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Hamuli

Newsletter of the International Society of Hymenopterists

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Cover photo by Miles Zhang*,*
Disholcaspis quercusomnivora, from Florida (USA) (yuanmeng.zhang@gmail.com)

From the Editor

Dear Hymenopterists,

Here we are, at the end of another year!

This issue is jam-packed with so many articles, which I hope you will enjoy and perhaps read over your holiday break as an escape from relatives. Or perhaps while enjoying some relaxation on the beach or in a cozy, snow-bound cabin.

As always, you are welcome to send me your field notes, musings, announcements, artwork, photography, and hymenoptera-related thoughts for our next issue of Hamuli, which will likely come out in June/July (I'm hoping for two issues a year moving forward).

Stay safe,
Carly Tribull (cmtribull@gmail.com)

Report from President of ISH, Lars Krogmann

Lars Krogmann, Staatliches Museum für Naturkunde Stuttgart, lars.krogmann@smns-bw.de

Dear ISH Members,

Our society has just experienced another year that has been severely affected by a global pandemic. Despite these difficult times, our society has grown stronger, with membership numbers at a record high, and ISH has also made progress in becoming more diverse, equitable and inclusive. The ISH executive and officers have held regular digital meetings to organize the development of the society. We have finally agreed on new terms with **Pensoft** for publishing the highly successful *Journal of Hymenoptera Research*. Even though this means an increase in publication charges (which had not been adjusted since 2011), it now also generates an additional source of income for ISH for the first time. We have also established guidelines and an online application form on the ISH website for applications for sponsorship. This allows hymenopterists with limited financial means to join the society through **sponsored memberships**. The decision on sponsorship applications takes place once a year in January and the selection committee comprises the student representative, the secretary and all three presidents (president, past president, president-elect) of ISH.

One of the highlights of the year 2021 was the establishment of **Hymathon** as a global online symposium for the latest research on Hymenoptera. Hymathon 2021 took place on 6 - 7 May, with three main sessions in different time zones. We had 37 presentations from 19 countries and 164 participants from 34 countries. Hymathon also greatly contributed to the increase in membership numbers for our society. We had three excellent keynotes delivered by Dr Juanita Rodrigues Arrieta (Australasia session), Dr Jovana Jasso (Americas session) and Bonnie Blaimer (Europe, Middle East and Africa session). Another keynote was presented by Prof. Donald Quicke (see below). In each session a student competition winner was selected, and our soci-

Drawing by Louis Nastasi (lfn5093@psu.edu)

ety was proud to congratulate Jessa Thurman (Australasia), Aymer Andrés Vásquez Ordóñez (Americas) and Michael Haas (Europe, Middle East, Africa) for giving the best presentations.

During Hymathon, I had the great pleasure to present the **ISH awards**. The ISH service award "is to recognize service to the society above and beyond what is considered a normal contribution" [quote from the ISH constitution]. This award was presented to Natalie Dale-Skey. Natalie is a curator in the Hymenoptera section of the Natural History Museum in London. She came to the museum in 2006 to complete a master's degree in taxonomy and biodiversity, started working in the collections while a student and has never looked back since. After a few years dividing her time between the International Commission for Zoological Nomenclature and the entomology collections, she took up her current position in 2011 and is responsible for the Chalcidoidea & Mymarommatoidea collections as well as Evanioidea, Megalyroidea, Stephanoidea and Trigonalyoidea, with most of her time devoted to chalcids. She has authored an updated checklist of British and Irish Chalcidoidea and co-authored a number of scientific papers. She has been a subject editor of Zootaxa since 2020. Natalie has been a member of the editorial board of our society journal, the Journal of Hymenoptera Research, since 2016. To cite from the nomination letter:

"Natalie has been an integral part of the International Society of Hymenopterists for many years, and as the society's secretary since 2016 she is responsible for much of the success of recent endeavours. She played a critical part in the organisation of the recent online symposia, which were very well received by members. She continuously drives the executive committee to remain on top of the work that needs to be done, organising meetings across several time zones, and always performs efficient and flawless communication with members. Even throughout the difficult year of 2020, she remained committed to the society and kept the wheels moving on lots of ISH projects and happenings. The society would have struggled to function in recent years without her enthusiasm, her generosity with her time, and her organisational skills."

Natalie Dale-Skey

I want to use this opportunity to congratulate Natalie again on behalf of the executive committee and the membership as a whole. Thank you for your service and commitment to the society!

The ISH distinguished research medal is the most prestigious award in Hymenopterology. It is awarded for outstanding research on Hymenoptera and was presented to Prof. Donald L. J. Quicke.

Donald has been passionate about nature since his childhood and, after studying zoology at Oxford University, he pursued an academic career. He completed his PhD at Nottingham University on snail neurophysiology. Afterwards he did postdocs on the ecology and genetics of sea anemones and also on spider venoms. However, his main passion remained the study of parasitic wasps, which he collected on field trips throughout the world. After a number of years at Sheffield University he moved to Imperial Col-

lege London in 1993 and became Professor of Systematics there in 2008. In 2013 he retired and moved to Thailand, where he continues his research on parasitic wasps at the Department of Biology, Chulalongkorn University, Bangkok.

Prof. Donald Quicke has made significant contributions to virtually every area related to the systematics and biology of Hymenoptera, with special emphasis on the Icheumonoidea. He has described over 620 new species, mostly of Braconidae, provided a new phylogenetic framework of Ichneumonoidea by morphological and molecular phylogenetic analyses and has published on comparative anatomy and functional morphology, behaviour, mimicry and fossils. Donald has also made a number of important contributions to systematics theory and data analysis and published several influential books on all of these topics. Donald's career metrics include 350+ papers, citations of 11,637 and an h-index of 57. Based on his research impact, Stanford University ranked Donald Quicke in the world's top 2% of scientists in 2020.

Donald has also been instrumental in training a new generation of hymenopterists, first at the University of Sheffield and then at the Imperial College (Silwood Park). He organised the highly successful one-week course on the biology and taxonomy of parasitic Hymenoptera. This course attracted approximately 20 students each year from more than 25 countries. In 2005 he jointly organised the European Workshop on Insect Parasitoids at Cardiff University with Andy Polaszek, John Noyes and Mark Jervis. Donald has supervised 26 MPhil and PhD students, many of whom now hold academic and research positions around the world.

Donald has been closely associated with ISH. He hosted the first international ISH conference (at Sheffield in 1991), which greatly served to enhance the international development of our Society during a critical juncture in its early history. Donald also served as ISH president from 1994 -1996.

To quote the nomination letter:
"… there is something genuinely endearing about Donald's passion for the study of Hymenoptera and the intensity with which he has pursued their study over the last 35 years. (…) there is a very sharp intellect, an almost photographic memory, and a passion and willingness to collaborate with colleagues and mentor students."

I was delighted to present the ISH Distinguished Research Medal to Professor Donald Quicke on behalf of the executive committee and the whole membership. Donald, we all owe you our sincere thanks for your commitment and your scientific contributions to the study of Hymenoptera!

Donald Quicke

After receiving the award, Donald Quicke gave an excellent presentation titled "Black and yellow, we all sting together" which was essentially an insightful (and humorous!) journey through his unique research career.

Finally, on 11 November we held our **ISH Annual Business meeting**. Again, this was done digitally as a result of the ongoing pandemic. One important topic of this meeting was the presentation of

a report from the **ad hoc committee** set up to investigate aspects of the ***Journal of Hymenoptera Research***. For this, a detailed online questionnaire was developed by the committee and sent out to the membership in January 2021. The report presents the results of the questionnaire, their assessment by the committee, and recommendations for improving and guiding the journal into the future. I would like to thank the members of the Ad Hoc Committee, Professor Andy Austin, Dr. Matt Buffington, Dr. Andrew Polaszek and Dr. Michael Ohl for providing this important source of information for further developing the publication strategy of our society! Thanks are also due to Erinn Fagan-Jeffries for her help in designing the questionnaire, developing the on-line version, and helping with analysis of the data.

We will make the full report available through the society website and here present only the assessment and recommendations of the report:

Overall Assessment and Recommendations

A clear majority of members think highly of the journal because of its open access and the quality of its editorial process, and they support the current publication model. In general terms, this validates the Society's decision to move to Pensoft and presents a strong vote of confidence in the editor and the editorial team, including the subject editors.

However, there are several aspects to the journal that are identified as issues that the Society Executive and Editor need to investigate as to possible solutions.

1) For a significant number of members, the open access (APC) charges are a barrier to them publishing in the journal.

2) The format for the journal, in particular its small page size and large font, is out of step with most other biological science journals, the standard for which is either A4 or cropped A4. This means that there are fewer words per page and so the APC is higher than it would be otherwise.

3) Numerous members pointed to publication times needing to be improved by allowing papers to go online as soon as they are ready, as is apparently the case for other Pensoft journals.

4) A significant number of members are either NOT aware of the advanced indexing and other functions Pensoft offers or they are thinking it is not important.

Recommendation 1. A policy and criteria should be developed that allows applications from members for the APC to be waived or reduced, particularly for researchers from developing countries. Once in place, the means to then fund this needs to be developed.

Recommendation 2. Make a strong case to Pensoft to have a more appropriate format for the journal that has a larger page size and smaller font.

Recommendation 3. Make a strong case to Pensoft to have papers published online as soon as they are ready.

Recommendation 4. Pensoft and the journal's editorial team develop a program better to inform authors about the advanced indexing and other functions.

