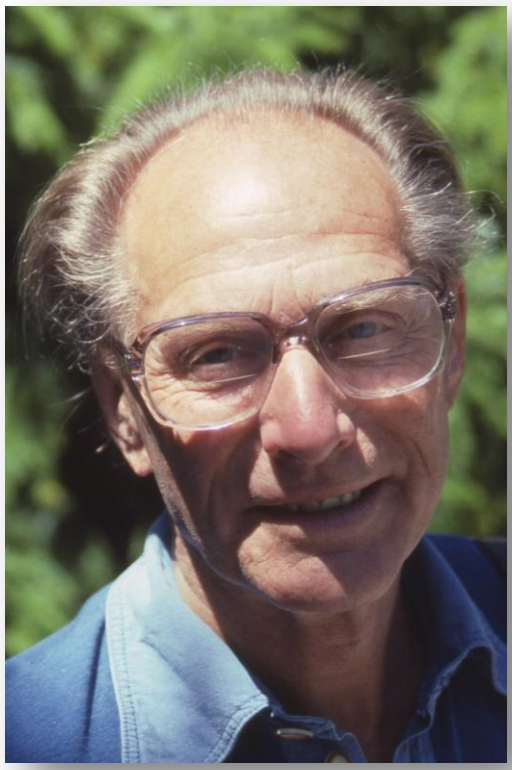
Centre International de Myriapodologie [CIM]
International Society for Myriapodology

Newsletter n°6 (November 2021)



Edited by Stylianos Simaiakis

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Cover Photo (left): Dr. Alfred Ernst (1930 – 2021). Photo by Barbara and Jörg Rosenberg.

Cover Photo (right): Dr. Ulf Scheller (1925 – 2021). Photo by Göran Andersson.

President's Report 2021

By Peter Decker, President of the CIM

This year, most of our lives were still influenced by COVID-19 pandemic or its other consequences. We look forward to the 19th ICM in Colombia, but again, given the uncertainty about the future evolution of the pandemic, the CIM Council had to make tough decisions, as the 19th ICM Organizing Committee proposed to postpone the event until 2023. We can make sure that this will be the last postponement of the Congress and that it will take place 2023, hopefully with all of us in place.

We have the new official email address CIM@myriapodology.org. Please use this mail address for questions, proposals, suggestions for new members or for other requests to the society.

The CIM Council and Executive Committee met at 18 March 2021 and 15 June 2021 in videoconferences to talk and discuss several topics, e. g. postponement of 19ICM, a virtual congress 2022, proposal of Myriatrix, myriapodological databases, Google Mailing List Myriapodology, Facebook group, member and fee management. As concerns Myriatrix, CIM rejected the proposal of Carlos Martínez-Muñoz for Myriatrix as a virtual research environment for CIM, but subsequently mediated to improve the exchange and quality of myriapodological databases between database holders.

In 2021 we lost two colleagues, Ulf Scheller from Sweden, the last grand master for Pauropoda and Symphyla, and Alfred Ernst from Germany, a legend of electron scanning microscopy in myriapods. Our thoughts are with them and their families.

I thank the Council and Executive Committee for the good work, productive conversations and discussions and especially Stelios for preparing the largest CIM Newsletter so far.

Sincere regards,
Peter Decker, President of the CIM

Message from the Secretariat

By Stylianos Simaiakis, General-Secretary of the CIM

Dear colleagues,

I hope this message finds everyone healthy and safe. Since this is the largest Newsletter so far I would like to be brief and avoid going into too many details about the secretariat's work during the last year.

As you already know, the 19th International Congress of Myriapodology has to be postponed again, until 2023. Within the Newsletter you may read details concerning the next 19th Congress of Myriapodology in Colombia.

I would like to thank all colleagues for their contribution, in particular Jörg Rosenberg, Andy Sombke and Göran Andersson for their words concerning our beloved colleagues Alfred Ernst from Germany and Ulf Scheller from Sweden who passed away recently. I would like also to thank Jean-Jacques Geoffroy for his information on Jean-Paul Mauriès state of heath. On behalf of all CIM members I would like to send wishes for a speedy recovery.

Before closing this short message I would like to take this opportunity to thank Peter Decker for all his efforts to improve the exchange of data and information between CIM members and his ongoing contacts between several database owners.

Look forward to see you all in two years in Colombia!

Cordially,

Stylianos Simaiakis, General-Secretary of the CIM

Message from the Treasurer (Financial Report 2020)

By Hans Reip, Treasurer of the CIM

BALANCE - CIM-Accounts

status of		31.12.2019	31.12.2020	31.10.2021
Postbank		4.772 €	4.613 €	4.583 €
DKB		47 €	552 €	527 €
PayPal		849 €	60 €	130 €
Cash				
	SUM	**5.668 €**	**5.225 €**	**5.240 €**

Notes: We still face problems in getting access to the old Postbank account in Paris.

Statistics of Payments for membership fees

Payments for year	
2019	38
2020	7
2021	3

Main incomings / expenditures in 2020

incomings / expenditures of 31.12.2020	
Membership fees	370 €
Bank account fee	15 €

Plan for 2022 / 2023

Planned Payments as of 01.01.2022	
Website domain fees (2022)	40 €
Presents for next congress-staff (2023)	150 €
Poster award: the fee for next congress (2023)	400 €
SUM	**590 €**

Membership fees for 2021 / 2022 …

I would like to ask everybody to pay the current membership fee.

Current fees	
professionals	30 €
students (including Ph.D. students)	10 €

Because we do not run a list of the current status of each member, it is up to you to decide if you are still a student.

We offer two ways for payment:

- via modern and easiest PayPal:
  - receiver address: finance@myriapodology.org
- via the new escrow account at a German bank:
  - Deutsche Kreditbank AG, Berlin
  - receiver: CIM
  - IBAN: DE85 1203 0000 1031 8717 99
  - BIC/SWIFT: BYLADEM1001

Please state the purpose of payment:

- your full name,
- your country with which you are registered in the CIM,
- if applicable, your student status and
- the years for your payment.

Please always choose the payment option, with that you will take over any fees of the money transfer! You should pay for several years together!

If there are arising any questions, please send a note to finance@myriapodology.org.

News on the 19th International Congress of Myriapodology in Colombia

By Daniela Martínez-Torres & Eduardo Flórez Daza

Dear Colleagues,

From the organizing committee of the 19th International Congress of Myriapodology, we greet you wishing that you and your loved ones are well.

Due to the current situation with the Covid-19 pandemics, where the emergence of new viral variants has affected multiple countries and forcing restrictions for international travelling to be put in place, together with the Centre International de Myriapodologie-International Society for Myriapodology we have decided to postpone the 19th ICM again.

With approval and support of the CIM, we considered that this is the best option to guaranty the safety and health of all our participants and organizers. The new date will be in August of 2023, hoping that by this time the pandemics will be under control.

Nevertheless, looking forward to having a Myriapodology meeting soon to keep the community connected and wanting to take advantage of the benefits that virtuality has given us, we will be supporting the members of the CIM Council to hold a virtual event towards the middle of 2022. The CIM Council will be sending more information about this soon.

Once again, we are always open to your questions and we hope to see you all soon in Colombia,

Best regards.

Organizing committee

19th International Congress of Myriapodology

Montenegro, Quindío, Colombia 2023

CIM answer to “proposal of Myriatrix, a virtual research environment for the International Society for Myriapodology”

By Peter Decker

Carlos Martínez-Muñoz published in the CIM Newsletter No[4] 2019 a “proposal of Myriatrix, a virtual research environment for the International Society for Myriapodology”.

The CIM Council and CIM Executive Committee discussed this proposal via mail and one videoconference and sent the answer on 16 April 2021 to Carlos Martínez-Muñoz. He responded to the answer on 18 April 2021 and after consultation via mail and a videoconference the CIM answered on 22 July 2021 again. Here we would like to present a modified version of the two answers on that proposal with the consent of the applicant Carlos Martínez-Muñoz.

