2019.

In accordance with the two year periodicity between two successive ICMs and meetings, the time-table for renewal of the Council becomes as below.

The present Council 2017-2019 comprises 10 members (in alphabetical order)

(el: elected, re: reelected, rl: reelligible, nr: non-reelligible, P: President)

	2011	2014	2017	2019	2021	2023
Nesrine Akkari (Austria)		el	re	rl	nr	
Julian Bueno-Villegas (Mexico)	el	re	re	nr		
Peter Decker (Germany)			el	rl	rl	nr
Greg Edgecombe (UK) P	el	re	re	nr		
Piyatida Pimvichai (Thailand)			el	rl	rl	nr
Stylianos Simaiakis (Greece)	el	re	re	nr		
Bruce A. Snyder (USA)	el	re	re	nr		
Ivan H. Tuf (Czech Republic)	el	re	re	nr		
Karin Voigtländer (Germany)	el	re	re	nr		
Thomas Wesener (Germany)	el	re	re	nr		

4 Financial Report by the Treasurer and amount of the annual subscription

The Treasurer presents the financial report and gives information about the amount of annual subscription. The general assembly votes on this report.

The Treasurer being absent and the transitional period being in progress, the financial report has been prepared by the Associate-Secretary Jean-Jacques Geoffroy, according to available documents maintained at Paris by the former Treasurer Monique Nguyen Duy-Jacquemin. It was also exhibited on the CIM board during the congress.

Bilan financier 01-01-2014 — 31-12-2016 / Financial Balance 01-01-2014 — 31-12-2016	
Solde au 01-01-2014 / Balance at 01-01-2014	99.72 Euros
Recettes / Receipts 2014-2015-2016	
Cotisations des membres / Subscriptions of members 2014-2015-2016	2570.00 Euros
Transfert du compte épargne livret A Transfert from saving account	4440.48 Euros
TOTAL des RECETTES / TOTAL RECEIPTS	7010.48 Euros
Dépenses / Expenses 2014-2015-2016	
Envois postaux et Bulletin 2014 / Postal Costs and Bulletin 2014	975.17 Euros
Matériel / Equipement	1421.70 Euros
Frais de fonctionnement / Running costs	149.60 Euros
TOTAL des DEPENSES / TOTAL EXPENSES	2546.47 Euros
Solde au 31-12-2016 / Balance at 31-01-2016	4563.73 Euros

Bilan financier 01-01-2017 — 30-06-2017 / Financial Balance 01-01-2017 — 30-06-2017	
Solde au 01-01-2017 / Balance at 01-01-2017	4563.73 Euros
Recettes / Receipts	0.00 Euro
Depenses / Expenses = Running costs	16.50 Euros
Solde au 30-06-2017 / Balance at 30-06-2017	4547.23 Euros
Caisse au 30-06-2017 / Cash at 30-06-2017	51.30 Euros

The main expenses related to the postal costs, edition of the former CIM Bulletin and maintenance of equipment are now suppressed. During the recent transitory period, the amount of receipts was very low due to the absence of subscriptions. The financial situation is not bad and the society has an amount of money in bank account in Euros.

The general assembly votes on this report.

Against = 0

Abstention = 0

The financial report is unanimously adopted.

The amount of the CIM subscription for 2015-2017 and beyond was 30 Euros for professional members being in active positions and 10 Euros for students. During the present period of transition 2017-2019, it is decided to freeze the subscriptions until we have a clear situation for the bank account and access on line.

5 Recent active members and new candidates for membership

Presentation by the Secretary and agreement by the General Assembly.

We have received in 2015-2016 three new candidates to CIM Membership:

David Bogyo from Hungary

Mark Ian Cooper from South-Africa

Danilo Harms from Germany

There are ten new candidates for CIM membership in 2017:

Stefan Baba (Romania) [Supported by Greg Edgecombe]

Anne-Sarah Ganske (Austria) [Supported by Jörg Rosenberg]

Derek Hennen (USA) [Supported by Bruce A. Snyder]

Matthes Kenning (Germany) [Supported by Andy Sombke]

Paul Marek (USA) [Supported by Greg Edgecombe and W. A. Shear]

Carlos Martinez-Muñoz (Germany-Cuba) [Supported by Andy Sombke]

Jackson Means (USA) [Supported by Bruce A. Snyder]

Leif Moritz (Germany) [Supported by Thomas Wesener]

Veverle D. A. San Juan (Philippines) [Supported by Cuong Huynh]

Ruttapon Srisonchai (Thailand) [Supported by Somsak Panha and Natdanai Likhitrakarn]

The 10 new candidates are presented and adopted by the general assembly as active CIM members.

6 Future Secretariat, Newsletter, Website and Bibliographic Centre

The President and the Associate-Secretary give information about these points and an open discussion is followed by formal decisions concerning:

- the editor of the electronic newsletter, in replacement of the former CIM Bulletin. The General-Secretary will be the Editor of the CIM-Newsletter, to be sent to members and posted on the CIM-Website, in collaboration with the webmaster. If necessary, the General-Secretary can receive help from the Associate-Secretary during the present period, notably to prepare the next edition of a CIM Newsletter.
- the manager of the website and coordinator of the documentation and bibliographic center: Peter Decker is maintained in the CIM-Webmaster position. The CIM-Newsletter will be posted in the News-Section of the Website. Contacts for website are Peter Decker and Karin Voigtländer.