Other recommendations forthcoming from members' comments:

Recommendation 5. The journal to broaden its scope and encourage review papers on specific topics, short research notes (the latter at lower cost than the 10 page APC minimum), and monographs. Consideration should be given to appointing a 'review papers editor' who proactively seeks contributions to the journal.

Recommendation 6. Serious consideration be given to improving the gender balance of the editorial board and the subject editors, and their geographic coverage. At the moment they are largely North American and European-based and do not reflect the international stance of the Society.

Postponement of ISH congress

In November we asked the ISH members to participate in a survey on a potential postponement of the next ISH Congress. On 23 November the ISH executive and the members of the organising committee of the ISH Romania Congress held a digital meeting to discuss the results of this survey. Of the 89 ISH members that participated, more than 2/3 (69,6%) were either in favour of postponing (43,8%) or were at least ambiguous about holding the congress in 2022 (25,8%). Only 28,1% of ISH members would prefer to have the ISH congress take place in 2022 as planned. During our discussion, the vast majority of the ISH executive and the organising committee agreed with the overall response of ISH members and also expressed strong concerns about the potential risks of continuing the planning of the congress for 2022. We therefore decided to postpone the ISH Romania Congress until 2023. We will announce the exact dates in early 2022. Thereafter ISH will return to the normal congress cycle (i.e., the 11th Congress will be in 2026). On a more positive note, we also decided that we should have a special event in December 2022 to mark the 40th anniversary of ISH (in addition to Hymathon, scheduled to take place in March).

In summary, 2021 was not only a year of a global crisis. For the society it was also a very successful year that brought its members (at least digitally) closer together. I was happy to see so many of you during our digital meetings and I look forward to seeing you all again in 2022 at various occasions. Our society is a strong network of enthusiastic members working on diverse research projects and sharing a unique passion for a fascinating group of insects. I would like to thank all ISH officers for their excellent work and for the pleasant collaboration and all of you, the members of ISH, for your dedication to our society.

Best wishes

Lars Krogmann, ISH President

Student Representative's Bulletin: Year in review and a look ahead!

Shelby Kilpatrick, Pennsylvania State University,

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Howdy, fellow ISH members!

This past year has been an exciting one, particularly for student and early career members in the Society. It is a privilege to work with the ISH leadership team to support student interests and opportunities. In this article, I highlight resources and events we have implemented, their outcomes to date, and reveal some future opportunities to look forward to.

As you may be aware, in November 2020, we released a Student and Early Career Professional/Researcher (ECP/ECR) Manuscript Reviewer Database. To date, 23 students and early career members have added themselves to the database; if you have not already done so, you are welcome to contribute your information at any time! Additionally, all members can view and use the database. We hope that facilitating this database aids ISH members by 1) increasing review opportunities for young professionals, and 2) identifying colleagues with appropriate expertise to suggest as manuscript reviewers.

Our first-ever virtual student/ECP/ECR social was held in November 2020. Eleven members from around the world attended for an engaging experience. Later that week, 14 students also presented in the Virtual Symposia. Thanks to all of the participants and congratulations to everyone who received Student Awards!

• 1st Place – Cristina Vasilița (Alexandru Ioan Cuza University, Romania): "A rare genus calls into question the morphological monotony of *Trissolcus* Ashmead"
• 2nd Place (tie) – Lucas Hearn (Flinders University, Australia): "Temporal variation in parasite

pressure: niche partitioning of seven parasitoids driven by host resource utilization"
• 2nd Place (tie) – Ernesto Samacá (National Autonomous University of Mexico, Mexico): "Systematics and evolution of different phytophagous strategies in *Allorhogas* (Braconidae: Doryctinae) and other gall-associated related genera"
• Honorable Mention – Jessica Awad (State Museum of Natural History Stuttgart, Germany): "The Perils of *Platygaster*"
• Honorable Mention – Marina Moser (State Museum of Natural History Stuttgart & University of Hohenheim, Germany): "Ancient amber meets modern methods: Using micro-CT scanning to describe new species of *Spalangiopelta* from Baltic amber"
• Honorable Mention – Jonah Ulmer (State Museum of Natural History Stuttgart, Germany): "The Waterston's Organ of Ceraphronidae: A morphological barcode to a cryptic taxon"

Additionally, I presented a report during the 2020 Business Meeting, which followed the symposia. I highlighted our diverse community, which spans the globe, all major hymenopteran groups, and broad interests — biodiversity, taxonomy, systematics, IPM, ecology, biology, collections/museums, education, and science communication, to name a few! Thanks again to the 20 student and early career members who completed the survey used to compile this report.

In May 2021, ISH hosted a second virtual symposium, #Hymathon2021: A 24 Hour Marathon of Hymenoptera. I would like to recognize and thank Jessica Awad for her leadership as a member of the Organizing Committee, and for moderating the Europe, Middle East, and Africa session. A total of 17 students presented their research during the event. Recordings of the Student Award winners' and many others' presentations are available to view on the Hymathon webpage linked above. Well done, all!

• 1st Place, Americas Session – Aymer Andrés Vásquez Ordóñez (Universidad del Valle & Fundación Ecovivero, Colombia): "Ants-extrafloral nectary associations in different growth stages of Bombacoideae (Malvales: Malvaceae) trees in a tropical urban ecosystem"
• 1st Place, Australasia Session – Jessa Thurman (University of Queensland, Australia): "Unravelling the life history of the wood moth parasitoid wasp, *Virgulibracon endoxylaphagus*"
• 1st Place, Europe, Middle East, and Africa Session – Michael Haas (State Museum of Natural History Stuttgart, Germany): "Hidden in plain sight: Investigating the unknown diversity of German Pteromalidae (Hymenoptera: Chalcidoidea)"

This past summer, it came to my attention that the list of Student Award recipients on the ISH website was incomplete. In an effort to update the list and recognize all of the award winners in the rich history of our Society, I reviewed past issues of Hamuli and reached out to the leadership team for input from their records. Learning from previous reports and my colleagues has been a great experience! We have enhanced this section of the website, but we are not finished yet. If you can provide any additions or corrections to the list linked above, please reach out to me. On a related note, keep an eye out for announcements about submission deadlines for the 2023 ISH Congress (Iasi, Romania) and the International Congress of Entomology (Helsinki, Finland) Student Awards competitions. Additionally, this project inspired a new Hamuli feature — interviews with former student award recipients; please check out pg. 17 for our first features: Karen R. Sime!

More recently, on November 2nd, we hosted the Students and Young Professionals Lunch during the annual Entomological Society of America meeting (Denver, Colorado, USA). This sponsored event has become a conference highlight since ISH's first Student Representative, Rebecca Kittle, organized the first Lunch in 2013 (Austin, Texas, USA). The Lunch was also my first introduction to ISH and many of its members in Denver in 2017 (thanks again for inviting me, Carolyn Trietsch!). Special thanks to Robert Luke Kresslein for assisting me with coordinating and ultimately leading this in-person event. Eight members joined Luke at Blue Sushi Sake Grill to continue the tradition this year. From what I heard, it was a great time and we hope to see everyone in Vancouver, Canada next year!

In January 2022, ISH will hold an election for the 2022–2024 Student Representative. I encourage you to consider nominating yourself or a colleague for the position. Additionally, all student members are eligible to vote in the election. Please stay tuned to the listserv for details about the nomination and election processes. If you have any questions about the responsibilities of the role, please contact me at sk_kilpatrick@verizon.net for details.

Serving as your Student Representative has been a rewarding experience. Thank you all for your trust and support over these past two years. I look forward to facilitating a smooth transition!

In the meantime, if you have any questions, concerns, or news you would like me to share on ISH's social media (see my previous Bulletin, Hamuli 11(1): 6, for a list of our platforms), please reach out to let me know.

Wishing you all the best,
Shelby Kilpatrick
2020–2022 ISH Student Representative

Recap of Hymathon 2021

Erinn Fagan-Jeffries, The University of Adelaide,

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In a committee meeting sometime after the 2020 online ISH symposium, which was well received and attended by members, José Fernández-Triana tossed out a crazy idea: "…Next time, let's make it 24 hours!" So was born the idea of a 24-hour online marathon of Hymenoptera, coined "Hymathon" by Hamuli editor Carly Tribull.

On the 6th and 7th of May 2021, Hymenopterists from all over the globe joined together to share their research and connect with one another virtually in the midst of the difficult time for travel that we still exist in. Whilst we didn't quite make 24 hours straight (I must admit I rather appreciated the nap breaks, but I'm pretty sure José is going to make sure it's actually 24 hours next time), 37 hymenopterists residing in 19 different countries presented their research. We had three brilliant invited keynotes from Jovana Magdalena Jasso Martínez, Juanita Rodriguez, and Bonnie Blaimer, as well as a fascinating presentation by the 2020 Distinguished Research Awardee, Donald Quicke, on his remarkable career.

We saw a great response from our up-and-coming hymenopterists, with 40% of talks presented by students – and in all the sessions the judges had a very difficult task selecting student talk prize winners due to the high quality of all the presentations. Congratulations to Aymer Andrés Vásquez Ordóñez, Jessa Thurman, and Michael Haas for winning the student prize in their sessions.

In total, 164 people from 34 countries registered to attend Hymathon, and we saw over 56 people attend the Australasian session, 101 attend the Americas session, and 112 attend the Europe, Middle East, and Africa session.

During Hymathon, Natalie Dale-Skey was awarded the Society's Service Award for her incredible contributions that go above and beyond the duty of secretary, and the success of Hymathon is due, in no small amount, to her also!