Dear Carlos Martínez-Muñoz,

We would like to thank you for your offer to provide Myriatrix as the virtual research environment for the International Society for Myriapodology. Due to the COVID pandemic, all pending possible tasks in the CIM have been slowed down. Your proposal was discussed with the CIM Council and CIM Executive Committee.

CIM of course supports and welcomes any activity that promotes the knowledge of Myriapoda & Onychophora to the general public in the form of publications, websites, databases, lectures, courses or other activities. However, CIM does not own any of the popular myriapodological databases, nor do we have the rights from the database owners to transfer them into a common system. We own CIM LIT, but this is only an open-source tool from CIM to feed MyriaLit and replace the former annual questionnaire, which was no longer feasible in terms of time.

CIM does not wish to be restricted to only one database in particular and prefers to leave the choice to the members/users to select those they find most useful to contribute, extract data on

taxonomy, classification, distribution, ecology and references on myriapods from the already existing ones.

However, we can help to facilitate the cooperation between the databases and we point our community to the various online offerings, as we do on the CIM website and also in the CIM Newsletter when we are asked. So, we can offer you to link Myriatrix on CIM website with a description of Myriatrix.

We propose a workshop or at least a session during our next conference, to present and discuss major myriapod databases with the audience. Owners and contributors to such databases could also meet separately to discuss possibilities to have fruitful collaborations and how to merge, exchange or synchronize data. This remains, in our opinion, the only way to achieve progress.

In any case, we wish you success with Myriatrix.

On behalf of the International Society for Myriapodology,

Peter Decker
President of the CIM

MyrNet, an initiative to exchange data between myriapodological databases

By Peter Decker, Lucio Bonato, Carlos A. Martínez-Muñoz, Petra Sierwald, Jörg Spelda, Hans S. Reip & Karin Voigtländer

Online taxonomic and faunistic databases play a crucial role to aggregate and disseminate information about classification, taxonomic names, literature references, distribution, ecology, collections and other information on a taxon. Databases therefore represent important tools, references and sources for both beginner and taxon experts. Widely accepted consensus lists and classifications of all the world's Myriapoda and Onychophora taxa are also essential for other broader databases, e.g., Global Biodiversity Information Facility, Catalogue of Life, and many more that use or harvest this data. Especially for a small community like myriapodologists, with few specialists worldwide but a speciose group of animals, it is necessary to archive and share the published results of our research to address and animate the new generation of scientists. To build up such databases as well as to add, correct and update the data itself is very time consuming and many people from our community are needed to curate and edit the data or report errors and additions to the editors.

It is also important how the content of the myriapodological databases could be exchanged and merged to provide the most complete and best quality information in all databases for the user and to avoid duplicate effort of entering data.

The MyrNet initiative is being facilitated by the CIM and has been promoted by Peter Decker. The aim is to coordinate and integrate efforts to keep the different databases updated, accurate and functional, to find ideas and ways for data exchange and data merging between all relevant databases and data holders as well as to improve database systems and to provide them with additional necessary functions.

Currently, the following databases and their respective owners, editors, curators or administrative points of contact are involved: CIM LIT (myriapodology.org/myrlit/, Reip, Decker, Spelda, Voigtländer, CIM), MilliBase (www.millibase.org, Sierwald, Spelda), Myriatrix (myriatrix.myspecies.info, Martínez-Muñoz), and ChiloBase 2.0 (chilobase.biologia.unipd.it, Bonato). We are looking forward to more supporters and members of this initiative.

First consensus of MyrNet:

1. The data, no matter in which of the databases is entered, will further be used, shared and thereby will experience a substantial added value for other myriapodological databases and the community.

2. A fair and transparent indication of the data sources and contributors on the respective database websites will be respected.

3. The members of the initiative will stay in regular exchange and inform each other about completed tasks or projects (e. g. updating/checking a certain taxon group), projects in progress and technical renewals.

4. The progress and achievements of the databases and the initiative will be presented publicly (e.g. CIM Newsletter).

5. The members of the initiative intend to coordinate and share the tasks of digitizing and editing data, browsing sources, etc., to avoid time-consuming duplication of effort.

Agenda 2021–2022 of MyrNet:

- At an initial meeting in early 2022, members of the initiative will discuss ways to coordinate communications, meeting intervals, and the formation of working groups (e.g., literature, nomenclature), and will refine the aims of MyrNet and the agenda.
- Taxon names of Diplopoda, Symphyla and Pauropoda described in the year 2020 that are missing in MilliBase will be imported from Myriatrix.
- Myriatrix is allowed to import in whole or in part the classification and taxonomic names of Diplopoda from MilliBase.
- Myriatrix literature references (1100+) are free to download in interoperable formats by all users and can be imported by other databases. Circa 230 entries are for literature published in 2020.
- The exchange of literature reference citations and the corresponding identifiers should bring both CIM LIT, MilliBase and Myriatrix to nearly the same level of references on Myriapoda and allow via a common identifier or alignment of internal identifiers the exchange of further information linked to the literature sources. This is already in progress, and finished in 2022. Linked information that will be exchanged later in 2022–2023 could be, for example, web links to full text of a publication, taxon names, collection or distributional data.

The “Myriapod Morphology and Evolution” Facebook group

By Carlos A. Martínez-Muñoz & Andy Sombke

Based on many discussions with colleagues from the myriapodological community, the Facebook group “Myriapod Morphology and Evolution” (Fig. 1) was created on November 20th 2016 by the Myriapod group of the University of Greifswald, Germany. We launched the group in preparation of the 17th International Congress of Myriapodology in Krabi, Thailand to connect with colleagues and enthusiasts. It was important to us to set the group as public and visible, which allows scientists and myriapod enthusiasts who do not possess a Facebook account to read the posts and stay informed on publications, news, and discussions.

The web address is www.facebook.com/groups/205802113162102/. The location is set to “global”.

This scientific platform is aimed for professional myriapodologists and onychophorologists, as well as for myriapod enthusiasts that are not affiliated in a scientific environment. To contribute with posts and discussions, both Facebook profiles and pages can join the group after administrators or moderators approve member requests. Contributions are immediately visible and curated by the admin team. Posts can (and should) be viewed in chronological order (most recent first) by manually changing the settings from “new activity” to “recent posts” (Fig. 2), or by using this link https://www.facebook.com/groups/205802113162102?sorting_setting=CHRONOLOGICAL.

New scientific publications are frequently announced and made searchable via a #publication tag (Fig. 3), which can be applied by both users and the admin team. Most importantly, the group developed into a forum to ask for rare literature, discuss methods, occasionally solicit taxonomic identifications, as well as to share resources of general interest, pictures, and even memes.

There are two linked and recommended partner groups: “Isopods and Myriapods of Britain and Ireland” (https://www.facebook.com/groups/407075766387553/) and “Miriápodos ibéricos y europeos (European Myriapoda)” (https://www.facebook.com/groups/544886552548277/).

When the group was created, we aimed at posting at least one contribution per week, but were surprised how fast the community grew and vivid discussions began. We would like to take the opportunity to thank the community for their kindness, helpfulness, and respectful interaction (there has not been a single post that had to be deleted on the basis of spam, insults, or misuse in

the last 5 years). Our special thanks go to William Shear, who is one of our most active members and a wellspring of information and suggestions.

A quick look at the group statistics as of November 1st, 2021 reveals that there are 766 total members from all over the world, with circa 600 active members in October 2021 (with great variation per day, e.g., 17-396 active members), and a requested membership approval of ca. 50%. From October 4th to 31st 2021 there were 33 posts, 138 comments, and 799 reactions. We hope that the community will grow further and that the group will keep up with the good spirit, respectfulness, and the love for myriapods and onychophorans.

Figure 1. Mobile screenshot of the Facebook group “Myriapod Morphology and Evolution”, as of November 4th, 2021.