Members of the CIM Council in particular and members of the CIM in general are strongly invited to send contributions to the newsletter and to the CIM website: news, information, links, notices about late or active colleagues, events, short papers or stories, songs, or legends)

Members of the CIM listed in the directory on a webpage are strongly invited to check their personal data and send any changes to the CIM webmaster Peter Decker (addresses, e-mail, topics, etc.). The enrichment and evolution of the CIM website is yours.

It is also reminded to publish the former issues of the CIM Bulletin as scanned copies available from the CIM website.

It is proposed to the CIM to be involved in a programme maintained at Görlitz (Germany) for management of the directory of members and other parts of the society's functioning. This will be discussed and examined by the CIM Council.

The CIM-Archives

Three categories of archives are preserved in the MNHN at Paris and Brunoy:

- Administrative and historical documents such as formal constitutions, letters to and from myriapodologists, items from congresses or meetings, questionnaires and bulletins;
- Financial documents related to bank accounts and financial reports;

- The stock of former CIM Bulletins.

These documents can be stored and preserved in the MNHN in the near future. They will be sorted and important ones will be preserved for the future and CIM Memory. Their definitive storage will be questioned in the future.

7 Proceedings of the 17th International Congress of Myriapodology, 2017

There is an opportunity for publication of the proceedings of the congress in a special issue of *ZooKeys*.

Pavel Stoev explains how the proceedings could be published by Pensoft in *ZooKeys*, reminding that the previous proceedings of our congresses in Brisbane 2011 and Olomouc 2014 have already been published that way.

There will be an evaluation of the manuscripts by a reviewing committee.

A proposal for a deadline to submit manuscript is given for the 1st of October 2017, with a possible but limited extension to 31 October 2017, in order to have an issue published in early 2018 (February).

About 20-25 papers are expected to be submitted and published.

A free copy of the proceedings are expected to be sent to the participants of the 17ICM Congress.

8 18th International Congress of Myriapodology, 2019

A proposal for the 18th ICM in 2019 is formally discussed.

We received one formal proposal from Hungary.

Professor Zoltan Korsós from Budapest is in attendance at the Krabi meeting and reiterates his group's interest in hosting the 18ICM in Hungary in 2019. He is invited to present the project for Hungary under the auspices of the Hungarian Natural History Museum.

He shows a PowerPoint presentation on what they can offer us as a venue to Budapest in July-August 2019.

The General Assembly comments, votes and decides to accept the proposal.

9 Further International Congresses of Myriapodology

Proposals and comments for 2021, 2023 and beyond.

Ideas for the future had already emerged in 2014 for Taiwan (Prof Hsueh-WenChang), USA (Dr Bruce Snyder), and Mexico (Dr Julián Bueno-Villegas).

A possibility for a congress in Mexico in 2021 is confirmed by Julián Bueno-Villegas, according to his former proposal given in 2014, while a possibility appears to have a next meeting and congress in Belgrade, Serbia (Dragan Z. Antic) or Greifswald, Germany (Carsten Müller) in 2023 and USA (Bruce Snyder) in 2025.

10 Miscellaneous questions

The result and winner to the "best poster contest" will be given during the farewell dinner. A certificate and a prize will be given to the winner by the organizer of the 17ICM professor Somsak Panha.

Honorary members

The present list of CIM honorary members is (by alphabetical order):

Jean-Marie Demange (France), Wolfgang Dohle (Germany), Wolfram Dunger (Germany), Sergei Illitch Golovatch (Russia), Kazimeria Gromysz-Kalkowska (Poland), Richard Desmond Kime (France), Otto Kraus (Germany), John G.E. Lewis (UK), Jean-Paul Mauriès (France), Bjarne Meidell (Norway), Robert Mesibov (Australia), Alessandro Minelli (Italy), Stefan Negrea (Romania), Monique NguyenDuy-Jacquemin (France), Maija Peitsalmi (Finland), Jörg Rosenberg (Germany), Hilke Ruhberg (Germany), Ulf Scheller (Sweden).

Late Gordon Blower (UK), Late Richard L. Hoffman (USA), Late Casimir A. W. Jeekel (The Netherlands).

It is reminded the three minimum conditions needed to be named an honorary member of the CIM : 1- to be alive ; 2- to be completely retired from a teaching, research or official curatorial position ; 3- to have given valuable contribution to the CIM Society and/or myriapodology during the active period.

Eventual proposals will be presented during the farewell dinner by the CIM President.

11 Closure of the General Assembly

The General Assembly ends and the President asks members of the new Council to meet immediately.

Jean-Jacques Geoffroy, CIM Associate-Secretary

This report has been written and published by Jean-Jacques Geoffroy as Associate-Secretary. Further reports on CIM-General Assembly will be written and published by the General-Secretary Stylianos Simaiakis.

CIM Executive Committee, Council and Board 2017-2019

10 members of the **CIM Council** have been elected for 2017-2019 by the General Assembly 2017 at Krabi, Thailand.

The **General-Secretary** and the **Treasurer** have been appointed for 2017-2019 at Krabi, Thailand.

The **Associate-Secretary** has been appointed for 2017-2019 at Krabi, Thailand.

