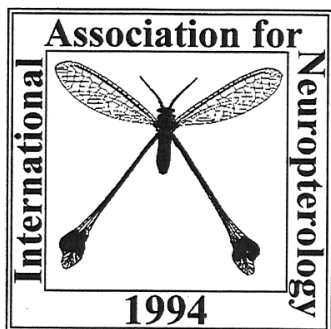
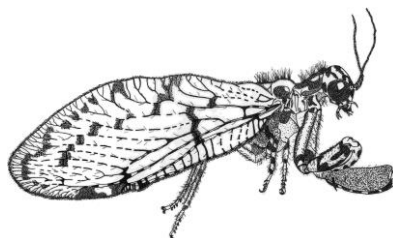




Lacewing News



NEWSLETTER OF THE INTERNATIONAL ASSOCIATION OF NEUROPTEROLOGY

No. 35

Autumn 2022

Presentation

Hi everyone! For several reasons, this issue of Lacewing News comes a little late. In the past semester we had an interesting International Symposium in Brazil, with the highest participation ever, thanks also to its online mode: the first intervention you will find in this newsletter tells us about this.

New people have approached neuropterological studies and this newsletter also has a second editor, namely Caleb Califre Martins, of whom you will always find a brief self-introduction in this issue.

The next symposium will be held for the first time in China in 2025 and for any news, look forward to what our current IAN president, Xingyue Liu, will let us know.

All we have to do is therefore wish you a good read and always invite you to contribute your contributions to enrich our half-yearly newsletter. Please send all communications concerning Lacewing News to agostino.letardi@enea.it or to calebcalifre@gmail.com. Questions about the International Association of Neuropterology may be addressed to our current president, Xingyue Liu (xingyue_liu@yahoo.com).

Agostino Letardi & Caleb Califre Martins

Co-editor of Lacewing News

From Caleb Califre Martins

14th International Symposium of Neuropterology, held online (Lavras, Brazil), 23–27 May 2022

The first Symposium to take place in South America was originally going to take place in person at the Universidade Federal de Lavras (UFLA), municipality of Lavras, state of Minas Gerais, Brazil. However, due to the situation of the Covid-19 pandemic, the event took place online, which provided the opportunity to conduct the first ISN free of charge and with planetary participation (Americas and Eurasia, Southern and Northern Hemisphere), totalizing 141 neuropterologists – established scientists, young researchers of Neuropterida, and students working on Neuropterida – from 24 countries. This challenge was managed by Brígida Souza (Our President of XIV ISN), Caleb Califre Martins, Renato José Pires Machado, Stephan Malfitano Carvalho.



The symposium started on the morning of 23 May with the Welcome words of the Organizing Committee and Director of ESAL, UFLA – including a special message from our friends Horst Aspöck and Ulrike Aspöck read by Caleb C. Martins. In sequence, the history of Universidade Federal de Lavras (UFLA) was briefly highlighted by Maria Fernanda Homes Villalba Peñaflor. After the break, the scientific programme of the Symposium was officially opened by Xingyue Liu, president of the International Association of Neuropterologists (IAN), who presented the opening lecture on the Unveiling diversity and evolution of Neuropterida using integrative approaches.

After lunch, the event resumed with the keynote lecture by Carlos Eduardo Souza Bezerra on Green Lacewings in Integrated Pest Management. The rest of the day was devoted to presentations, given by: Sándor Koczor (on the specificity of semiochemicals for green lacewings), Rodolfo Jonathan Cancino-López (on diversity of Neuroptera of the Tacaná Volcano, southern Mexico), and Carlos Eduardo Souza Bezerra (on use of *Chrysoperla externa* in the integrated management of *Bemisia tabaci* on watermelon). Poster presentations followed by: Flávia Fagundes de Paula (on predatory capacity and intraguild interaction between *Chrysoperla externa* and *Cryptolaemus montrouzieri* against *Planococcus citri* associated to rose crop) and Galini Koutsoula (biocontrol potential of the green lacewings *Chrysoperla agilis* and *C. mutata* against pests in pepper).