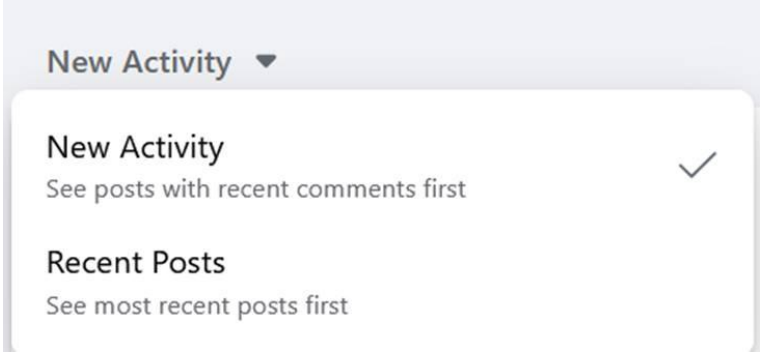

Figure 2. Dropdown menu for changing the settings from “new activity” to “recent posts”.

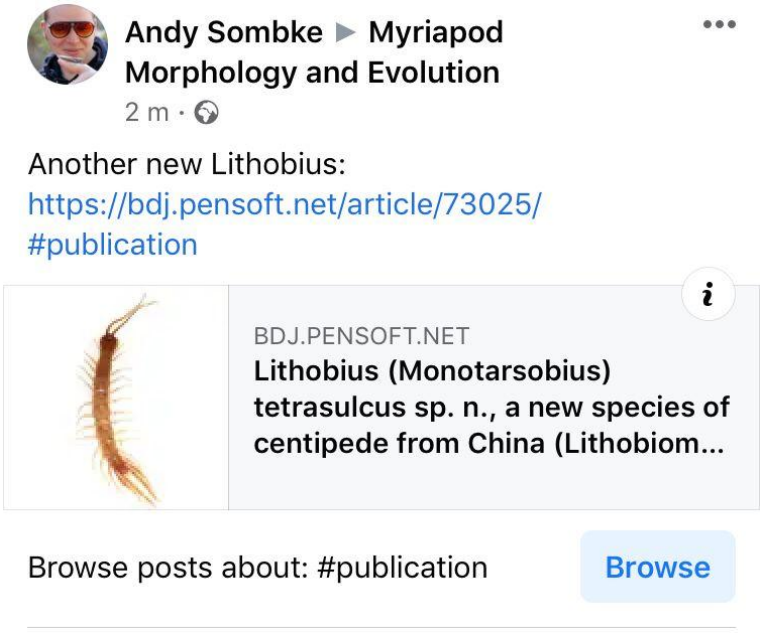

Figure 3. The #publication tag, written on a post, prompts Facebook to show a search suggestion and a “Browse” button.

Acknowledgement: We wish to thank Dr. Jackson Means (VMNH, Virginia, USA) for kindly proofreading the manuscript.

Honorary Members

By Stylianos Simaiakis

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

Wolfgang DOHLE (Germany), Henrik ENGHOFF (Denmark), Jean-Jacques GEOFFROY (France), Sergei Illitch GOLOVATCH (Russia), Richard Desmond KIME (France), John G.E. LEWIS (UK), Jean-Paul MAURIÈS (France), Bjarne MEIDELL (Norway), Robert MESIBOV (Australia), Alessandro MINELLI (Italy), Monique NGUYENDUY-JACQUEMIN (France), Jörg ROSENBERG (Germany), Hilke RUHBERG (Germany).

Our late colleagues,
Gordon BLOWER (UK), Jean-Marie DEMANGE (France), Wolfram DUNGER (Germany), Kazimeria GROMYSZ-KALKOWSKA (Poland), Richard L. HOFFMAN (USA), Casimir A. W. JEEKEL (The Netherlands), Otto KRAUS (Germany), Stefan NEGREA (Romania), Maija PEITSALMI (Finland), Ulf SCHELLER (Sweden).

In memoriam Alfred Ernst (1930 – 2021)

By Jörg Rosenberg & Andy Sombke

Dr. Alfred Ernst, 90, passed away April 19 2021. He was born June 29 1930 and studied biology at the Friedrich-Schiller-University of Jena, Germany. After a short teaching period he started his dissertation in the group of Prof. Manfred Gersch in the section animal physiology (Bereich Tierphysiologie der Sektion Biologie) – at this time a leading lab for comparative endocrinology and neurosecretion in arthropods. He investigated neurosecretory cells in the ventral nerve cord and cerebral glands in the geophilomorph centipede *Geophilus flavus* using light and electron microscopy. Thus, he was a pioneer in exploring neurosecretory pathways in centipedes using transmission electron microscopy at that time.

After his dissertation in 1969, he continued in the same institute as a scientific assistant of Prof. Horst Füller and focussed on the ultrastructure of mainly sensory organs in centipedes and

hexapods. Over a period of eight years, he published four very detailed contributions on different antennal sensilla of *Geophilus flavus*. In parallel with Monique Nguyen Duy-Jacquemin, who worked with millipedes, these two authors laid the foundation for subsequent works on the sensory biology of myriapods.

After German reunification in 1990, he finally had the possibility to get in personal contact with the international community and attended meetings of the German Zoological Society as well as the International Congresses of Myriapodology in Białowieża (Poland) 1999, Mtuzini (South Africa) 2002, and Görlitz (Germany) 2008. Even in retirement he used the scanning electron microscope at the Electron microscopic centre of the University Hospital in Jena once a week and continuously compiled data on cuticular sensilla on antennae, maxillae, and forcipules of several myriapod and hexapod species that were published until 2016.

My (J.R.) first meeting with Alfred Ernst took place at the annual meeting of the German Zoological Society in Jena 1994 and we continued to meet at these congresses in Oldenburg 1996, Innsbruck 1999, Bonn 2000, and Osnabrück 2001, where we planned to investigate cuticular sensilla on the forcipules of centipedes. This cooperation was very fruitful and led to several abstracts, posters, and publications. Another fruitful cooperation after his retirement was established with the second author (A.S.). During my Ph.D. in Jena, I met Alfred Ernst and we started a cooperation on cuticular sensilla in myriapods and hexapods, which also led to several publications. Sadly, his dream on a comparative study on centipede antennal sensilla was not fulfilled, but Alfred Ernst contributed and assisted in the two comprehensive book chapters in the Treatise on Zoology on Myriapoda, and his large collection of electron microscopic images will surely be well used in future contributions. It fills us with pride that we dedicated our recent contribution on the ultrastructure of the scutigeromorph scape organ to the live and work of Alfred Ernst.

We not just lost a member of our myriapodological family but also a restless scientist, a good friend and a wonderful colleague who always enchanted us with is humour and modesty.

List of scientific publications by Dr. Alfred Ernst

1. Ernst, A. (1969): Licht- und elektronenmikroskopische Untersuchungen zur Neurosekretion bei *Geophilus longicornis* Leach unter besonderer Berücksichtigung der Neurohämalorgane. Dissertation Friedrich-Schiller-Universität Jena.

2. Ernst, A. (1971): Licht- und elektronenmikroskopische Untersuchungen zur Neurosekretion bei *Geophilus longicornis* Leach unter besonderer Berücksichtigung der Neurohämalorgane. Zeitschrift für wissenschaftliche Zoologie (Leipzig), 182, 62-130.

3. Füller, H., Ernst, A. (1973). Die Ultrastruktur der femoralen Chordotonalorgane von *Carausius morosus* Br. Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 91, 574-601.

4. Ernst, A. (1976): Die Ultrastruktur der Sinneshaare auf den Antennen von *Geophilus longicornis* Leach (Myriapoda, Chilopoda). I. Die Sensilla trichoidea. Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 96, 586-604.

5. Füller, H., Ernst, A. (1977): Die Ultrastruktur der cercalen Cuticularsensillen von *Periplaneta americana* (L.). Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 98, 544-571.