These are the 12 members of the **Executive Committee**

The **President** and **Vice-President** are elected by the Executive Committee

President, Vice-President, Secretary and Treasurer are members of the **Board**

<p>elected President: Greg Edgecombe Department of Earth Sciences The Natural History Museum Cromwell Road SW7 5BD LONDON UK g.edgecombe@nhm.ac.uk</p> <p>appointed General-Secretary and Councillor: Stylianos Simaiakis Natural History Museum of Crete University of Crete KnossoU Ave. PoBox 2208 GR-71409 IRAKLEIO Crete Greece ssimaiakis@yahoo.com</p> <p>appointed Treasurer: Hans Reip Senckenberg Muséum of Natural History Görlitz Leipziger Strasse 7 D-7743 JENA Germany reip@myriapoden-info.de</p>	<p>elected Vice-President: Bruce A. Snyder Department of Biological and Environmental Sciences Georgia College & State University MILLEDGEVILLE, Georgia USA bruceasnyder@gmail.com</p> <p>appointed Associate-Secretary: Jean-Jacques Geoffroy Muséum National d'Histoire Naturelle Département Origines & Evolution Site MNHN de Brunoy 4 avenue du Petit Château F-91800 BRUNOY France jean-jacques.geoffroy@mnhn.fr</p>
<p>elected Councillors</p> <p>Nesrine Akkari Natural History Museum Wien Burgring 7 1010 WIEN Austria nes.akkari@gmail.com</p> <p>Peter Decker Senckenberg Museum of Natural History Görlitz Am Museum 1 D-2826 GÖRLITZ Germany peter.decker@senckenberg.de</p> <p>Ivan Hadrián Tuf Palacky University, Faculty of Science Department of Ecology & Environmental Science Slechtitelu 27, 77900 OLOMOUC Czech Republic ivan.tuf@upol.cz</p> <p>Thomas Wesener Zoological Research Museum Alexander Koenig Leinbitz Institute for Animal Biodiversity Adenauerallee 160, D-53113 BONN Germany t.wesener@leibniz-zfmk.de</p>	<p>Julian Bueno-Villegas Centro de Investigaciones Biológicas Universidad Autónoma del Estado de Hidalgo Ciudad Universitaria (Cd. del Conomiciente), Carretera Pachuca - Tulancingo, km. 4.5 s/n, Col. Carbonaras 42184 MINERAL DE LA REFORMA Mexico milpatas@gmail.com milpatas@yahoo.com.mx</p> <p>Piyatida Pimvichai Department of Biology, Faculty of Science, Mahasarakham University Mahasarakham 44150 Thailand piyatida.p@msu.ac.th</p> <p>Karin Voigtländer Senckenberg Museum of Natural History Görlitz Am Museum 1 D-2826 GÖRLITZ Germany Karin.Voigtlaender@senckenberg.de</p>

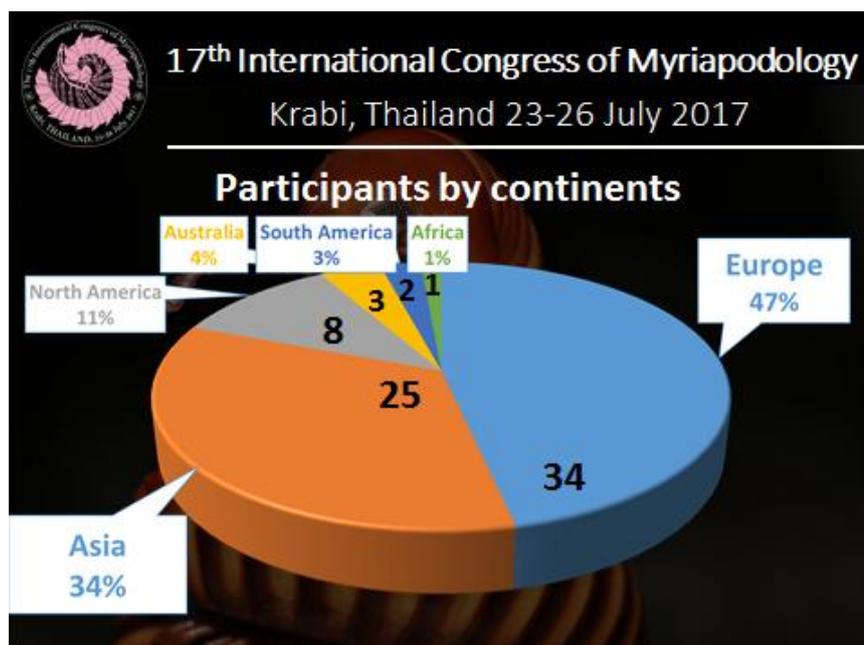
A new executive committee will be elected in 2019 during the 18th ICM at Budapest (Hungary) by the General Assembly for 2019-2021, according to CIM rules and statutes.

CIM members volunteering to serve in one of these roles are invited to send a proposal to the CIM Secretary, President or Board.

**Report on the 17th International Congress of Myriapodology
[17ICM] Krabi, Thailand, July 2017**

The 17th ICM Conference took place in Krabi, Thailand from the 23rd to the 26th July 2017. The meeting was organized jointly by CIM and PERDO-BDC and Chulalongkorn University in the field of Myriapodology, and was aided by the professional help of Drs. Gregory Edgecombe, Henrik Enghoff and Sergei Golovatch and colleagues, as well as functioning as a broad scientific committee in charge of improving the papers presented at the conference.