On Tuesday, 24 May, the scientific programme was opened by a keynote by Caleb Califre Martins on the neuropterid fossil diversity of the Crato Formation, Brazil. Presentations followed by: Lu Xiumei (on palaeodiversity and early evolution of Myrmeleontoidea), Aili Lin (on phylogeography of the Oriental dobsonfly), and Rongrong Shen (on the evolutionary history of the snakefly family Inocelliidae). A new keynote lecture was offered by Adrian Ardila-Camacho on the controversy of the Raptorial Mantispoidea, followed by presentations by: Alice Carvalho Assmar (on taxonomy and phylogeny of *Climacia* McLachlan) and Pedro Henrique Machado Constancio (on taxonomy of Brazilian *Chloronia* Banks). At the end of the

day, five more posters were presented by: Luiza Akemi Gonçalves Tamashiro (on predatory capacity and intraguild interaction between predators on the control of rose aphids), Marília Mickaele Pinheiro Carvalho (on trophic relationship between *Chrysoperla externa* and *Planococcus citri* associated with rose bushes), Paraskevi Ntalia (on life-history traits of the brown lacewing *Micromus angulatus*), Pedro Inocêncio Silveira (on *Chrysoperla externa* (Hagen) larvae fed on extrafloral nectar of *Senna cernua*), and Nelson Wanderley Perioto (on diversity and temporal variation of Hemerobiidae from Atlantic rainforest).

Wednesday, 25 May, was opened with a keynote lecture by Renato José Pires Machado on the diversity of extant Brazilian Neuroptera. Presentation followed by: Yuchen Zheng (on the systematics of oriental Dendroleontinae and Nemoleontinae), Muhammad Asghar Hassan (on Neuropterida from Pakistan), and Yu-Hsiu Lin (on Myrmeleontini of Taiwan). Due to the dense schedule, the IAN board had its meeting taking place at the same time as these presentations, where current issues, challenges, future tasks of IAN and the proposal of the new composition of the board were discussed.

The whole afternoon was devoted to a second keynote lecture presented by John Oswald on The Lacewing Digital Library, followed by presentations by: Fernando Acevedo Ramos (on the use of scientific and citizen databases to study Myrmeleontidae of the Iberian Peninsula and Balearic Islands); and five more posters presented by: Adrian Ardila-Camacho (on genus *Climaciella* Enderlein in French Guiana), Eva Veler (on the behavior of two antlion species), Jan Podlesnik (on sand tossing on antlion larvae), Katia Justi (on taxonomy of the Brazilian *Chloronia* Banks), and Yesenia Marquez-López (on new Mexican species of *Paranthaclisis* Banks).

On Thursday, 26 May, the day was opened by the keynote lecture by Francisco Sosa Duque on Neotropical Chrysopidae with emphasis on Brazilian fauna. The following presentations were given by: Yuyu Wang (on Chrysopidae phylogeny), André Prost (on Neuroptera of the Republic of São Tomé e Príncipe), and Vesna Klokočovnik (on Sisyphus work antlion larvae).

The afternoon was opened by the keynote lecture by Atilano Contreras-Ramos on a revision of the origin and diversification of the gonarcus. The presentations followed by: Gabriela Caroline Mendes (on taxonomic notes of *Ilyobius nubilus*) and Leon Gustavo de Miranda Tavares (on phylogeny of the genus *Ameromyia* Banks). Four more posters were presented by: Agostino Letardi (on the checklist of Italian Neuropterida), Dušan Devetak (biodiversity of North Macedonia Neuropterida), James E. Jepson (on the British Isles Lacewing and Allies Recording Scheme), and Eduardo Faúndez (on Hemerobiidae from Deceit Island).

On the Symposium's last day, Friday, 27 May, Davide Badano was the keynote speaker of this day, and gave a lecture on morphology and life histories of Neuroptera larvae. The following presentations were given by: Pei Yu (on egg covering of Megaloptera), Chenjing Zhao (on transformation of internal structures during the metamorphosis in the green lacewing *Chrysopa pallens*), and Susanne Randolph (on miniaturization of the head in Coniopterygidae). The afternoon was devoted to the closing ceremony and farewell, including the General Assembly Meeting where it was decided, through a vote, that the next version of the symposium will be held in Beijing, at the China Agricultural University (CAU) in June 2025.



I believe that the experience of the present version of the symposium has opened up the opportunity to use mixed presentations (face-to-face and online) for upcoming events, which will allow the participation of a growing number of neuropterologists. The 14th International Symposium on Neuropterology was a delightful event, with a record number of participants so far, which provided sharing a lot of new and

valuable information through impressive presentations and discussions that occurred in a harmonic atmosphere. All these work result in a complete Proceedings published as a special issue of Revista Brasileira de Entomologia that can be accessed on the link:

<https://www.scielo.br/rbent/i/2022.v66nspe/>

I took the liberty of finalizing this brief report using the final message from our friends Horst Aspöck and Ulrike Aspöck shared with all the participants of the event.

"These were five wonderful, intellectually stimulating, exciting days embedded in a warm, harmonic atmosphere. We would like to send our most cordial gratitude for your wonderful work which has made this Symposium possible. Please forward our cordial thanks also to all persons who were involved in the organization of the Symposium."