6. Ernst, A. (1979): Die Ultrastruktur der Sinneshaare auf den Antennen von *Geophilus longicornis* Leach (Myriapoda, Chilopoda). II. Die Sensilla basiconica. Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 102, 510-532.

7. Ernst, A. (1981): Die Ultrastruktur der Sinneshaare auf den Antennen von *Geophilus longicornis* Leach (Myriapoda, Chilopoda). III. Die Sensilla brachyconica. Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 106, 375-399.

8. Füller, H., Ernst, A., Klare, G. (1981): Iontophoretische und elektronenmikroskopische Untersuchungen der Cercalnerven von *Periplaneta americana* (L.). Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 105(3), 371-405.

9. Ernst, A. (1983): Die Ultrastruktur der Sinneshaare auf den Antennen von *Geophilus longicornis* Leach (Myriapoda, Chilopoda). IV. Die Sensilla microtrichoidea. Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 109, 521-546.

10. Ernst, A., Füller, H. (1987): Zur Feinstruktur der Lamina ganglionaris von *Periplaneta americana* (L.). Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 115, 393-416.

11. Füller, H., Klare, G., Ernst, A. (1989): Licht und elektronenmikroskopische Untersuchungen des cercalen Chordotonalorgans von *Periplaneta americana* (L.). Zoologische Jahrbücher. Abteilung für Anatomie und Ontogenie der Tiere, 118(2), 165.189.

12. Ernst, A. (1994): Verteilung und Ultrastruktur der Sensilla trichoidea auf den Maxillen des Chilopoden *Geophilus longicornis* Leach. Verhandlungen der Deutschen Zoologischen Gesellschaft Jena 87[1], p. 239.

13. Ernst, A. (1995): Die Ultrastruktur der Sensilla coeloconica auf den Maxillipeden des Chilopoden *Geophilus longicornis* Leach. Verhandlungen der Deutschen Zoologischen Gesellschaft in Kaiserslautern 88[1], p. 160.

14. Ernst, A. (1996): Biciliarität von Sinneszellen in verschiedenen Cuticularsensillen des Chilopoden *Geophilus longicornis* Leach. Verhandlungen der Deutschen Zoologischen Gesellschaft in Oldenburg 89[1], p. 272.

15. Ernst, A. (1997): Sensilla microtrichoidea - mutmassliche "Stellungsrezeptoren" an der Basis der Antennenglieder des Chilopoden *Geophilus longicornis* Leach. Verhandlungen der Deutschen Zoologischen Gesellschaft in Mainz 90,1, p. 274.

16. Ernst, A. (1999): Structure and function of different cuticular sensilla in the centipede *Geophilus longicornis* Leach. Fragmenta faunistica 42 suppl., p. 13.

17. Ernst, A. (1999): Fine structure and distribution of different cuticular sensilla in *Geophilus longicornis* Leach (Chilopoda, Geophilomorpha: Geophilidae). Verhandlungen der Deutschen Zoologischen Gesellschaft in Innsbruck; Zoology 102 [Suppl. II (Abstracts 92.1)], p. 39.

18. Ernst, A. (2000): Fine structure and distribution of basiconic sensilla in the centipede *Necrophloeophagus longicornis* Leach. Verhandlungen der Deutschen Zoologischen Gesellschaft in Bonn; Zoology 103 [Suppl. III (Abstracts 93.1)], p. 56.

19. Ernst, A. (2000). Struktur und Verbreitung verschiedener Cuticularsensillen bei *Geophilus longicornis* Leach (Chilopoda, Geophilomorpha: Geophilidae). In: Wytwer, J. & Golovatch, S. I. (Eds.), Progress in Studies on Myriapoda and Onychophora, 113-129.

20. Ernst, A., Rosenberg, J. (2001): Sensilla coeloconica on the maxillipedes of centipedes. Verhandlungen der Deutschen Zoologischen Gesellschaft in Osnabrück; Zoology 104 [Supplement IV (Abstracts 94.1)], p. 40.

21. Rosenberg, J. and Ernst, A. (2001): Sensilla coeloconica on the poison fang (maxillipede) of *Lithobius forficatus* (Chilopoda). Distribution, SEM and TEM investigations. Verhandlungen der Deutschen Zoologischen Gesellschaft in Osnabrück; Zoology 104 [Supplement IV (Abstracts 94.1)], p. 42.

22. Ernst, A., Rosenberg, J., Mesibov, R., & Hilken, G. (2002). Sensilla coeloconica on the maxillipedes of the centipede *Craterostigmus tasmanianus* Pocock, 1902 (Chilopoda, Craterostigmomorpha). Abhandlungen und Berichte des Naturkundemuseums Görlitz, 72, 207-214.

23. Ernst, A., Rosenberg, J. (2002): Structure and distribution of sensilla coeloconica on the maxillipedes of centipedes. Abstracts of the 12th International Congress of Myriapodology, 29th July-2nd August 2002, Mtuzini, South Africa, p. 24.

24. Rosenberg, J. and Ernst, A. (2002): Sensilla coeloconica on the maxillipedes of larval and adult *Lithobius* species (Chilopoda, Lithobiomorpha). Abstracts of the 12th International Congress of Myriapodology, 29th July-2nd August 2002, Mtuzini, South Africa, p. 32.

25. Ernst, A., Rosenberg, J. (2003). Structure and distribution of sensilla coeloconica on the maxillipedes of Chilopoda. In: Hamer, M. (Ed.), Myriapodology in the New Millennium (Proceedings of the 12th International Congress of Myriapodology Mtuzini, South Africa 2002), African Invertebrates, 44(1), 155-168.

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In memoriam Ulf Scheller (1925 – 2021)

By Göran Andersson

Ulf Scheller – an outstanding world specialist of Pauropoda and Symphyla – died June 25 2021 at an age of 95 years. After many years of contribution to myriapodology he became a Honorary member of CIM in 2002.

Ulf studied zoology and botany at the University of Lund. After graduating with a master´s degree he became a teacher, first in Karlskrona and from 1956 at the private boarding-school Lundsberg in Värmland. Here he stayed until he retired in 1990. Besides this full time work as a teacher he succeeded to do a lot of scientific work which resulted in more than a hundred published papers dealing with Pauropods and Symphyls. He also got a doctors degree in 1970 based on his work *The Pauropoda of Ceylon*.

On holidays and when he could take leave of absence from the school, he travelled a lot and visited several European countries, Africa and America to collect ”his animals”.

He also visited many museums to study their collections. Especially he cooperated with the Natural History Museum in Genève which he visited several times.

After retirement he moved to a house at the countryside in Western Sweden not far from the town Lidköping. Then he had more time for scientific work but also a house and a garden to take care of.

From the beginning he studied both Symphyls and Pauropods, but soon he found that there was more than enough to do with the Pauropods and concentrated his work on this group. For many years he was the only world specialist of Pauropoda and got material from all over the world to study.This resulted in a lot of publications and descriptions of several hundered new species.

A great deal of the material he studied was sent back to a museum in the country where the animals were collected. A lot of material is also kept at the museum in Genève. All material he had in his own collection at home is now housed at the Gothenburg Natural History Museum. This material includes a lot of types, both holotypes and paratypes.

It is a remarkable life work done by a private researcher in a small room in his own house, without the facilities of a museum or a scientific institution for help. No laboratory assistant, no secretary, no help with copying, illustration or other technical service. Having no laboratory resources it was not surprising that he never took the step into the molecular biology for the study of his animals. Nor did he have resources to work with SEM pictures. He had instead developed a very effective method to study the specimens and make exact measurements and very precise drawings of the systematic characters needed for describing species. The animals were not mounted but placed in alcohol on a glass slide under a moveable cover glass so it could be turned around and studied from all sides. This time-consuming work resulted in publications with very good descriptions and redescriptions of species.