After Hymathon we asked people to provide feedback, so that together we can continue to create events that bring people together in the best way possible. The main points that were raised were the need to improve the socials to be a little more structured, to help facilitate new connections and better networking, and initiate focused themed discussions. We'll definitely work on this for next time! We'll also work to improve the other main issue that is inherent in online symposia, the inevitable technological glitches – there were a few great suggestions about ways to allow presenters to test their technology beforehand, hopefully eliminating some of the problems we had. The majority of survey respondents stated they still prefer live presentations over pre-recorded, despite the issues. Even though several people commented that they consider in-person meetings still to be really important and that virtual meetings don't quite replace all of the benefits that come from physically connecting with colleagues, nearly all

respondents said they'd still attend online meetings when travel becomes possible again. Many people commented on how much more accessible and diverse the virtual symposia have been than in-person conferences, as they allow people who would not normally be able to travel to international meetings to be involved.

As an early career researcher who is involved in several different societies, I was once again left feeling like ISH really is one of the best; it was so heart-warming and inspiring to hear from so many different people who were all passionate about the fabulous order that is Hymenoptera, and I felt like there was a real sense of collegiality and support for one another during the event.

I would like to thank my incredible fellow Hymathon organisers and the ISH executive committee for putting together the event, all the presenters and everyone who attended! Don't forget – if you're a financial member of ISH, you can watch the recordings of many of the presentations on the website!
- Erinn Fagan-Jeffries

A call for doomed lovers!

Carly Tribull, Farmingdale State College (SUNY), cmtribull@gmail.com

Okay, that's a little melodramatic, but hear me out. I'm in need of Bethylidae, specifically from the subfamily Pristocerinae, ideally collected while mating. These delightful Chrysidoidea have extreme sexual dimorphism in which the females are flightless with reduced/absent eyes, while the males are much larger, and look like typical Bethylidae with large eyes and wings. When mating, the males pick up and fly off with the females ("phoretic copulation"), ideally depositing them in a place rich with new hosts (see photo).

Like many sexually dimorphic wasps, the species-level taxonomy is full of species only described from one sex, with the conspecific male or female unknown. This bothers me, and my lab has been investigating if molecular markers (largely COI barcodes) can build phylogenetic trees that group together conspecifics. An undergraduate research intern (Delmy Santos) has done much of this project with me, and presented at the Entomological Society of America, virtually, so you can watch here.

An example of male (left) and female (right) Pristocerinae collected while mating. From Azevedo et al. (2016), used with permission from author (Wesley Colombo).

Specimens are rare, and we've been lucky enough to capture a few males and females in the same weeklong Malaise trap catch. While it's likely that they are the same species, I'd like some "controls" for this study. I suspect that there are going to be some skeptical reviewers concerned about using barcoding techniques to match conspecifics, so having specimens that are as arguably the same species as possible (collected during phoretic copulation, perhaps!), would be very helpful. I'm hoping that these wasps are more common outside of Long Island, NY - my Brazilian colleagues tell me that mating pristocerines sometimes land on them outside, during their lunch breaks!

So, I'm turning to you, Hymenopterists! If you've collected any male and female Pristocerinae – please send them to me! Collected while mating would be ideal, but I won't turn down "hey we caught these in the same Malaise or pitfall trap" specimens. As always, specimens in 95% ethanol are preferred, but as COI is fairly robust, I could probably amplify from specimens stored in 75% with some luck. Send me an email at cmtribull@gmail.com if you can be of any help – and thanks!

Hymenopterological investigations in a tropical urban ecosystem with citizen participation

Aymer Andrés Vásquez-Ordóñez, Universidad del Valle and Fundación Ecovivero, Colombia
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The tropics are the most biodiverse region in the world. However, this diversity has been underestimated, and there is a lack of knowledge of its natural history. It has been estimated that only a quarter of the arthropods that inhabit 6000 ha of lowland rainforests in Panama have been discovered; a situation that is very likely to be repeated in other places in this region. The current knowledge has been the result of the work of hundreds of naturalists and scientists around the world. However, tropical urban ecosystems have been the subject of little attention, possibly because of their greater simplicity and lack of promotion. Understanding these environments is also of social importance since most of the human population lives in these spaces. For these reasons, a group of nature enthusiasts founded the Nature Watchers Club of Valle del Cauca, Colombia, in April 2021 (Fig. 1, https://clubobsnaturaleza.wixsite.com/home). This association follows the guidelines of the 19th century natural history clubs, which aimed to explore, investigate, and disseminate knowledge on nature.

Our explorations began in the green parks of our hometown Cali, where we quickly detected interactions little studied or unpublished by science.

Figure 1. Logo of the Nature Watcher Club of the Valle del Cauca, Colombia, which is represented by Eucharis caucana*, a lily endemic of this region that is in danger of extinction. It is also a tribute to naturalist Philip Arthur Silverstone-Sopkin, who studied this plant for more than nine years.*

This new report is concentrated in the order Hymenoptera. First, associations between ants and extrafloral nectaries on five tree species belonging to Bombacoidea (Fig. 2). This research was developed by five members of the Club (i.e., José Luis Criollo, Tatiana Pineda, Francisco López-Machado, Daniel Pereira, and Aymer A. Vásquez-Ordóñez); two of them are not biologists, which emphasizes that it is not necessary to be a biologist to feel passion about nature interactions. The results of this study were shared by Vásquez-Ordóñez, doctoral student, in the ISH online symposium #HYMATHON2021: a 24-hour marathon of Hymenoptera, and it was awarded the best student presentation for the American session. Second, a report on the presence of Epiponini wasp nests on *Rhipsalis baccifera*, an epiphytic cactus (Fig. 2) by Criollo and Vásquez-Ordóñez. This report was presented in the First Colombian Symposium on Epiphytes as a video-poster presentation (https://www.youtube.com/watch?v=dY_LW4zmeN0&feature=youtu.be).

Figure 2. Hymenopterans studied by the Nature Watchers Club of Valle del Cauca: Camponotus planatus *associated with* Pachira quinata*, a Bombacoideae tree (top left, photo by F. López-Machado); Epiponini nest located in the epiphyte cactus* Rhipsalis baccifera *(top right, photo by J. Criollo); Meliponine bee collected on flower of* Ixora coccinea *(bottom left, photo by F. López-Machado) and foraging in an orchid (*Cyrtopodium paniculatum*, bottom right, photo by F. López-Machado).*

Presently, with four club members (e.i., Criollo, López-Machado, Pineda, and Vásquez-Ordóñez), we have started an inventory of Meliponine bees in the south of Cali, registering nesting sites and flowers visited (Fig. 2). We have detected 81 nests in two green parks, associated with different arboreal species and human constructions. Additionally, we recorded flower utilization, with ten plant species used, and foraging on extrafloral nectaries of a garden orchid (*Cyrtopodium paniculatum*, originally from the Chicamocha Canyon in Santander, Colombia). This last report was made by López-Machado. Finally, Criollo is raising different species of Meliponine bees in his garden. We are planning to follow up on these colonies, to describe the process of construction of the combs, and aggressive behaviors between species.

All these activities have been supported by club members, who despite not having entomological training, have begun their instruction with more experienced members (Fig. 3). All of these investigations are intended to be published in international journals, due to their importance in our knowledge of the natural history of the tropics. We invite you to follow this initiative on our social network: https://www.facebook.com/ClubObsNaturaleza.

Figure 3. Training for mounting specimens of meliponine bees (left, photo of T. Pineda) and field work (right, photo of J. Criollo) in the Nature Watcher Club of the Valle del Cauca.

Position Update and Request

Ann Mayo, Longwood University, USA
(ann3mayo@gmail.com)

I have accepted a teaching position in the Department of Biology and Environmental Sciences at Longwood University in Virginia and will start this fall. While the position focuses on teaching I will have the opportunity to conduct research and mentor students. The University has an environmental study center and a 600 acre farm where I will be engaging students, sampling ant diversity, and studying ant assemblages. I also plan to continue working on the Comanche harvester ant (*Pogonomyrmex comanche*) during the summer in Texas. I also have the opportunity to develop a course in my area – I am considering a course focused on Hymenoptera. If you have any suggestions or insights, don't hesitate to contact me. Thanks.

Position Update

Joseph Monks, Natural Hisotry Museum, UK
(joseph.monks@nhm.ac.uk)

Dr. Joseph Monks has recently joined the Natural History Museum, London as a curator of Hymenoptera. He will be taking over the groups previously curated by David Notton, with a particular focus on the Apoidea. For enquiries relating to the collections, please contact him at joseph.monks@nhm.ac.uk.

Bees, Wasps, and Ants

Edward Eric Grissell (egrissell@gmail.com)

I wrote the book Bees, Wasps, and Ants (Timber Press, 2010) just after retiring in 2006. The purpose was to create a work that would cover the entire order for America north of Mexico, primarily from a biological point of view. This is not a work for identification but a review of all the families (and most subfamilies) of the Neartic fauna north of Mexico. It is meant to be a guide and outline for feeding habits of Hymenoptera that can be used by workers who are not terribly familiar with the biology of groups they don't work with. As a result, the main part of the text is divided by Hymenoptera that are plant feeders, parasitoids, and predators. Ants are included as its own group based upon their varied lifestyles. Predators, for example, are divided by what they prey upon; parasitoids by the hosts and life stages they attack. The basic notion is to provide biological definitions, as accurately as possible, for each family. In addition to the explanatory text, there is a chart at the end of the book listing each family (and subfamilies, except Ichneumonoidea), citing the number of known world and Nearctic species, the larval feeding type, and hosts. The citations for all numerical data are given to confirm as nearly as possible the number of world species (ca. 150,000)."