The 73 participants came from a variety of nations, including European and non-European and Asian countries. 34 (47%) were from Europe, 25 (34%) from Asia, 8 (11%) from North America, 8 (4%) from Australia, 3 (3%) from South America and 1(1%) from Africa. 53 (73%) are researchers and 20 (27%) are students.





Report on the Student Poster Award, 17ICM Krabi, Thailand, July 2017

Anne-Sarah Ganske, Naturhistorisches Museum Wien, Austria

During the farewell party of the 17th International Congress of Myriapodology, held in



Krabi (Thailand), I had the honour to receive the award for the best student poster. My work was entitled “Investigation of the mandibular structures and evaluation of their phylogenetic significance in the genus *Lithobius* (Lithobiomorpha: Lithobiidae)” and

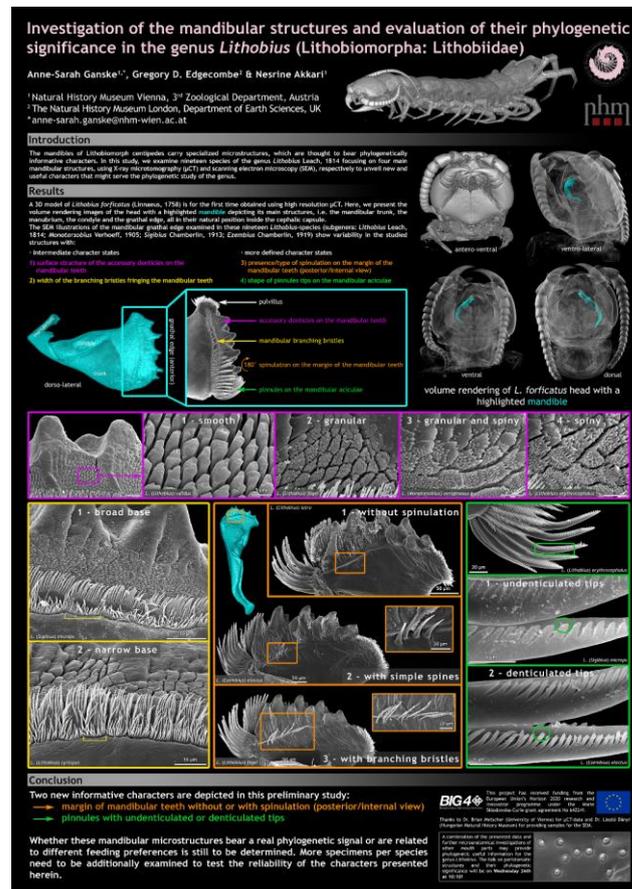
Prof. Somsak Panha presents Anne-Sarah Ganske with the student poster award of the 17th ICM. (photo: N. Akkari)

co-authored by Gregory D. Edgecombe and Nesrine Akkari. I am grateful to the jury for the poster assessment, to the congress organizers for the prize and the well-organized congress, as well as to all participants for inspiring discussions!

Together with my supervisors Nesrine Akkari (NHM-Wien) and Gregory D. Edgecombe (NHM London), we aim to shed light on species interrelationships and the evolutionary history of the highly diverse centipede genus *Lithobius* (Lithobiomorpha: Lithobiidae). For that, using traditional and innovative imaging methods, we search for new phylogenetically informative characters studying different anatomical structures, e.g. the peristomatic structures, the coxal projection of first maxilla, the mandibulo-tentorial complex, and the mandibular gnathal edge. The latter was already shown to bear phylogenetic useful information in the lithobiomorph family Henicopidae. Consequently, as depicted on the poster, we examined the mandibular gnathal edge and its microstructures such as the teeth, the branching bristles, the pulvillus and the aciculae of 19 species of *Lithobius* covering four subgenera (*Lithobius*, *Sigibius*, *Monotarsobius*, *Ezembius*) with a scanning electron microscope (SEM). Preliminary results provide information on the structures’ variability in congeneric species, having intermediate forms as well as more clearly delineated character states. Currently two characters, the

spinulation on the margin of the mandibular teeth and the pinnules with undenticulated or denticulated tips, appear to possess phylogenetic significance, and their reliability will be tested investigating additional specimens for each species as well as further species.

Additionally, the first high resolution micro-computed tomography (μ CT)-scans of the head of *Lithobius forficatus* (Linnaeus, 1758) give a general overview of the mandible, depicting its natural position in the cephalic capsule and its main parts. The combination of both presented datasets, obtained with different imaging techniques, together with further studies on the above mentioned structures, may provide a morphological basis for a phylogenetic analysis in the genus *Lithobius*. The SEM and μ CT data presented herein will be published as an open access resource to make them available and generate discussions on the structures and characters.



This project has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 642241.

First Press Text by Thomas Wesener

SEITE 1



Dragons out of the dark: New species of Dragon Millipedes discovered in Chinese caves

PRESSETEXT

STIFTUNG
ZOOLOGISCHES
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TIERE

DRAGONS OUT OF THE
DARK: NEW SPECIES OF
DRAGON MILLIPEDES
DISCOVERED IN
CHINESE CAVES

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(Bonn, 06.04.2016) Six new species of Chinese Dragon Millipedes, including species that live exclusively in caves (Fig. 1), were recently described through international cooperation of research institutes from China, Russia and Germany. These cave species have unusually long legs and antennae, in one case resembling a stick insect (but with many more legs, Fig. 2), others appear ghostly white and are translucent (Fig. 3). The study was published in the open access journal ZooKeys.