The myriapod community has lost a valuable member. Very few of the about 175 registered CIM members work with Pauropoda or Symphyla. It will be difficult to fill the empty space after Ulf Scheller.

News - Publications - Short Notes

Atlas of European millipedes, the third and last volume has been published

By Henrik Enghoff

With the publication of the third volume of the atlas, a large and ambitious project has been completed. It has been a long process. The decision to prepare the atlas was taken at the Fourth International Congress of Myriapodology in Gargnano, Italy, as long ago as in 1978. Desmond Kime, then living in Belgium, took upon himself the enormous task of compiling published and unpublished information about the distribution of European millipedes. Over the next many years, Desmond meticulously extracted records from the literature, having to cope with historical changes of taxonomy, of boundaries between countries and of names of sites. At the same time, he compiled unpublished records provided by a large number of colleagues from all over Europe. The European Invertebrate Survey supported the project from the onset, including the preparation of the numerous maps and the publication of a preliminary volume covering 50 species of millipedes (Kime 1990).

I became involved in the atlas project during the first decade of this millennium, and in 2011 the first volume (Kime & Enghoff 2011) was printed as a book in the series "Fauna Europaea Evertebrata", published by Pensoft. This volume covered 492 species of the small and smallish orders, leaving the two larger orders, Julida and Chordeumatida. It took another six years to complete vol. 2 on 593 species of Julida (Kime & Enghoff 2017), and still four more years to finish vol. 3 on 534 species of Chordeumatida. It might have taken much longer to complete vol. 3, but due to the partial close-down of Denmark during the covid-19 pandemia, there was not much else I could do than work on the atlas. Nothing is so bad that it isn't good for something. Volumes 2 and 3 were published as monographs by European Journal of Taxonomy. In the spirit of this journal, pdfs of both are freely available from the journal's website, whereas only a small number of printed copies have been made.

With the publication of the three volumes spanning a decade, everything clearly isn't up to date. For vol. 1, the literature up to ca. 2008 was considered, for vol. 2, up to the end of 2014, and for vol. 3, up to the end of 2020. Vol. 2 includes an appendix listing some papers published after 2014, and vol. 3 includes a table (table 5) with updates to vols. 1 and 2. All in all, 1679 species of

millipedes were known from Europe in the sense of the atlas, i.e., from the Azores in the West to the Ural Mts in the East, by the end of 2020. This number differs from the sum of the numbers for each volume (492 + 593 + 534 = 1619), mainly due to the considerable numbers of new species listed in table 5 of Kime & Enghoff (2021) and in spite of the new synonyms listed in the same table.

While the European millipede fauna can now be said to be fairly well documented, the last word certainly hasn't been said. Several new species, new synonyms and new records have already been published in 2021, and more are in the pipeline. I will try to keep an account of such changes to the European millipede fauna from 2021 onwards (new species, new synonyms, new records at the European level, i.e., all changes that affect to total number of European species).

The atlas of European millipedes will stand as a tribute to Desmond Kime's Herculean effort, but also to the friendly and helpful atmosphere that pervades the European myriapodological community.

Previous works

Kime, R.D. 1990. A provisional atlas of European myriapods. Vol. 1. Fauna Europaea Evertebrata. European Invertebrate Survey, Luxembourg, 109 pp.

Kime, R.D. & Enghoff, H. 2011. Atlas of European millipedes (Class Diplopoda), volume 1, orders Polyxenida, Glomerida, Platydesmida, Siphonocryptidae, Polyzoniida, Callipodida, Polydesmida. – Fauna Europaea Evertebrata 3, 282 pp. Pensoft, Sofia-Moscow.

Kime, R.D. & Enghoff, H. 2017. Atlas of European millipedes 2: Order Julida (Class Diplopoda). –European Journal of Taxonomy 346: 1-299. https://doi.org/10.5852/ejt.2017.346

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On the beautiful genus *Trachysphaera* Heller, 1858 (Diplopoda: Glomeridae)

By Nesrine Akkari & Dragan Antić

Living specimen of *Trachyphaera similicostata* (Radu & Ceuca, 1951)
Photo credit Dragan Antić

Species of the genus *Trachysphaera* are as beautiful as difficult to study by most myriapodologists. These tiny creatures (less than 5 mm) are usually draped in a white tegument and embellished with transverse ribs and fringes of ornaments bordering the posterior margin of their tergites. The genus itself belongs to a unique group of glomerids with deep lateral pits on both sides of the thoracic shield, whose function remains unknown. The ca 30 known species of the genus, occur in many European regions, Crimea, Caucasus, Turkey, Israel, and NW Iran, and are often found in caves and forest habitats. Known to most experts of Myriapoda for their peculiar morphology, these animals have however remained very poorly understood.

In a recent attempt to clarify the taxonomy of a few species of this genus, a team of researchers from Serbia and Austria studied a recent collection of *Trachysphaera* from the Institute of Zoology, University of Belgrade and historical samples from the Naturhistorisches Museum Wien, respectively. All studied material – including old types that were selected, dissected and photographed for the occasion – was closely examined, illustrated and revised. The authors enumerate the major impediments that could have hampered a proper understanding of the

genus, among which is perhaps the fact that most early species descriptions relied solely on external morphology. The peculiar tergal ornamentation, for example, was mistakenly thought to be unique for each species, as well as other external characters that vary between populations and individuals. While telopods are not strikingly different either, they potentially present a few stable characters, that in combination with a few consistent somatic ones, would help tell species apart, argue the authors in their work. Hoping for a future integrative revision with a molecular characterization of taxa, the authors revise in their paper the descriptions of the studied species, rectify a few species misidentifications and distributions, propose three new synonymies, designate lectotypes for two species to stabilize their taxonomy and record six species for Serbia. This is another example, where the authors combine recent and historical collections to trace the history of a complicated genus and help a better understanding of its taxonomy.

Trachyphaera corcyrea (Verhoeff, 1900), specimens from NHMW collection
Photo credit Nesrine Akkari

Publication: Antić D, Šević M, Macek O, Akkari N. 2021. Review of *Trachysphaera* Heller, 1858 (Diplopoda: Glomerida: Glomeridae) in Serbia, with taxonomic notes on the genus. Zootaxa, 5047 (3): 273–299.

Two thousand “leagues“ underground - A new world record from the Caucasus

By Dragan Antić

Arbaika Massif is a karstic area in the Gagra-Bzyb karst region, located in the West Caucasus. There is probably no speleologist in the world who does not know about this massif, considering that some of the most interesting caves in the world are located there. Four caves from this massif are known as the world's deepest caves, of which Veryovkina (-2212 m) and Krubera (= Voronya) (-2197 m) stand out for being deeper than 2000 meters. As one can imagine, these caves harbour a unique fauna composed of the deepest subterranean communities in the world.

Until recently, Krubera Cave was considered as the deepest cave in the world and its fauna as the deepest underground community. Both records taken over by Veryovkina Cave when reaching -2212 m depth. The springtail *Plutomurus ortobalaganensis* Jordana & Baquero, 2012 and the millipede *Heterocaucaseuma deprofundum* Antić & Reboleira, 2018 were hitherto considered as the deepest troglobionts, both species described from Krubera, at a depth of up to -1980 meters. At the same time, the dipteran *Trichocera maculipennis* Meigen, 1818, considered as the deepest found terrestrial but not troglobiont arthropod widely distributed over the Holarctic, was found in Krubera Cave at a depth of -2140 m. This species was also the only non-aquatic arthropod found below 2000 m.

Recent researches in the Veryovkina Cave have yielded several new findings of terrestrial arthropods at depths below 2000 m, among which the springtail *P. ortobalaganensis* and the troglobitic pseudoscorpion of the genus *Neobisium* Chamberlin, 1930 both found at of -2015 m, and two troglophilic mites of the genera *Bakerdania* Sasa, 1961 and *Rhizoglyphus* Claparédè, 1869 found at -2130 m.