A number of illustrations are provided in the book, but perhaps the most interesting is the implement using behavior of *Ammophila procera*, as pictured and described in the book (based on the wasp working on my Arizona terrace). The main images are as follows:

1. Wasp returning with prey, preparing to uncover previously dug nest

2. Wasp opening the previously closed nest, which was plugged with a large stone:

3. Wasp pulling host into nest

4. Wasp closing nest with stone and preparing to cover with sand.

Please, let's use the term host repertoire in place of host range for parasitoids.

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In the context of reviewing possible effects of environmental change on insect–plant interactions, Braga and Janz (2021) suggested the use of "host repertoire" in place of "host range". This resonated so strongly with me for host–parasitoid interactions that I am quite annoyed that I hadn't proposed it in any of the things I have written on host associations myself, including on concepts of speciation (e.g. Shaw 1994, 2003, 2017)! However, it is never too late to fall in line, and I strongly commend the terminology "host repertoire" now.

Seeing the "host range" of a parasitoid as a repertoire of potential hosts should help us to address the concept as something that can accrue. Just as a concert pianist can (with a bit of effort) add a piece to his/her repertoire, so a parasitoid can recruit a new host – at first by locally adapting to it at population level (not least physiologically in the case of koinobionts, probably following initially largely unsuccessful ovipositions), then potentially throughout the species (given the necessary conditions of gene flow). Further, established concepts such as "realised host range", allowing for local differences and, especially, the absence of some potential hosts of a parasitoid from some locations where the parasitoid occurs, flow more easily from the idea of "repertoire" (if our concert pianist can also play the flute but there isn't one at hand, and all that…). Particularly usefully – and I pin a lot of hope on this for the sake of my blood-pressure – perhaps by thinking in terms of "repertoire" people will more easily be able to refrain from saying that a parasitoid has "switched" host, when they really mean that it has recruited a new host; initially adding to its repertoire. Whether or not the ecological/environmental opportunity then arises for a new species to result, specialising on the new host (which I believe to be a major driver of speciation, at least for koinobionts), the first stage will have been simply to add that host to the existing repertoire, not to switch completely from one set of hosts to another in the fashion of changing one's car or energy supplier.

I am sure we can gain a lot from thinking of the interactions between Hymenoptera and their hosts (and no doubt host plants, prey, etc., for the non-parasitoid groups) through this more dynamically expressive term. As with much of what we say and think, adopting suitable terminology to match the concept is a good first step to take.

References

Braga, M. P. & Janz, N. (2021). Host repertoires and changing insect–plant interactions. Ecological Entomology (Online.) DOI: 10.1111/een.13073.

Shaw, M. R. (1994). Parasitoid host ranges. In Hawkins, B. A. & Sheehan, W. (eds) Parasitoid community ecology: 111¬–144. Oxford University Press.

Shaw, M. R. (2003). Host ranges of *Aleiodes* species (Hymenoptera: Braconidae), and an evolutionary hypothesis. In Melika, G. & Thuroczy, C. (eds) Parasitic wasps: evolution, systematics, biodiversity and biological control: 321–327. Agroinform, Budapest.

Shaw, M. R. (2017). Anatomy, reach and classification of the parasitoid complex of a common British moth, *Anthophila fabriciana* (L.) (Choreutidae). Journal of Natural History 51(19–20): 1119–1149. DOI: 10.1080/00222933.2017.1315837.

Finnish bee digitization project completed

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The Finnish Museum of Natural History (LUOMUS) in Helsinki holds a large Hymenoptera collection with an estimated 1.5 – 2 million preserved specimens. The collection has been accumulated from all over the world during the past 200 years, but most of the material originates from Finland and its neighboring areas. Every year thousands of new specimens are donated and deposited in the collection.

The increased worldwide interest in pollinators and their decline has also become evident in Finland in recent years. In 2019, the Finnish Environment Institute (SYKE) launched a new project named *Status, monitoring and economic value of pollinators in Finland (PÖLYHYÖTY)*, which includes a study on long-term pollinator trends in Finland. A significant source of information for this study is provided by museum collections, and therefore funding was applied last year by SYKE from the SYNTHESYS+ Virtual Access call for the digitization of the entire Finnish bee collection at LUOMUS.

The application was successful and enabled hiring a full-time digitizer (Mariina Günther) for the project for about half a year. I was also able to concentrate on the project for a few months thanks to the external funding. Nearly half of the Finnish bee collections had already been digitized earlier from 2007 onwards in various projects, such as national red-list assessments, but many important groups such as the Andrenidae and Halictidae remained mostly undigitized.

Figure 1. Data from specimen labels were mainly digitized by Mariina Günther. Photo: Maria Heikkilä.

During the project a major donation from a private collector with more than 8000 Finnish bee specimens was received causing some extra work, but the project could still be finished nearly on schedule by the end of May 2021. The total size of the Finnish bee collection eventually rose to approximately 111,200 pinned specimens, of which more than 8,000 come from areas that are now part of Russia. Although imaging of all specimens was not included in the project, selected specimens were photographed from nearly all species.

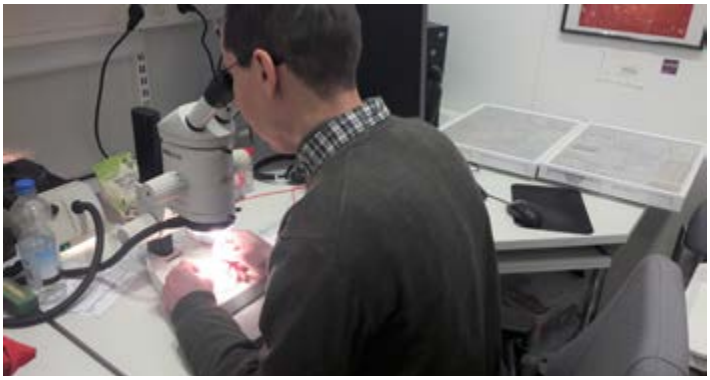

Figure 2. Juho Paukkunen checked the identifications all digitized bee specimens. Photo: Maria Heikkilä.

My main duty in the project was to check the identifications of specimens and control the quality of the data deposited in the KOTKA-collection database. Prior to this project, a large proportion of the bee material had not been determined at all, or only to genus or family level. As a surprise, I found three new species records for Finland: *Andrena tibialis*, *Lasioglossum semilucens* and *L. tarsatum*, which increased the total number of bee species recorded in Finland to 240. Another interesting find was a recently collected specimen of *Sphecodes miniatus*, which had been classified as extinct in Finland.

All the digitized data are openly available at the Laji.fi website of the Finnish Biodiversity Info Facility (FinBIF). A direct link to the digitized bee data of LUOMUS is below:
https://laji.fi/en/observation/list?target=MX

.289375&collectionId=HR.22
The data will later become accessible also through the GBIF portal.

Digitization of the Hymenoptera collection in LUOMUS will continue in the near future with other aculeates such as digger wasps (Spheciformes) and vespids. A complete inventory of the collection is also in preparation and will be published later on the museum's website (http://www.luomus.fi/en).

Figure 3. Drawers with bee specimens before digitization. Photo: Maria Heikkilä.

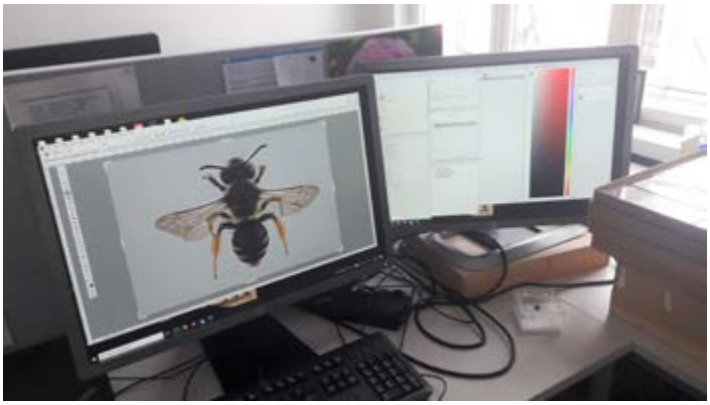

Figure 4. Pictures of selected specimens of each species were taken by Elvira Rättel. Photo: Maria Heikkilä..

75th Birthday of Arkady S. Lelej

Vladimir Gokhman, Moscow State University, Moscow, Russia, and Maxim Proshchalykin, Federal Scientific Center of the East Asia Terrestrial Biodiversity, Vladivostok, Russia

On August 25, 2021, Prof. Arkady S. Lelej, an outstanding Russian entomologist, turned 75. In addition to numerous warmest regards to him, Arkady's colleagues and friends prepared a special issue of the Journal of Hymenoptera

Research on this special occasion (https://jhr.pensoft.net/issue/3188). Among other presents, this special issue was printed out and presented to him during the celebrations at the Federal Scientific Center of the East Asia Terrestrial Biodiversity in Vladivostok. For many years, Arkady led the Laboratory of Entomology of the Center, was the Head of the Publishing Commission, and a member of both the Scientific Council and Dissertation Panel. Among other commitments, Arkady chaired the Organizing Committee of the IV Eurasian Symposium on Hymenoptera (September 9-15, 2019, Vladivostok). He published about 400 papers dedicated to various hymenopteran taxa as well as to members of other insect orders.