In many tropical countries, there are numerous millipede species still awaiting discovery and description. Millipedes from China are especially little-known. Six particularly unusual species of so-called 'Dragon Millipedes', four of which found exclusively in caves, were recently discovered in southern China by an international team of researchers. The team included Miss Liu Weixin from the South China Agricultural University of Guangzhou, China [LINK1], currently conducting research for her PhD focusing on Chinese cave millipedes at the Centre of Taxonomy at the Research Museum Koenig (ZFMK), Leibniz Institute for Animal Biodiversity in Bonn, Germany [LINK2], her advisor Prof. Tian Mingyi [LINK3] and a renowned millipede expert, Dr. Sergei Golovatch, from the Russian Academy of Sciences, Moscow.

Dragon Millipedes, a genus of millipedes living in SE Asia, characterized by being armoured with unusual spine-like projections as well as toxic hydrogen cyanide, have become particularly famous since the 2007 discovery and description of the "Shocking Pink Dragon Millipede" in Thailand [LINK4]. This discovery highlighted a large number of unknown millipede species [LINK4] in the Mekong region [LINK5] and worldwide [LINK6]. While the newly described cave Dragon Millipedes from China lack the 'shocking' warning colour of their surface-living relatives, they are no less spectacular.

One of the species was named the 'Stick Insect Dragon Millipede' because it features extremely long legs and antennae, and resembles a stick insect, but with many more legs (Fig. 2). Two of the other species from caves fully lost their colour, which is a common characteristic of cave-living animals. Because of this, they appear ghostly white (Fig. 3). All the newly described species come from the two southern Chinese regions of Guangdong and Guangxi Zhuang, which host a large number of spectacular caves (Fig. 1). These caves are only now being explored in some detail.

SEITE 2



PRESSETEXT

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In the course of her PhD, Miss Liu Weixin has already explored more than 200 Chinese caves (Fig. 1) and discovered and described over 20 new millipede species. The Dragon Millipedes are among her most spectacular discoveries as they exhibit extreme cave adaptations including the loss of pigmentation and extremely elongated legs and antennae. During her guest research year at the Research Museum Koenig in Bonn, Germany, Liu is currently busy describing more than two dozen further millipede species, which she collected from Chinese caves – literally bringing to light an unknown world.

Link1 <https://www.zfink.de/en/zfink/weixin-liu>

Link2 <https://www.zfink.de/en>

Link3 <http://xy.scau.edu.cn/nxy/cx/Ch/xrjsview.asp?ID=305&SortID=167>

Link4 <http://www.bbc.com/earth/story/20150320-meet-two-new-dragon-millipede-species-first-described-in-laos>

Link5

<http://news.nationalgeographic.com/news/2008/12/photogalleries/greater-mekong-new-species-photos/photo2.html>

Link6 <http://www.biotech.or.th/en/index.php/news-2008/755-thailand-s-shocking-pink-dragon-millipede-made-iise-top-10-new-species-listing>

FIGURES:



Figure 1: Bangjiao Dong cave located near Yingde City, where the Ghost Dragon Millipede, *Desmoxytes similis* (Fig. 3) was discovered.

SEITE 3



PRESSETEXT

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Figure 2: The extremely long legs of the Stick Insect Dragon Millipede, *Desmoxytes phasmoides* give the animal an unusual appearance, similar to a stick insect. This species, discovered in the Fengliu Dong Cave near Baise City, shows extreme versions of typical evolutionary adaptations of cave millipedes, namely the strongly elongated legs and antennae.



Figure 3: The Ghost Dragon Millipede, *Desmoxytes similis*, shows another common adaptation to underground life in caves: the complete loss of pigmentation gives the animal a ghost-like appearance.

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Zoological Research Museum Alexander Koenig – Leibniz-Institute for Animal Biodiversity (ZFMK) is an independent research institute. The focus of research is on performing an inventory of the zoological species diversity on earth, on the analysis of changes in biodiversity as a result of environmental factors, and on evolutionary processes at the morphological and molecular levels. ZFMK furthermore explores the context of structure and function of ecological systems, advanced scientific methods, and the study of the history of science. The permanent exhibition "Our blue planet – the living network" offers a genuine nature experience based on naturalistic ecosystem displays.

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SEITE 1



Two New Giants Discovered in Tiny Madagascar Rainforest

PRESS RELEASE

ZOOLOGICAL RESEARCH
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FOUNDATION UNDER
PUBLIC LAW

TWO NEW GIANTS
DISCOVERED IN TINY
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(Bonn, 23.05.2017) Two species of giant pill-millipedes, newly described from shrinking rainforest fragments in northern Madagascar show the importance of the sustainable use of isolated small forest patches in the tropics. The two new species were described with the help of micro-CT imaging and genetic barcoding. This is the first time these cutting-edge technologies helped in the description of millipedes from Madagascar.

Madagascar, a tropical island off the coast of east Africa, is home to many plants and animals found nowhere else in the world. The invertebrates found on Madagascar are as spectacular as the island's charismatic lemurs and Baobab trees. The millipede fauna is particularly impressive. Madagascar is home to the giant pill-millipedes. Pill-millipedes have the ability to roll into a sphere and these "giants" (by millipede standards) can reach the size of a baseball when rolled-up. The millipedes on Madagascar have been around since the Cretaceous period (> 66 million years ago), the Age of the Dinosaurs, when India and Madagascar were part of the same continent. Certain characters known from Madagascar's millipedes, such as the ability to produce sounds in both males and females, are only shared with related species from South India. This shows that species found in Madagascar and India evolved together when Madagascar and India were united.