Among the outstading creatures discovered in Veryovkina and Krubera caves is the species *Leucogeorgia profunda* Antić & Reip, 2020. Occurring at great depths, as the name *profunda* hints, this unique millipede presents modified mouthparts and a slightly different body shape compared to its congeners, allowing this terrestrial creature an amphibious lifestyle as I already mentioned in the previous CIM Newsletter (2020). In addition to Veryovkina and Krubera caves, where it is registered at depths of -1360 and -1650 meters, respectively, this millipede is also known from the Sarma Cave, from a depth of -1270 and -1370 meters, earning the title of "the deepest julid

species ever to be encountered, as well as the second deepest-occurring millipede globally". Recently, I received new samples of this species from the Veryovkina Cave, collected in August 2019. Two males were collected at a depth of -2190 m, and a female at the lowest "terrestrial point" of the cave, near the siphon lake "Nemo's last stand", at a depth of -2204 meters. With this new discovery, *L. profuna* has become not only the deepest myriapod but the deepest terrestrial animal ever found!

Specimens of *Leucogeorgia profunda* Antić & Reip, 2020, from Veryovkina.
A. *In situ* female collected at -1360 m. From Antić and Reip (2020). Photo by Sergei Ivanov.
B. Specimens collected by Demidov at -2190 m and -2204 m.

The main force behind this and other amazing discoveries from these great depths was the late Russian speleologist Pavel Demidov (1971–2020). Pavel and his Perovo-speleo team are "responsible" for bringing Veryovkina to the first place in terms of depth. When they first started exploring the cave, its known depth was "only" -440 meters, but with their passion, knowledge, experience and sacrifice, they reached the final -2212 meters. In August 2020, Pavel tragically lost his life at the age of 49 in one of the caves of the Arabika Massif.

Literature

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Some summary data and metrics on Myriapoda & Onychophora for the year 2020

By Carlos A. Martínez-Muñoz

It has been considered convenient to systematically undertake some basic recording activities for the sake of providing statistics summarizing the yearly output of the community of myriapodologists and onychophorologists. Below I attempt to provide some of the statistics which I deemed desirable to have at the community level, on a yearly basis, this time for the year 2020. Some research questions to which this note seeks to provide answers are: How many new taxa were named? How many new species were named? How many authors were active describing and naming new taxa? How many literature entries would need recording on any given year? How many "core" works containing new names were published?

Totals of new taxonomic names:

204 Myriapoda & Onychophora, of which:

1 family, 1 subfamily, 22 genera, 2 subgenera, **176 species**, 2 replacement names (r.n.)

7 Onychophora, of which: 1 genus, 6 species

197 Myriapoda, of which: 1 family, 1 subfamily, 21 genera, 2 subgenera, 170 species, 2 r.n.

Myriapoda:

2 Euthycarcinoidea (1 genus, 1 species)

13 Chilopoda (2 subgenera, 11 species)

2 Symphyla (2 species)

6 Pauropoda (1 genus, 5 species)

174 Diplopoda (1 family, 1 subfamily, 19 genera, 151 species, 2 r.n.)

Diplopoda:

10 Penicillata (10 species)

164 Chilognatha (1 family, 1 subfamily, 19 genera, 141 species, 2 r.n.), of which:

12 Pentazonia (1 genus, 11 species)

152 Helminthomorpha (1 family, 1 subfamily, 18 genera, 130 species, 2 r.n.), of which:

1 Callipodida (1 species)

49 Chordeumatida (1 subfamily, 9 genera, 39 species)

33 Julida (1 genus, 32 species)

7 Helminthomorpha incertae sedis (1 family, 3 genera, 3 species)

1 Platydesmida (1 species)

28 Polydesmida (3 genera, 24 species, 1 replacement name)

22 Spirobolida (2 genera, 20 species)

11 Spirostreptida (10 species, 1 replacement name)

Number of authors publishing new names:

A total of 102 individual authors of new taxonomic names were counted. Combined with the number of 204 taxonomic names, that gives the exact output of 2 new names per author (2n:1a) for the year 2020. This rough community-level metric, with data from several years, could serve to estimate how many new names should be expected per year, if the number of active authors of a taxonomic community is known. However, the publishing landscape is more complicated than that, as many names are published in collaboration and 519 individual author instances were counted. That gives an average of 2.54 author instances per name (2.54ai:1n) for the year 2020, a rough metric for estimating how collaborative is the practice of describing and naming new taxa within a given community. When given as its converse, 0.39 names per author instance (0.39n:1ai), the metric provides a quantitative estimate of a process as subjective as deciding how much contribution meriting name authorship is expected from a given author.

Number of literature entries for 2020:

By December 31st, 2020, 106 works had been advertised and discussed on the Myriapoda and Evolution Facebook group (https://www.facebook.com/groups/205802113162102), at an average rate of one work every 3.5 days. All those works were compiled into a chronological list and posted back to the group as a PDF file. Steve Gregory and I compiled the list, but what it truly reflects is what the group members achieved in keeping ourselves informed. All listed bibliographic references were also collaboratively registered in Myriatrix's biblio module (https://myriatrix.myspecies.info/biblio), from where they can be downloaded in interoperable formats.

Commenting on the Facebook group list, Dr. Thomas Wesener estimated that if group members were to post all Myriapoda publications we were aware of, the list would be probably doubled. The recording work continued, proving Dr. Wesener right, as now (November 7th, 2021) there are 229 entries for year 2020 in Myriatrix, comprising books, book chapters, articles, theses, and other works. Probably many more entries will be made over time, but the current list is estimated to provide a good coverage of both "core" and "satellite" works on Myriapoda and Onychophora. More importantly, this experience allows to estimate the pace for keeping updated such a database for a given year, as one entry should be created every 1.6 days.

On the other hand, all new taxonomic names were found in 63 publications. Recording this number of "core" publications per year would allow having an estimate of what would it take to keep up with basic recording. The number of "extended core" publications, the composite of core publications plus publications containing new combinations or changes to the classification, has not been calculated at this time. Recording this number per year would provide a better estimate of what it takes to maintain an updated classification. Dividing the total number of new names by the number of core publications gives an approximate value of 3.24 new names per core publication. That value provides a rough estimate of how many new names could be omitted if one core publication is missed, but it should be noted that in 2020 as many as 40 new names were proposed in a single publication.