In addition to his talent as a scientist, Arkady possesses a number of other remarkable features. He is kind and respectful to all surrounding people, including colleagues at work and people on the street. His wonderful politeness and ability to avoid conflicts, features that are definitely rare and needed nowadays, allow him to quickly establish connections with unfamiliar people who are always positively impressed by their first meeting with him. Arkady's personality and proficiency in insect collecting are highly valued by his colleagues from many countries, who named more than 100 insect taxa in his honor. Together with other colleagues and friends, we feel privileged to know Arkady as one of the great modern entomologists, a friend, and a delightful human being.

Happy 75th birthday, Arkady Stepanovich! We wish you a long and happy life and many new amazing discoveries!

Where are they now? Karen R. Sime

Shelby Kilpatrick, Pennsylvania State University (sk_kilpatrick@verizon.net) and Karen R. Sime, SUNY Oswego (karen.sime@oswego.edu)

Editor's note: In this new (and repeating) feature, we'll be interviewing past Student Award Winners who are still part of the International Society of Hymenopterists. If you are a past winner, and have some great photos of the past, please contact me for your interview!

Above: Photo of Karen Sime during graduate school - photo was taken in Hawai'i, likely after the Hymenoptera Course that was offered in the mid-1990's. Below: A more recent photo of Karen collecting eupelmids in a New York bog

How did you hear about or get involved with ISH?

I got involved not long after I started graduate school at Cornell. I probably heard about it from George Eickwort, who was one of my PhD committee members. I gave one of my first conference presentations on my PhD research (a poster) at the 1995 meeting in Davis.

What did you enjoy/remember the most about the ISH meeting that you presented and were recognized at?

I don't remember too many specifics of the scientific program, except that there was a lot of good stuff, but I have some vivid memories of hanging out with fellow hymenopterists in local pubs and restaurants and meeting many people with whom I'm still in touch today. The Canberra meeting was my first visit to Australia. Afterwards, my friend and fellow grad student (and now husband) Mike McDonald, who also spoke at the meeting, and I took a couple of weeks to roadtrip and camp our way across parts of New South Wales and Queensland. That was pretty awesome.

What was your presentation at the meeting about?

I was finishing up grad school at the time and gave a talk on a portion of my dissertation, specifically my field studies of *Trogus pennator*, an ichneumonid that parasitizes the larvae of swallowtail butterflies.

Have you attended or presented at other ISH meetings since then, or plan to in the future?

I haven't been able to attend any international conferences since then, though I have been to some of the business meetings and symposia held at Entomological Society of America meetings.

What do you currently do?

I've been a faculty member at the State University of New York at Oswego since 2008. I teach various undergraduate zoology classes, including entomology, and I continue to conduct research on parasitic wasps, although I've added some other groups, including sawflies, saturniid moths, and some butterflies, to my research repertoire.

Has being an ISH member impacted/made a difference in your career and, if so, how?

During graduate school the ISH was pretty im-

portant for me in terms of getting to know some of the workers in the field and keeping up with current research. Since then, I've moved in some other directions research-wise, and so the ISH has played a less central role in my professional development.

Is there anything else you'd like to share?

When I presented at Canberra there were only two women giving talks among the dozens of speakers – me and Molly Hunter. The ISH was a bit of boys' club back then. I think it's great that there's been a big shift in the last 20 years, with women much more active in society business and overall well represented at all levels in the society from grad students on up.

The Tea Fauna: an initiative citizen science project

Alexey Reshchikov, Institute of Eastern-Himalaya Biodiversity Research, Dali University, Yunnan, P.R. China (alexey.reshchikov@gmail.com)

A few years ago, I moved to Asia. My former position at the Sun Yat-sen University was quite a challenge, not so much because of the language barrier, but because of the specifics of the national grant system, the incredible population density, and the difficulty in accessing nature. Simply put, it was nearly impossible to sample any Darwin wasps (Hymenoptera, Ichneumonidae). However, I found the solution in Chinese culture. Guangzhou is one of the largest cities on Earth - very hard to get to the nearest patch of forest, but it definitely owns the largest tea market. So I decided to seek help from the people that worked closely with trees and bushes, the tea farmers. By that time, I had immersed myself in tea culture and gotten enough guanxi, or connections. With my Scandinavian experience of citizen science, it was clear what to do. The Tea Fauna (https://www.teafauna.com) was started in 2017 as an initiative project. It brought together researchers, tea businesses, and farmers. Our project aims to increase knowledge about biodiversity trends in Asia and insect fauna in natural tea habitats or plantations, while providing useful data for forest conservation and services for local communities to encourage agroforestry practices in the tea production.

The tea trees and bushes (*Camellia sinensis*, *C. sinensis* var*. assamica*, *C. taliensis*) are native in the Eastern Himalaya Region, from the Assam State of India to the Vietnamese and Chinese mountain ridges around the Southern Chinese Sea, and their use has a long history. Some local communities still practice wild tea picking where the tea production is based on forest use. But at the same time, the tea plantations broadly caused deforestation of vast areas in native tea range as well as globally in places with subtropical climate where the tea was introduced.

We aimed to run long term monitoring of insect diversity in both natural tea habitats and mass plantations. This survey will allow us to reveal trends in insect diversity in tea habitats and to compare two types of insect diversity, native forest and agrocoenosis. We want to test if tea plantations serve as a refuge for insect fauna in disturbed habitats. Our research should make possible a better understanding not only of insect tea fauna, but biodiversity in Southeast Asia in general and be useful in conservation and agroforestry.

I started in Northern Thailand. Mr. Kenneth Rimdahl, the owner of Thai tea company 'the Monsoon Tea' (https://monsoontea.co.th), who introduced the Forest Friendly Tea concept, picked me up at Chiang Mai airport and we headed straight to private land with old growth Dipterocarp forest on the border of Chiang Mai and Mae Hong Son provinces and set sampling plots with Malaise traps supported by local tea farmers. Traditionally, Eastern Himalayan tribes use wild tea as not a drink but as a fermented food. Many local communities of Northern Thailand still keep this culture. The tea grown and harvested with sustainable methods can protect the forest if its production is sourced either from completely wild tea plants, or agroforestry planted. Tea consumption then is the way of environmental

Above: Setting a Malaise trap in Dipterocarp forest with Camellia sinensis var. assamica *in the understory, Chiang Mai Province, Thailand*

activism. In the future, tea should be a tool of re-forestation and nature conservation. Monsoon Tea's sustainable business model raises the value of forests via local communities applying agroforestry practices. These communities help us to sample and keep research plots running constantly.

Later, I established other sampling plots in China. I moved to Yunnan from Guandong, to the Institute of Eastern Himalaya Biodiversity Research, Dali University. Here, we do long term research at an experimental organic tea garden right at the university by the Cang Mountain foothills. These mountains are over 4100 m above the sea level. They belong to the Southern part of Yulong Mountain Massive that in its turn is part of Yun Range, the most Eastern side of Hengduan Mountains connecting the southeast portions of the Tibetan Plateau with Yunnan. The Himalaya Rise forms here the Three Parallel Rivers region featured by strongly vertical relief. These mountains are covered with subalpine conifer forests, the transition between tropical and temperate eco-regions along the southeastern rim of the Tibetan Plateau. The main research direction of the Institute is biodiversity in that region. Thus, data obtained at these research tea plots are part of bigger scale biodiversity studies I conduct.

Our main monitoring method is long term sampling with Malaise traps in different tea habitats. With data from the tea habitats we can answer a question, how rich are these habitats and what can society do to preserve this diversity? Our proposed study may be the last opportunity to study largely undisturbed *Camellia* forest diversity. The Darwin wasps (Hymenoptera: Ichneumonidae) are the target group for the project. There are large gaps in the general information on the group, species descriptions, identification tools, check lists, well curated reference collections for most of the genera, and any ecological data for majority of species. To date only 238 species were recorded in Yunnan Province of China, and only 110 species in Thailand. In contrast over 4,100 species were recorded in roughly a similar size territory in Germany. With our Tea Fauna samplings, we build the Darwin wasps collection and want to provide as many taxonomic updates along with regional check-lists. While many other groups sampled are awaiting sorting and identification. All taxonomists are welcome to join our project!

Above: Chlorocryptus purpuratus *(Smith, 1852), Chiang Mai Province, Thailand*

Above: Andrena sp.*, Guangdong, P.R. China, the most Southern record for the genus* Andrena*?*

Malaise trap by Trapolle Colombo: A more durable model for Hymenoptera sampling

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(wesleycolombo@gmail.com)

The Malaise trap was invented by the entomologist René Malaise in 1934 in Burma. Since their invention, Malaise traps have been used to collect insects by flight intercept. Countless entomologists have proposed adaptations to improve their efficiency in the field from mounting on the tops of the tallest trees to collect the canopy fauna to the combination of two traps to increase the sampling effort.

Basically, Malaise traps consist of a suspended tent. They are formed by a front, a rear, a roof, and a central panel. After a careful analysis of the Malaise traps available for purchase, we, at *Trapolle Colombo*, decided to create a standard model (Fig. 1), thinking about improving the trap efficiency, durability, and ease of handling.