Christina Sagorny, a student at the University of Bonn in Germany, and Thomas Wesener of the Zoological Research Museum Alexander Koenig - Leibniz Institute for Animal Biodiversity, have described two new species of giant pill-millipedes from the remote forest of Bemanevika in northern Madagascar. The new species were published in the journal *Zootaxa*. The millipedes were collected during general inventory programs by the Field Museum in Chicago. Bemanevika contains five volcanic crater lakes and isolated patches of montane forests surrounded by pseudosteppe grass lands. One of these lakes is the only remaining refuge of the planet's rarest duck, the Madagascar pochard, rediscovered in 2006.

The newly described species are just known from a few individuals. To document the specimens, micro-CT imaging (the kind doctor's use on humans but on a smaller scale) was used to explore the millipede's internal head anatomy. This is only the second time this cutting-edge technique has been used in millipede taxonomy.

The scientists carried out a genetic study to identify that the males and females of the new species, *Zoosphaerium bemanevika* (Latin for 'Bemanevika's Giant Ball Animal'), were indeed the same species. The females and males look different: the females are larger than a golf ball or small plum, while the males are much smaller, and about the size of a marble or a small cherry. The second species, *Zoosphaerium minutus* (Latin for 'Small Giant Ball Animal'), is—as the name



Ministerium für Innovation,
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SEITE 2



suggests—a miniscule species of giant pill-millipedes. Both the males and females of *Z. minutus* are only slightly larger than a pea when rolled-up. The two new Bemanevika species are not closely related to one another; the genetic distances between the two species suggest that they already separated from a common ancestor millions of years ago.

PRESS RELEASE

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Both species are restricted to tiny forest fragments. Their closest known relatives are not found in the area, but instead one hundred kilometres away in the Marojejy Mountain and rainforests on the east coast of Madagascar. This discovery highlights the importance of preserving habitats of Madagascar's rare species, even if they are small patches, because a species can be lost forever. While the forest where the new species are located is officially protected, the people around the area depend on the surrounding grassland as a pasture for their Zebu cows. Each year the grassland is burned and the fires spread to the forest edge, incrementally decreasing the size of the remaining forest fragments each year.

The loss of habitat affects all rare invertebrates on Madagascar — many of which live in tiny forest fragments. The conservation status of the species is detailed on the IUCN red list that provides conservation status and biological information on the species that are facing the highest risks of global extinction, among them numerous giant pill-millipedes from Madagascar. To address Madagascar's extinction crisis, a recently launched program called the IPSIO network, which is organized by the California Academy of Sciences and funded by CEPF, seeks to bring attention to the importance and role of these unique invertebrates in the region.

Figures:

1: The giant female of Bemanevika's giant pill-millipede, *Zoosphaerium bemanevika*. (©Thorsten Klug, ZFMK 2017.



SEITE 3



PRESS RELEASE

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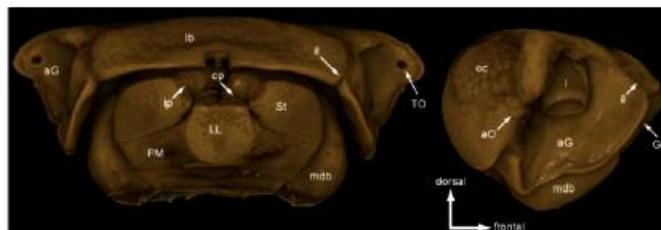
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2: CT scan of the head of *Zoosphaerium bemanevika*. (©) Christina Sagomy, ZFMK 2017



3: The habitat of the two new species. Small fragments of rainforest in the Bemanevika area. The damaged trees at the forest edge are clearly visible. (©) Achille P. Raselimanana.



4: The reason for the damaged trees. The surroundings of the forest fragments are used as pasture of Zebu cattle and are annually burnt. Each fire destroys a few meters of forest, letting the already small fragments to shrink further. The grassland has no humus layer and is a hostile environment to most millipedes. (©) Achille P. Raselimanana.



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SEITE 4



Source: Sagorny, C. & Wesener, T. (2017). Two new giant pill-millipede species of the genus *Zoosphaerium* endemic to the Bemanevika area in northern Madagascar (Diplopoda, Sphaerotheriida, Arthrosphaeridae). *Zootaxa*, 4263 (2): 273–294.