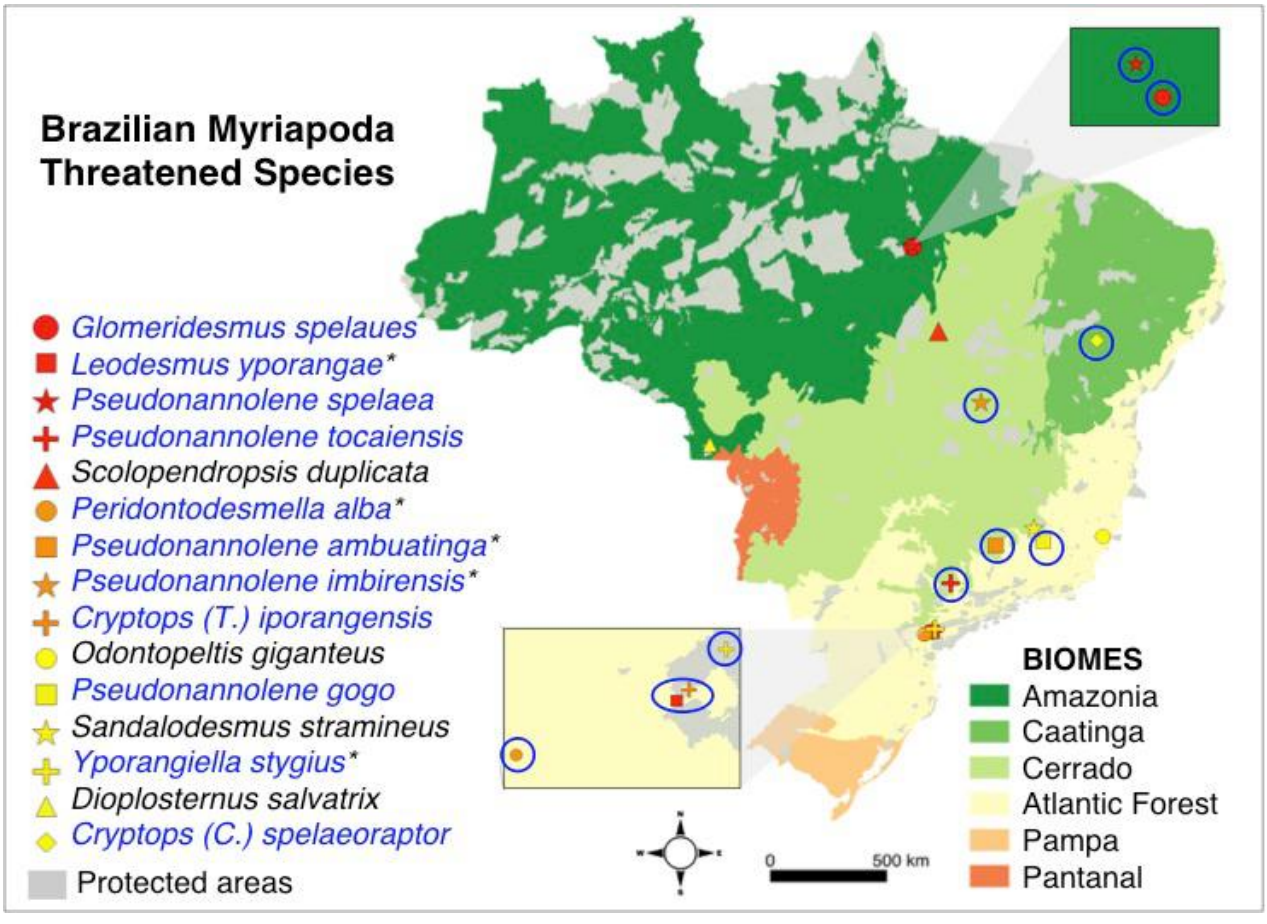
It is my hope that this short note succeeds in providing some insights on the data and metrics that a sustained recording work could deliver for the community of myriapodologists and onychophorologists, and why such work is important for further assessment and planning. Moreover, it is hoped that this note also highlights how important is that each member of our community plays an active role in widely disseminating and recording their research.

Myriapoda conservation: update of the Brazilian threatened species' list

By Manoela Karam-Gemael

Brazilian scientists are currently working to update the list of endemic threatened centipedes and millipedes from Brazil. The new list will likely to be published early 2022 and will present the assessment of extinction risk of 243 species, including reassessments and new ones. It represents around 36% of all Myriapoda known for Brazil.

The assessment process follows IUCN (International Union for Conservation of Nature) guidelines. In Brazil, the process is conducted by ICMBio (Instituto Chico Mendes de Conservação da Biodiversidade), the federal agency responsible for execution and management of conservation programs, such as protected areas network and the official red list of threatened species publication.



Distribution of Myriapoda species assessed as threatened with extinction from Brazil. Current list was published in 2014. The Brazilian red list of threatened species is currently under revision and an updated version will be published in 2022.

This is the third time that the extinction risks of myriapods' species will be assessed in Brazil. The current list, published in 2014, includes 15 species listed as threatened (3 centipedes and 12 millipedes). Among them, the rare *Scolopendropsis duplicata*, which occurs in Cerrado (Brazilian savanna), biome with high deforestation impact.

Globally, there are 806 Myriapoda species included in red lists of threatened species, both in regional lists (from 11 countries) and in the IUCN global list. Brazil and Germany are the countries with more myriapods assessed.

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Biodiversity hotspots of centipedes in Greece

By Stylianos Simaiakis & Elisavet Georgopoulou

We present a comprehensive summary of the distribution of centipedes of Greece accompanied by potential biodiversity hotspots and species status evaluation.

The updated maps of distribution of all species are based on all available bibliographic information, catalogues of records deposited in the collection of the Natural History Museum of Crete and recent field observations. Taxonomic classification was based on ChiloBase (https://chilobase.biologia.unipd.it/).

The final dataset used for the distribution maps contains 3325 georeferenced records (registrations) and cover ca. 30% of the country when plotted on grid cells of 10x10 km using ArcMap v.10.6 software. The identification of hotspots was assessed using the following four biodiversity indicators (criteria).

- Criterion A: 10% richest grid cells (including grids of equal richness)
- Criterion B: 5% richest grid cells (including grids of equal richness)
- Criterion C: presence of more species than twice the mean number of registrations per grid
- Criterion D: presence of at least 10% of the total number of species

In total 109 centipede species are recorded from 581 unique grid cells. 20 species are Greek endemic (18,3%), of which ten are single-island endemics (SIEs) (for further details see Table 1). The single richest grid has 24 species (Kos Isl. in the Dodecanese), while the most common record is one species per cell (in total 128 grid cells) (see Fig. 1).

Table 1. The endemic centipede species of Greece. SIE: Single-island endemic, MIE: Multiple-island endemic, RE: Regional endemic, GR: Greek endemic.

Endemic species	Region	Type
Cryptops beroni Matic & Stavropoulos, 1988	Crete	**SIE**
Cryptops beshkovi Matic & Stavropoulos, 1988	Dodecanese (Rodos Isl.)	**SIE**
Cryptops corcyraeus Verhoeff, 1901	Ionian Islands (Corfu Isl.)	**SIE**
Cryptops dianae Matic & Stavropoulos, 1990	North Aegean (Thasos Isl.)	**SIE**
Cryptops medius Verhoeff, 1901	Peloponnese	**RE**
Eupolybothrus dolops Zapparoli, 1998	Thessalia	**RE**
Eupolybothrus macedonicus (Verhoeff,1943)	Macedonia	**RE**
Geophilus ungviculatus Daday, 1889	Peloponnese	**RE**
Henia hirsuta Verhoeff, 1928	Sterea Ellada & Ionian Islands (Zakynthos Isl.)	**RE**
Lithobius anacanthinus (Matic,1976)	Ionian Islands (Cephalonia Isl.)	**SIE**
Lithobius beshkovi (Matic & Stauropulos,1988)	Macedonia	**RE**
Lithobius brignolii (Matic,1970)	Mainland Greece	**GR**
Lithobius cretaicus Matic, 1980	Crete	**SIE**
Lithobius creticus Dobroruka, 1977	Crete	**SIE**
Lithobius hauseri (Dobroruka,1965)	Ionian Islands (Corfu Isl.)	**SIE**
Lithobius nudus (Matic,1976)	Mainland Greece	**GR**
Nannophilus ariadnae Attems, 1902	Crete & Dodecanese (Karpathos Isl.)	**MIE**
Scolopendra cretica Lucas, 1853	Crete	**SIE**
Strigamia olympica Dobroruka, 1977	Macedonia	**RE**
Thracophilus chiosensis Stavropoulos & Matic, 1990	Central Aegean (Chios Isl.)	**SIE**

The hotspots under the four criteria are given in Table 2. Criterion B is the strictest criterion, identifying just 33 grid cells of 10x10 km with 16–24 species each. Under criterion A, 32 more grids are included, with 13–15 species each. 12 more grids are included under criterion C, with 12 species each. Finally, 14 more grids are included under criterion D, with 11 species each.

Table 2. Hotspots under the four criteria (A-E).