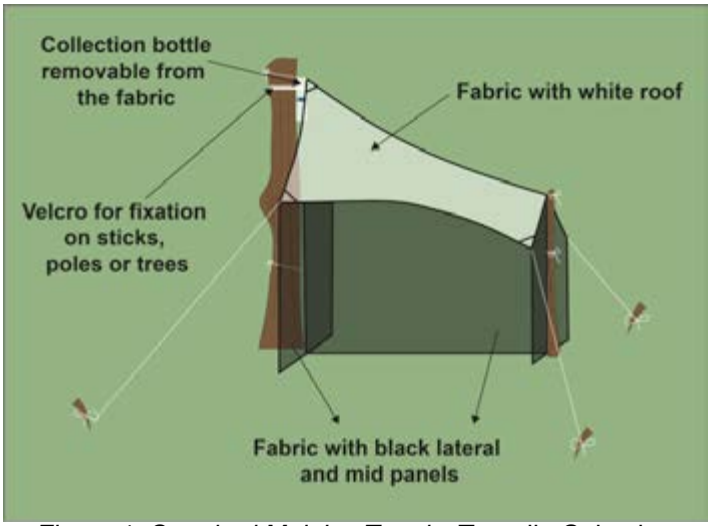


Figure 1. Standard Malaise Trap by Trapolle Colombo.

Our Malaise trap is made with a fine fabric (voil), mainly because of its ease of handling and thickness, amplifying the spectrum of Hymenoptera that may be collected. The front, back and center panels are made of black fabric and the roof is made of white fabric. The seams between the different parts are reinforced with ribbons, making it difficult for the trap to tear with handling. Usually, a metal piece is used to join the collection bottle to the trap. Unfortunately, this metal piece is not removable and makes the trap difficult to deal with or complete maintenance on, thus decreasing its durability. In our version, we replaced the metal piece with Velcro (Fig. 2). The Velcro allows the collecting apparatus to be separated and replaced if necessary and this is the great advantage of our Malaise trap: the parts can be purchased separately and with this, the trap's durability will be extended. The two collection bottles that make up the trap are joined by a custom made-to-measure connector (Fig. 3), facilitating handling, especially during assembly. This connector was produced by RK Science Factory and can be purchased through the website.

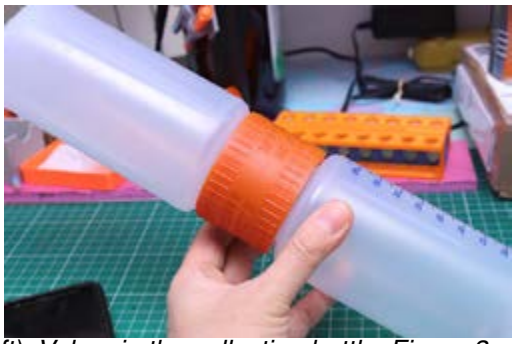


Figure 2 (Left). Velcro in the collection bottle. Figure 3 (Right). Custom connector for Malaise traps.

Finally, the Malaise trap has already been tested and demonstrated great efficiency. Carly Tribull acquired four traps and set them up in New York and Connecticut (Figs. 4–5). Celso Azevedo also participated in the entire process and helped to improve the model. See below for their opinions on Malaise traps.

Figure 4 (Left). Malaise assembled in New York. Figure 5 (Right). Malaise assembled in New York, with collecting bottle in view.

Carly's opinion: “I’ve been looking for a more affordable and reliable Malaise trap for a while now, and I was very impressed by Wesley’s traps – they withstood an entire summer in New York and Connecticut with no major tears or other damage. They pack down tightly, are easy to set up, and the Velcro attachment is novel and well constructed. I’ll continue to use these for upcoming field seasons and order more.”

Celso's opinion: “This model of Malaise trap is the best one I have ever seen in my professional life, because of three reasons: first, the fabric is very soft and easily foldable; second, the Velcro mechanism to fasten the trap to the tree is efficient, fast and allows a tied fixation; and third, the bottle´s connector is very easily handable and saves time in the field. And I cannot forget to tell you, the price is awesome”.

Australian primary types digitised

Juanita Rodriguez, David Yuan and Nicole Fisher,
Australian National Insect Collection, Australia

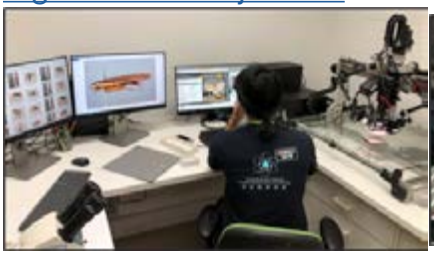
The Australian National Insect Collection (ANIC) holds over 12 million specimens and more than 1/3 of Australian insect primary types (about 22,000 specimens). We are hoping to complete the digitisation of all type specimens over the next few years before the collection moves to a new purpose-built facility. This digitisation effort will involve imaging all specimens and their labels. These images will be released as open-access datasets in the CSIRO’s Data Access Portal https://data.csiro.au/dap/.

In addition to image datasets, specimens are being sampled for non-destructive genomic DNA extraction and Next Generation Sequencing through a novel museum genomics pipeline. This pipeline will generate a molecular barcoding database consisting of all mitochondrial genes. To date the primary types of some groups, including whole insect orders like Blattodea and Mecoptera, have been digitised completely and sequenced. For Hymenoptera, the process has been completed for Pompilidae, Mutillidae, and Apoidea: Anthophila. The high-resolution dorsal and lateral images, and an image of the associated labels held with the specimens, have been published in the CSIRO’s Data Access Portal https://data.csiro.au/dap/. Molecular data will be released later in the year. To access and cite these data use the following references:

1.Fisher, Nicole; Pleines, Thekla; Robinson, Isabella; Yuan, David (2020): Australian National Insect Collection (ANIC) Primary Types - Hymenoptera - Pompilidae (spider wasps). v2. CSIRO. Data Collection. https://doi.org/10.25919/6wj2-6r18

2. Fisher, Nicole; Pleines, Thekla; Robinson, Isabella; Yuan, David (2020): Australian National Insect Collection (ANIC) Primary Types - Hymenoptera - Mutillidae (velvet ants). v1. CSIRO. Data Collection. https://doi.org/10.25919/5fa9cf-da1bfc6

3. Yuan, David; Fisher, Nicole; Pleines, Thekla; Rodriguez Arrieta, Juanita (2020): Australian National Insect Collection (ANIC) Primary Types - Hymenoptera - Bees (Apoidea: Anthophila). v1. CSIRO. Data Collection. https://doi.org/10.25919/aajc-4s02



Staff digitising the ANIC primary type specimens, including the taking of a tissue sample for DNA.

An example of a dorsal image for the primary type of *Amegilla epaphrodita*

Call for taxonomists to be part of the Insect Investigators Citizen Science project

Erinn Fagan-Jeffries, The University of Adelaide (erinn.fagan-jeffries@adelaide.edu.au)

Insect Investigators is an Australian school-based citizen science project funded by the Inspiring Australia Citizen Science Grants (Round 2). Led by The South Australian Museum and involving many partner organisations, it will involve schools in regional Western Australia, Queensland, and South Australia running Malaise traps for four weeks in early 2022, with selected specimens being DNA barcoded, identified and potentially described as new species. The project is an expansion of a trial project that was recently published Zootaxa: https://www.mapress.com/zt/article/view/zootaxa.4949.1.4

We are looking for taxonomists who:

• currently work on Australian fauna that are regularly caught in Malaise traps, but who do not have to be based in Australia
• enjoy participating in outreach activities
• want to be part of a fun project that involves giving back to the community
• are open to describing species outside of comprehensive, large-scale revisionary work because of the positive impact that describing these species in isolation will have on the school students involved in the project

What you get out of it:

• Access to specimens of your taxa of interest from regional areas of Australia.
• COI DNA barcoding of specimens funded by the project.
• An opportunity to connect with and inspire regional school students about science, entomology, and taxonomy. We can provide reference letters confirming involvement in the project for any PhD students or Early Career Researchers/ Professionals for whom this would be helpful for CVs.
• An opportunity to apply for small honorarium funds to help you describe a new species in collaboration with the school(s) that collected material of that species
• Media attention and promotion of you and your work, if desired, as we will be regularly seeking media opportunities to promote the project at various regional or national scales.

What we would need:

• A list of the target groups that you have expertise in, that you would be willing to help identify and possibly describe new species of.
• Identification resources that would allow us to train university students on how to sort your target taxa from a bulk Malaise trap.
• A commitment to providing some general information back to the project about the specimens we send you, within a short, defined time period that we can forward to schools. This can be at whatever identification level is practical for your insect group (e.g. some taxonomists may only be able to tell a school what subfamilies/genera their specimens are, others may be able to give a few species-level identifications.)
• A commitment to giving at least one virtual presentation or Q&A session to school students about your research and about the insects you work on. We will facilitate these sessions and can provide guidance and training for early career researchers or students who have not worked with school groups before.
• A commitment to describing at least one new species (if present in the material and easily identifiable as a new species) in collaboration with the school(s) that collected specimens of that species, within the short timeline of the project (i.e. within six months of receiving the specimens and DNA barcode data). We will facilitate this partnership and envision the publication of all the new species arising from the project to occur together in one or several manuscripts (open to negotiation).

Want more information or to register your interest? Contact Dr Erinn Fagan-Jeffries: erinn.fagan-jeffries@adelaide.edu.au; +61 8 83137041.

Additionally, see the website at http://insectinvestigators.com.au/apply-taxonomists/

My wasps and I

Yasfir Nadat, North-West University, South Africa (sceliages1905@gmail.com)

I have come to realise that not all scientific journeys are preceded by an apple landing on one's head. Sometimes, it may be started by the strangest of creatures that you would not expect to drop on you to begin such journeys. In my case, it was an orb web spider. I watched for a while thinking it would scurry off, accidently falling from its perch. Then something curious happened…a largish wasp landed near the spider and began dashing back and forth searching for something. What was going on? Why did the spider move? What was the wasp searching? A few moments later, the answer to my second question was answered—the spider was picked up by the wasp and flown away. This experience led to even more questions.