DOI: <http://dx.doi.org/10.11646/zootaxa.4263.2.4>

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IUCN Red List Assessment by Elena Rudolf, Thomas Wesener & Axel Hochkirch
Hochkirch



IUCN Red List Assessment of the Giant Millipedes from Madagascar

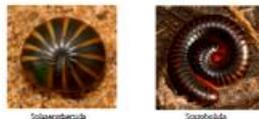
Elena Rudolf¹, Thomas Wesener² & Axel Hochkirch¹

¹Department of Biogeography, Trier University, Trier, Germany; ²Arthropoda Department, Zoological Research Museum Alexander König, Bonn, Germany



Introduction

The Malagasy millipede fauna exhibits a rich biodiversity, including many endemics (Wesener 2009). However, its extinction risk is largely undetermined. Based upon the restricted distribution of the majority of species, their high dependency on forests and the ongoing deforestation in large parts of Madagascar (Harper et al. 2007), the species group is suspected to be highly threatened by extinction. To establish a basis for effective conservation of the Malagasy Giant Millipedes, IUCN Red List assessments were conducted. We analyzed the conservation status of the endemic species of the orders Spirobolida (69 species) and Spirobolida (77 species)



Material & Methods

- Compilation of data on distribution, ecology, habitat and population trends for each species
- Creation of distribution maps based upon known locality data and extent of suitable habitat
- Red List assessments using the IUCN Red List Criteria (IUCN 2012)
- Overlay of the distribution maps for a spatial analysis of the distribution of species richness and hotspots of threatened species
- Analysis of the IUCN assessments to infer the mean extinction risk of the species groups, the most threatened habitat types and the major threats



Results & Discussion

Exinction risk

A third of the examined species is listed in one of the threatened categories. 19% are Critically Endangered (Figure 1). Thirteen of these species are confined to single and continuously declining forest fragments and are thus likely to face extinction in the near future, if no immediate conservation action is instigated. The actual number of threatened species could even be higher, as 19% of the species are Data Deficient. These species have rarely been found and are thus likely to be rare or have a restricted distribution.



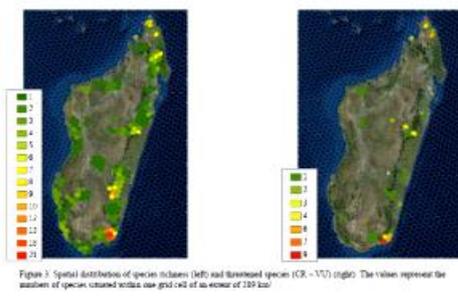
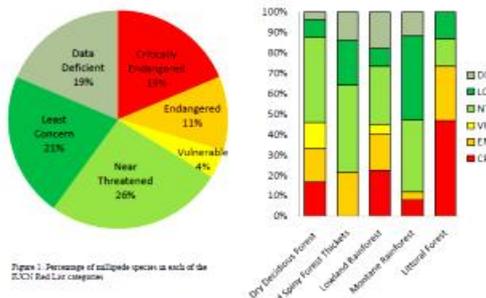
Major threats

The main threats are slash-and-burn agriculture (affecting 42% of the species) and small-scale logging (41%), both mainly conducted by the local communities for personal use. The third large threat consists in small-scale and international large-scale mining activities (14%).

Spatial distribution

The largest hotspot of species richness as well as richness of threatened species is in southeastern Madagascar, in the region of the rainforests of Andohahelo, Lavasoa and the littoral forest fragments (Figure 3). However, this is also the best studied area and extensive studies in other parts of Madagascar could thus reveal different hotspot patterns.

The highest percentage of threatened species are endemic to the littoral forests of southeastern Madagascar (Figure 2). This highly threatened habitat is nowadays reduced to only a few fragments, each confined to an extent of less than 15 km² (Ingram and Dawson 2006).



Conclusion

Our study illustrated the high extinction risk of invertebrates, which are often more restricted in range size than vertebrates and are almost entirely neglected in terms of conservation efforts. It will be important to take them into account when determining future conservation measures and protect key biodiversity areas. In the case of several millipede species, immediate conservation action is needed to prevent them from extinction.



Acknowledgements

Thanks to the IUCN Species Survival Commission for providing funding within the frame of the Charismatic Mega-Invertebrate Project, to Caroline Pollock for her help in dealing with the IUCN criteria, Jemima Window for support regarding the creation of the maps and to Nicola Mumford and Max Fancourt for the review of the assessments.

References

Harper, G. J., Soudagne, M. E., Tucker, C. J., Jolly, D., & Moinet, F. (2007). Fifty years of deforestation and forest fragmentation in Madagascar. *Environmental Conservation*, 34 (4), 325-333.
 Ingram, J. C., & Dawson, T. P. (2006). Forest cover, condition, and ecology in forests impacted forest, south-western Madagascar. *Conservation and Society*, 4 (2), 194-206.
 IUCN (2012). *IUCN Red List Categories and Criteria*. Version 3.1. Second edition. Gland, Switzerland and Cambridge, UK: IUCN. p. = 73pp.
 Wesener, T. (2009). Unexplored richness: discovery of 31 new species of Giant Millipede endemics to Madagascar, with a special emphasis on macrocephalines (Diplopoda: Spirobolida). *Zootaxa* 2097: 1-124.



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五蜈蚣標止咳丸【沈天河(五蜈蚣標)止咳丸】
功效：生津、止咳、祛痰。
用法：每日可服四次，每次服二至四丸，
含於口內，男女老幼皆可服用。
沈天河(五蜈蚣標)有限公司

TAKABB ANTI-COUGH PILL
Indications : Against cough, refreshing and dissolve phlegm.
Dosage : Allow 2-4 pills to dissolve slowly in your mouth when required. 4 times daily. Suitable for adults and children.

袋装 12包
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Exclusive for King Power

MFG:19/09/16 EXP:18/09/19

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These amazing scolopendrid anti-cough pills are sold in shops in the International Airport in Bangkok. Pretty good taste, I think. The content is mainly plants. What about the (23 leg-paired) scolopendrids?