Criterion	Number of grids (10x10 km)	Species range
A	65	13 - 24
B	33	16 - 24
C	77	12 - 24
D	91	11 - 24

Ten species known from a single cell (*Cryptops beroni*, *Eupolybothrus macedonicus*, *Geophilus ungviculatus*, *Lithobius cretaicus*, *L. plesius*, *L. tiasnatensis*, *Stenotaenia rhodopensis*, *Strigamia crassipes*, *S. olympica* and *Thracophilus chiosensis*) are considered rare.

Local biodiversity hotspots are noted in Northeast Greece (Falakro Mt. in Macedonia), in Northwest Greece (Pindos Mt. in Epirus), in Central Greece (Timfristos Mt., Parnassos Mt. in Sterea Ellada), in the Peloponnese (Taygetos Mt., Parnonas Mt., Mainalo Mt.), in Crete (Lefka Ori Mt., Idi Mt.), in the Dodecanese Islands (Kos Isl., Rodos Isl., Nisyros Isl., Kastelorizo Isl. and Symi Isl.), in the Ionian Islands (Corfu Isl. and Lefkada Isl.), and in the Central Aegean (Skyros Isl. and Andros Isl.) (see Fig. 1).

This work lays the ground for the identification of biodiversity hotspots for the centipede fauna of Greece.

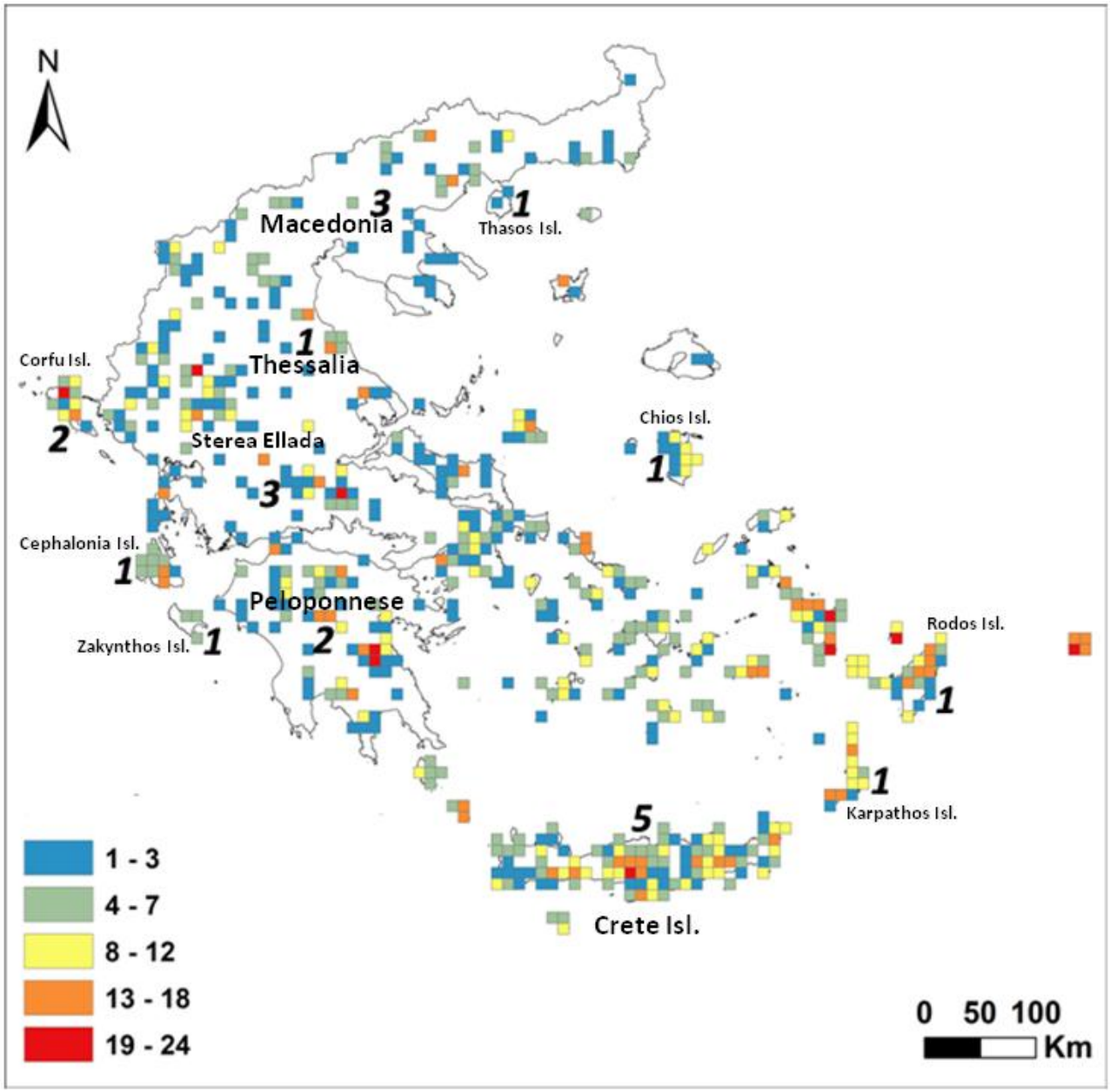

Figure 1. Overall species richness (the map contains 3325 georeferenced records plotted on grid cells of 10x10 km). Numbers in bold indicate the endemics of each region/island.

Literature

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MilliBase - A global species catalogue of the myriapod class Diplopoda

By Deter Decker, Jörg Spelda & Petra Sierwald

Taxonomic databases are a useful and important tool for identification of species, revision or description of taxa or in compiling faunal lists. For both professionals and beginners in specific taxon groups the scattered literature is often an obstacle that needs to be overcome and published taxonomic catalogues are scarce or already outdated. MilliBase (www.millibase.org) is a global taxonomic database for Diplopoda, Pauropoda, and Symphyla and is a data provider for the Catalogue of Life (www.catalogueoflife.org). The database is managed by a group of 18 myriapod experts that aims to capture all described species with the associated literature, the authorities and original descriptions of species, genera and all units of higher classification. The database contains more than 31,900 taxon names and about 13,600 valid species. Generic synonyms have largely been added to the database, but species-level synonymies are still under development. MilliBase also strives to add secondary citations from the taxonomic and systematic literature for all taxa, as well as important ecological and physiological works.

The following taxon groups were already checked and edited and can be used as a taxonomic reference catalogue

Brachyiulini, Dalodesmidae, European Diplopoda (excl. Chordeumatida), Harpagophoridae, Platyrhacidae, Siphonophorida, Sphaerotheriida, Spirostreptidae.

The following taxa are currently in progress or planned for 2021/2022

Cambaloidea, European Chordeumatida, Paradoxosomatidae, Rhinocricidae, Xystodesmidae.

We are looking for more experts to join our team of editors to continuously update and improve the database to promote all forms of current and future millipede research and to support an active and vibrant global millipede research community. If you are interested please contact Petra Sierwald (psierwald@fieldmuseum.org).

SCHUBARTIANA - Journal of the German-speaking Myriapodologist's Working group

By Peter Decker, Norman Lindner, Hans Reip, Jörg Spelda & Karin Voigtländer

SCHUBARTIANA is the scientific journal, edited and published by the German-speaking Myriapodologist's Working Group. It is named after the German Myriapodologist Otto Schubart. The first issue was published in December 2005.

SCHUBARTIANA aims to address all people interested in Chilopoda and Diplopoda as well as Pauropoda and Symphyla. We encourage both amateurs, advanced or professional myriapodologists to submit their contributions. This journal wants to represent a platform for manuscripts and topics not fitting the scope and aims of major journals. No data should get lost in your desk!

SCHUBARTIANA is open for all publications in the field of Myriapodology. Although the scope is on Europe and Central Europe, contributions to other geographical regions are welcome too. A broad range of works are considered for publishing: taxonomic (re-) descriptions and revisions, identification keys, phylogenetic studies, physiology, functional morphology, ecology, faunal lists and checklists, distribution atlases, methodology, collection catalogues, literature reviews, databases, software, as well as short communications, e.g. interesting faunistic records.

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