This fascinating incident occurred while I was in high school in my native Zimbabwe. I was limited in my choice of reading materials about wasps, so I made it my duty to stalk, observe, and sometimes catch and release these amazing creatures. My journey had begun in earnest. I developed many a homemade net and tried to catch as many of the larger wasps as I could, not realizing the treasure trove of smaller wasps hidden in the bottom of my net. As the years passed and I progressed on to university, I became better at finding different types of wasps. I remember digging out my first sphecid nest and finding a single egg placed on the prey item (by then I realised that the wasp paralysed its prey and let the developing larvae feed on it). I have many notebooks with ramblings and scrawled drawings of wasps I had found in the veldt in Zimbabwe and later South Africa. At university, I explored the library extensively looking for any books related to wasps. I found many generalised books on insects, but then I stumbled on a book called Wasp Farm by Howard Ensign Evans (1985). This was not a strictly scientific book but more natural history, a labour of love of all things waspish learned by Evans over the course of several years. It made for inspiring reading and kept the fire burning in me not only to identify these creatures, but also to observe and note their fascinating behaviour. During the middle of my Bachelor's degree, I came upon the most intriguing and fascinating place I have ever seen, the Iziko South African Museum in Cape Town. I was kindly allowed access by Simon van Noordt, the curator of wasps, and started identifying species. Many hours were spent bent over keys and looking at specimens in the collection. Some days I would just spend hours trawling through the drawers marvelling at all the different specimens. Simon also taught me about other methods of collecting wasps and how to manage my own collection. I was humbled by his willingness to let me learn and grow.

By then, I was firmly set on my journey of discovery. I uncovered the big, the small, and the microscopic. Each wasp with different shape, form, colour, and stories. I had, and still have, great fun running around after wasps on vacations from university and even after university. I was handed the opportunity to study ecotoxicology and how useful wasps are as bioindicators of pollution by Professor Henk Bouwman. The Polistinae proved to be good choice to study. I got to know these wasps and their lives after the better part of two years. They are amazing social creatures, building some exquisite nests different in shape across species and sometimes even within species. I have always been intrigued by the Chrysidoidea and would like to work with them in the future. But, this is just the beginning—my mind remains boggled by all the variety of wasps. Even though my situation has changed somewhat, I remain firmly committed to wasps. I encourage young naturalists not to wait for the proverbial 'spider' to fall on your head to start reading and explore the fascinating world of wasps.

References

Evans HE. 1985. Wasp Farm. Comstock Publishing. 178 pp.

Osmia, a European journal of hymenopterology undergoing a metamorphosis

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Some of you may be familiar with the Observatory of Bees, a society of melittologists from French-speaking Europe that has existed since 2008 and which brings together mainly Belgians and French, both academics and competent amateurs. *Osmia* is the journal published by this society. It was launched in 2007 – the society was not created at this time – and published until 2012 thanks to the dynamism of the first editor-in-chief, Nicolas J. Vereecken, now assistant professor at the Free University of Brussels (Belgium) (1). In the absence of a successor, the journal experienced a pause in its publication between 2013 and 2015. In 2016, Benoît Geslin, associate professor at Aix-Marseille University (France), formed a renewed team as editor-in-chief: the journal was published every two years, in 2016, 2018 and 2020 (1). So far, the journal has mainly contained articles in French, between six and nine per volume. The journal has always been and remains entirely electronic, fully open-access, and without any publication costs for the authors.

In 2020, the team took the decision to improve the visibility, the international audience, and the quality of the published contents from the year 2021, with an annual publication and a significant part in English. At the same time, the journal remains open, for historical reasons, to field notes and items in French. With the current volume, *Osmia* is doing a little metamorphosis and several new features should be noted:

- The journal, formerly about wild bees, is now open to submissions regarding all Hymenoptera from all over the world.
- The journal has a dedicated website (2) whereas the articles were previously hosted on the personal site of N. Vereecken or on the society website.
- The journal has a new layout.
- DOIs are assigned to all new articles as well as old ones.
- Indexing and archiving are significantly improved with the posting of articles (or their data) on Crossref, Zoobank, HAL, Zenodo, OpenAIRE, Google Scholar, Web of Science (Clarivate) [Zoological Record]… We would like, in a few years, to submit the journal to other WebOfScience databases and to Scopus.
- Calls for international authors to publish in English are made.

Figure. Image from recent publication in Osmia *- A new species of the bee genus* Ammobates *LATREILLE, 1809 from sub-Saharan Africa (Hymenoptera: Apidae).* Osmia*, 9: 45–50. https://doi.org/10.47446/OSMIA9.6*

As of this writing, three articles have already been published in *Osmia* this year (two in English) (3) and four more are currently under review, with a publication expected during the summer, so we would end up with seven articles by the middle of the year. A new species of ant has been described and a new species of Gasteruptiidae will be soon.

The reviewing-editing-publishing process ideally takes about two months if the authors fully follow the instructions to authors, write in a correct language, and meet the criteria for a scientific

publication. Anyone agreeing to review at least one article automatically enters the journal's Scientific Committee (4), unless they object.

Our journal obviously does not intend to compete with other existing journals or to have the publication rate of a journal hosted by a paid platform because our low production costs are explained by the investment of our totally volunteer team, which allows us to propose a completely free publication, but consumes a lot of energy. Our journal nevertheless aims to offer, as an ambition, 10-15 original scientific articles per year, a rigorous publication space open to the greatest number.

So, if you want to join the adventure, by submitting or revising an article, do not hesitate to write to Benoît Geslin (osmia.editor@gmail.com), having read the instructions to the authors beforehand (5). See you soon!

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(1) https://www.osmia-journal-hymenoptera.com/historique-story.html
(2) https://www.osmia-journal-hymenoptera.com/
(3) current volume: https://www.osmia-journal-hymenoptera.com/osmia-volume-9.html
(4) https://www.osmia-journal-hymenoptera.com/equipe-team.html
(5) https://www.osmia-journal-hymenoptera.com/auteurs-authors-instructions.html

Exploring the final piece of Japanese mutillid fauna in Amami-Ôshima Island, the newest World Heritage site

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Island mutillid fauna is generally less diverse than that in continents, due to lack of flight ability in female individuals. This can also lead to high endemism on islands. It is reasonable that some mutillid workers, past and present, focused their research on island mutillids. Japan is a series of islands ranging from subarctic to subtropical zones. Japan has fewer mutillid species compared with adjacent countries, like China and Russia, but eight (40%) of 20 recorded species are considered endemic. However, it seems to me that Japanese populations of some of the non-endemic species represent separate ones, suggesting a higher rate of endemism. As a mutillidologist based in Japan, I feel I have a mission to unveil the mutillid diversity in this country. After working on this thrilling mission for five years, now I have an impression that we mutillidologists have discovered almost 100% of the Japanese fauna. One remaining question is the identity of *Andreimyrme substriolata* (Chen, 1957) in Japan (and Taiwan). This species was originally described based on female specimens from the Chinese mainland. Later, it was recorded from the islands of Taiwan, Okinawa, and Amami-Ôshima. Specimens from China and Amami-Ôshima are seemingly identical, but those from Taiwan have different color traits, and a single specimen from Okinawa shows intermediate states between China/Amami and Taiwan. Examining males of this species is desired to answer if those color variants represent different species. I have potential males from the Chinese mainland, Taiwan, and Okinawa, but material from Amami-Ôshima is still lacking. This moti-

vated me to make a two-week field trip to this island, the newest World Heritage site.

Amami-Ôshima is the largest island in the Amami Group of islands (or Amami Islands), located in the Central Ryukyu region, which is delimited by the Tokara Gap in the north and the Kerama Gap in the south. The complex geographical history and characteristic fauna and flora of the Ryukyu Archipelago are getting globally appreciated recently. In May 2021, the Japanese government said that Amami-Ôshima, together with Tokunoshima Island, Iriomote-jima Island, and the northern part of Okinawa Island (aka Yambaru Region), is about to be inscribed in the list of UNESCO World Heritage sites of nature. On July 26th, those four islands officially became Japan's 5th World Natural Heritage site.

Amami-Ôshima is compact but mountainous, with an elevation of 694 m above sea level at the top of Mt. Yuwan-dake. The northern part of the island is largely covered with sugar cane fields, while the central and southern parts hold dense and humid subtropical forests, harboring the richest biodiversity. So I spent most of my field days from June 25th to July 9th in central Amami-Ôshima. Sadly, it rained virtually every day during the first seven days, yet I enjoyed observing birds, frogs, snakes, mammals, and snails, some of which were endemic to Amami Islands, and having local foods (Fig. 1 and Fig. 2)

During the latter half of the trip, the weather was perfect to sample Hymenoptera. I spared most of the daytime to sweep bushes in a secondary forest at Koshuku, about 3 km SW of the city of Naze, where two females of *A. substriolata* were previously collected. Along with net collecting, I set up 60 yellow pans on the trail. The forest was so dark that Hymenoptera were usually difficult to sight, but many braconids, ichneumonids, eucharitids, diapriids, and bethylids were collected by sweeping. Wasps and bees seemed more abundant around the bright forest edge, and the following species were found: *Anterhynchium flavomarginatum amamense* Tano, 1983, *Parapolybia varia* (Fabricius, 1787), *Polistes rothneyi iwatai* van der Vecht, 1968, *Vespula shidai Ishikawa,* Yamane & Wagner, 1980 (Vespidae), *Megacampsomeris mojiensis ryukyuana* Tsuneki, 1972 (Scoliidae), *Crossocerus sp., Trypoxylon inornatum* Matsumura, 1938 (Crabronidae), *Hylaeus insularum insularum* Yasumatsu & Hirashima, 1965 (Colletidae), *Amegilla dulcifera* (Cockerell, 1926), and *Apis mellifera* Linnaeus, 1758 (Apidae). In yellow pans, hundreds of parasitic wasps, 25 bethylids, 42 pompilids, and a few specimens of the families Xiphydriidae, Chrysididae, Vespidae, Tiphiidae, Crabronidae, Colletidae, and Apidae were trapped.