Regards,
Jean-Jacques

A myriapod song

By Henrik Enghoff (Copenhagen, Denmark), who gave this song during the 17ICM farewell dinner, Krabi (Thailand), July 2017.

The millipede walk

(Music: Tom Lehrer: The Vatican rag)

First you get down on your knees,
try to find some millipedes.
Count their legs. Oh, What a lot!
And gonopod, gonopod, gonopod.
Enjoy their defensive juices.
They are good for many uses.
Are you bothered by your boss,
rub yourself with *Callipus*¹,
and (s)he will leave you alone.

Look in backyards, caves and islands.
Search the low- and mid- and highlands.
Many species still are nameless –
go describe them, just be shameless.
If your work is utter rubbish,
criticisms will be published,
and citation flows.
Watch how your H-index grows.

Now get back down on your knees,
try to find more millipedes.
Check their head, their feet, the lot,
and gonopod, gonopod, gonopod.
Try if you can find their parasites.
There are fungi, worms, and there are mites.
Diplopodomycetes
is perhaps the nicest
though it's a millipedes' plague:

Sex can be so very tricky, yeah.
You may catch a spore of *Rickia*.
It will make you look all furry,
and you can no longer hurry.
Millipede, do not despair.
Life is tough – death may be fair:
with the right hype,
you can be a holotype (or a cybertype).

Now stretch out your aching knees,
write about those millipedes.
Draw their heads, their legs, their butt
and gonopod, gonopod, gonopod.
When they hatch they are just hexapod;
as they grow they get of legs-a-lot.
Anamorphosis:
growth in little doses.
Add segments now and then
Then add some more again.
Moult with agility.
Regain mobility.
join in the millipede walk!

¹ alternatives: "kiss a *Lusitanipus*" (if you are from Portugal), "kiss a *Cyphocallipus*" (if you are from Spain), "If your boss is such a scum, kiss *Acanthopetalum*" (if you are from the Balkans), etc.

Notes for the uninitiated:

A live recording of the original Vatican Rag with Tom Lehrer (Copenhagen, 1967 – I was there!) can be found on Youtube: https://www.youtube.com/watch?v=pvhYqeGp_Do

Gonopod: The copulatory organ of male millipedes. Very useful for taxonomy and therefore the focus of much attention by millipede taxonomists.

Callipus, *Lusitanipus*, *Cyphocallipus*, *Acanthopetalum*: genera of the millipede order Callipodida, known for their very strong, repulsive smell.

H-index: a rather senseless way of 'measuring' the quality of a scientist's work – widely used by managers.

Diplopodomycetes: a genus of the fungus order Laboulbeniales, growing only on a few species of millipedes.

Rickia: another genus of the fungus order Laboulbeniales, growing on quite a few species of millipedes.

Holotype: The specimen which ties a scientific name to a particular species of, e.g., millipede. Very important for taxonomists.

Anamorphosis: The growth process through which millipedes, starting with only six, acquire their characteristic high numbers of legs.

Another myriapod song

Thanks to Henrik, another interesting item for our collection of myriapod poetry.

Ode to Millicent

Or Franciscus Redivivus

By Martin Thornton (published in The Countryman, Summer 1972)

I was digging up potatoes in the garden of the Rectory,
In cold October sunshine, working steadily along,
Neither burdened by the labour nor the time that it would take me,
All enveloped in potatoes; millipedes; another row.
I was digging up potatoes in the garden of the Rectory;
Forget-me-not, convolvulus, more millipedes, and dock;
I was digging up potatoes, when I stopped.

And lit my pipe.

So I meandered, daydreamed, convolvulus and smoke rings,
Bird songs, thistledown, millipedes and daisies,
Men and ladies, boys and girls, convolvulus and babies,
I was digging up potatoes: when I stopped.

For God said stop.

And millipede stopped.

And God said: Benedicite! I wish to introduce Miss Millicent Pede.

And I said: Good afternoon Miss Pede.

And she said: Shall I sing you a song?

And I said: Yes please.

So she sang:

This is a song that has never been sung
Since the dawn of creation, when things first began,
God conceived me, designed me, and gave me legs: one—
And ninety-nine others in case that went wrong;
The Trinity made me, with infinite care,
With other such creatures his friendship to share;
For He's fond of me, loving me all of my life,
And He also made rabbits and maggots and mice
And bears and black-beetles and lizards and lice.
It's marvelous, too, that He also produces
Donkeys and ducks and remarkable geese,
And Einstein and Schweizer and Leibniz and Paine
And Martha and Mary and Emily Jane.
Yet the infinite glory I'm sure you'll concede
Is that God is so fond of Miss Millicent Pede.

Then I dug some more potatoes in the garden of the Rectory,
In cold October sunshine, working steadily along.
I felt elevated, edified, incomparably comforted,
Excited, thrilled, and sanctified by Sister Milly's song.

I have dug up lots of learning in the lecture room and library,
In dull December darkness reading rapidly along,
I have read about the attributes ascribed to the Divinity
By Paul and Mark and Matthew, Thomas and Tertullian,
I must hasten to refresh my mind, by Bellarmine or Bede:
But the God whom I can worship is the One who loves Miss Pede.

It was sent to me many years ago after a TV appearance about millipedes, but it can be found at <http://akensidepress.com/2014/07/ode-to-millicent-a-poem-by-martin-thornton/>

Best regards, Henrik