Figure 1. Top: Amami Woodpecker Dendrocopos leucotos owstoni *(Ogawa) Middle: Amami Tip-nosed Frog* Odorrana amamiensis *(Matsui) Bottom:* Satsuma adelinae *(Pilsbry)*

Figure 2. Chicken sashimi for lunch

The highlights at Koshuku (Fig. 3) were, of course, mutillids. Twenty seven mutillids (12 males, 15 females) were caught in a sweep net, seven in yellow pans, and one by hand. Most of them were *Ephucilla yoshitakei* Okayasu, 2020 (7 males, 4 females) and *Petersenidia fukudai* (Tsuneki, 1972) (4 males, 17 females). The former one is particularly valuable, since this Amami-endemic species is currently known from two males and one female only.

Figure 3. Top: Secondary forest at Koshuku
Bottom: Yellow pans on the trail

Luckily, I found a female of *A. substriolata* running on the forest floor (Fig. 4). An interesting observation was that females of two arboreal species, *E. yoshitakei* and *P. fukudai*, crawled slowly (http://www.momo-p.com/index-e.html; http://www.momo-p.com/index-e.html), while the ground-dwelling species, *A. substriolata*, ran more quickly and confidently (http://www.momo-p.com/index-e.html). Another good catch was a male of Ryukyu-endemic *Bischoffitilla murotai* (Tsuneki, 1993) caught in a yellow pan. Alas, no potential male of *A. substriolata* was collected, but instead, I did find a male of *Yamanetilla*. This is noteworthy, since Ryukyu is a distributional gap of this genus between Taiwan and the Japanese mainland. I had heard from one of my colleagues that he had observed a pair of the Japanese species *Y. nipponica* (Tsuneki, 1972) attracted to a dead standing wood. I checked on every dead tree while walking along the trail in order to find the female, and ended up with failure. After the trip, I compared the *Yamanetilla* male from Amami-Ôshima with *Y. nipponica* (Japan), Y. quadruplex (Chen, 1957) (China mainland), and *Y. taiwaniana* (Zavattari, 1913) (Taiwan). Those East Asian species were morphologically similar, but the specimen in question had a few key features that were useful to separate it from other described species. Although an in-depth study is needed, this specimen potentially represents another Amami-endemic species!

Based on the collecting records, I was able to recognize the habitats of the five mutillid species found during the trip. They were surely forest-inhabiting; most specimens were collected by sweeping bushes inside of the forest, rather than on the forest edge. This fact urged me to push through the bushes by literally sweeping them with my right-hand insect net, resulting in two stings on my left arm inflicted by poor *Parapolybia varia* workers whose nest had gotten spoiled by the net.

On July 5th, I visited Hien-hama beach to find

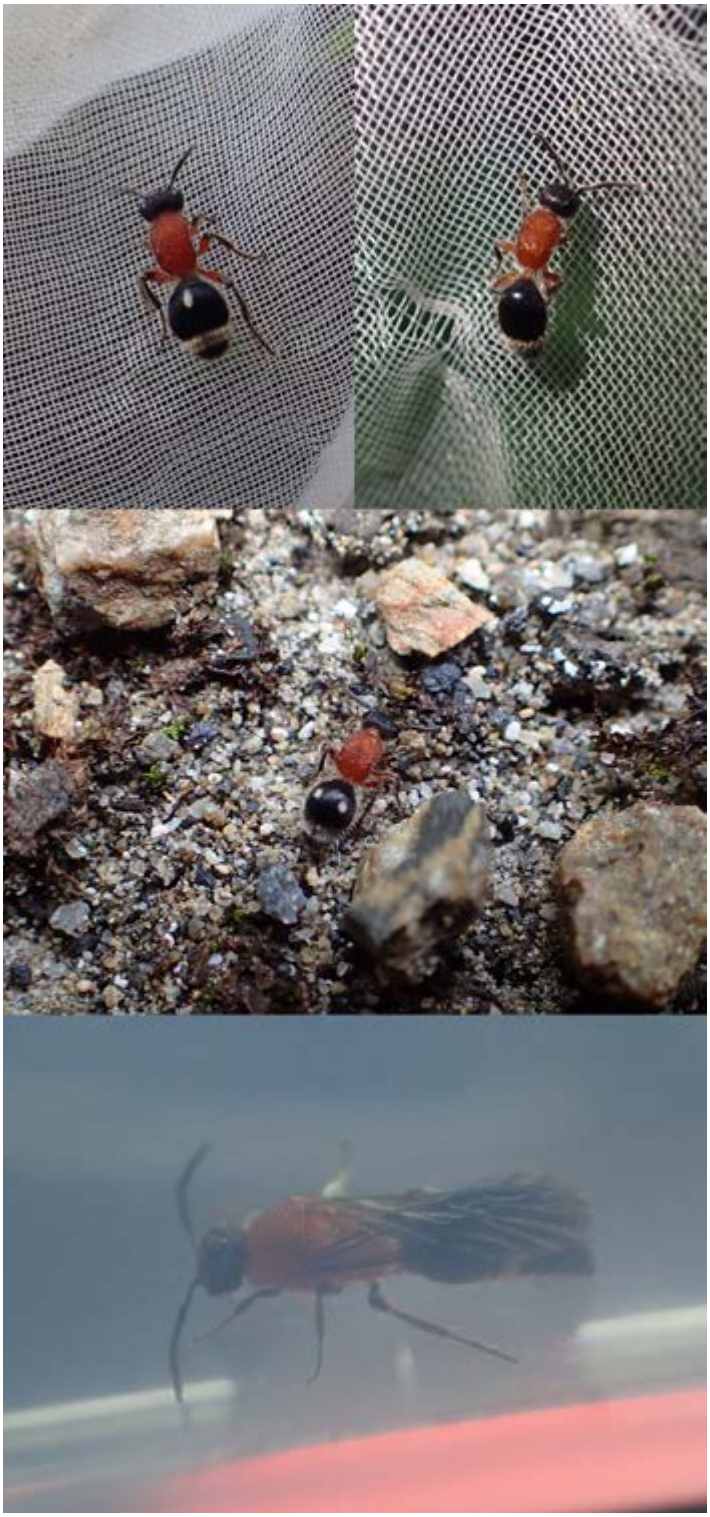

Figure 4. Top left: One of the goals of the trip, Andreimyrme substriolata (Chen)*, but where is the male?*
Top right: Amami-endemic Ephucilla yoshitakei Okayasu
Middle: Petersenidia fukudai *(Tsuneki)*
Bottom: Yamanetilla*, undescribed species?*

out if there were sand-nesting mutillids in Amami-Ôshima (Fig. 5). The substrate was coarse sand, with backshore vegetation of *Ipomoea pes-caprae*, *Pandanus odoratissimus*, *Scaevola frutescens*, and *Vitex rotundifolia*. Here, I collected 38 *Sphex diabolicus* Smith, 1858 (Sphecidae), one *Xylocopa amamensis* Sonan, 1934 (Apidae), and one *Xanthopimpla* (Ichneumonidae). A *Tachysphex* species (probably *T. nigricolor* (Dalla Torre, 1897)) was seen flying over the vegetation. Many females of *S. diabolicus* were observed carrying a prey *Phaneroptera falcata* (Poda, 1761) (Orthoptera). There were numerous nests along the backshore vegetation. This ground-nesting wasp could be a suitable host for mutillids, but none were found.

Figure 5. Hien-hama beach

Overall, the expedition was generally successful, as I came back to the lab with 2012 Hymenoptera specimens preserved in 80% ethanol: five Xiphydriidae, 1749 Parasitica (sorry for rough identification!), 84 Bethylidae, four Chrysididae, 20 Vespidae, 49 Pompilidae, 35 Mutillidae, two Tiphiidae, two Scoliidae, 11 Crabronidae, 38 Sphecidae, eight Colletidae, and five Apidae. Of course many other insects were also collected: 1123 Coleoptera, 516 Dictyoptera, 107 Diptera, 338 Hemiptera, two Megaloptera, six Neuroptera, 13 Odonata, 94 Orthoptera, 30 Phasmatodea, one Plecoptera, and three Psocodea. Collecting in a jungle of Amami-Ôshima was definitely tough; the temperature heated up to nearly 35 Celsius, the vegetation was too dense to go through, and the humidity was uncomfortable. There was always a risk of encounter with poisonous vipers, *Ovophis okinavensis* (Boulenger) and *Protobothrops flavoviridis* (Hallowell) (although rare). Nevertheless, it's worth sampling in this beautiful island with undocumented but species-rich and highly endemic fauna. I must caution myself that I had underestimated the mutillid diversity in Ryukyu before this expedi-

tion. Discovery of the *Andreimyrme* male and the *Yamanetilla* female is left a future task, but my next collecting trip to Ryukyu would take place in Okinawa or Iriomote, because even more species may eventually be found in these islands.

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