As a founder of the Symposium and as the oldest participant I would like to express my deep satisfaction to see what has come out from the first idea at the end of the 1970ies for such a Symposium and from the first Symposium in 1980 – 42 years ago. In particular it is a great gratification to see so many active, productive, excited and enthusiastic young colleagues who continue our work in Neuropterology. What a huge, incredible progress in our field achieved during the past decades! We would like to express intensively our sincere appreciation to and admiration of the next generations!"

[Note of Editors: all the event of the XIV ISN was recorded and is in the possession of Caleb Califre Martins, so if you are interested in some part of it, please let us know].

Who is who in Neuropterology

Caleb Califre Martins

My interest in Natural Sciences started in my childhood in my hometown (Jaboticabal, state of São Paulo, Brazil) and its region, where I had direct contact with the Atlantic Forest. My first contact with insects was at the age of eight when I visited the entomology collection of Professor Sergio de Freitas (in memoriam) from

FCAV, UNESP-Jaboticabal, who 11 years later became my scientific initiation supervisor upon my graduation at the same university.



In my second year (2008) of graduation in biological sciences at FCAV, UNESP-Jaboticabal, I had my first contact with lacewings and since I have been carrying out studies with them. Initially, under the supervision of Professor Sergio de Freitas, I carried out ecological and applied studies using Chrysopidae species to control agricultural pests. As my classes were held at night, I had the opportunity to spend the entire day working on different projects with this family, and I was able to do several field trips in different crops, which highlighted the need for me to learn Chrysopidae taxonomy. So based on this necessity, Sergio and my friend Professor Francisco Sosa (then a Ph.D. student in the same lab) started teaching me this science.

At the end of 2010, I finished my graduation and started to think about the possibility of doing a master's degree in entomology, so Sergio suggested that I do it at the Postgraduate Program in Entomology at FFCLRP (USP, Ribeirão Preto) – since this program has training

in phylogenetic systematics and taxonomy – under the supervision of Professor Dalton de Souza Amorim (an important systematist and dipterist), who was willing and interested in guiding me throughout my master's degree because until then Brazil did not have a systematist who studied the superorder Neuropterida in general. So based on this partnership I started my master's degree in 2012 and carried out a project based on my passion for morphology, entitled “Morphology and Phylogeny of *Ceraeochrysa*” (which, believe it or not, I am still trying to finalize due to many new species and the need to revise the genus). Still, in my master's degree, I started on my own (and with the help of several friends from abroad, including the editor of this volume) to study the other families of Neuroptera.

In 2014, I finished my master's degree and started my Ph.D. under the supervision of Professor Dalton, with the project entitled “Phylogeny of Chrysopidae sensu lato”, which was divided into three chapters: 1) detailed comparative morphology of Chrysopidae (including fossils and development data), 2) homology of the wing veins of Chrysopidae, and 3) Phylogeny of Chrysopidae lato sensu (all of them are in the final stages of preparation for publication). An important part of this Ph.D. I did under the supervision of my friend and Curator Emeritus Dr. Oliver Flint Jr. (in memoriam) at the Smithsonian National Museum of Natural History.



Still, in my PhD, I had the opportunity to carry out scientific visits to different Brazilian and international institutions and make a network with different neuropterologists, such as Ben Price, John Oswald, Shaun Winterton, Ulrike and Horst Aspöck, Adrian Ardila-Camacho,

Renato Machado, Xinguye Liu, Atilano Contreras-Ramos, Francisco Sosa, among others.

I finished my doctorate in 2018, and to expand my study group from Neuroptera to Neuropterida I went to do a Postdoctoral (2019-2021) at the Institute of Biology (Universidad Nacional Autónoma de México) under the supervision of Professor and great friend Atilano Contreras-Ramos. There, I carried out my project entitled "Catalog of immatures and adults of the Mexican species of Megaloptera" (which is also in the final stages of preparation for publication).



During this period, I had the opportunity to learn about Megaloptera, and other Hexapoda orders, such as Diptera, Mecoptera, and Coleoptera. Luckily for me, I had access to important material on Raphidioptera, which I was able to study with the help of Atilano Contreras-Ramos and my two friends, Horst and Ulrike Aspöck, i.e. I was able to study and learn about the three orders of Neuropterida.

I returned to Brazil at the end of 2021, where I was able to help organize the XIV International Symposium on Neuropterology. I currently work as a visiting professor of Zoology at the Universidade Estadual do Maranhão (UEMA), Caxias, state of Maranhão, Brazil. I am collaborating professor of the Graduate Program in Biodiversity, Environment and Health / PPGBAS; research associate at the Sistema Nacional de Investigación, Mexico; coordinator responsible for Megaloptera and collaborator of all Neuroptera families (together with Renato Machado) in the Taxonomic Catalog of the Fauna of Brazil. I am a member of the Board of the International Association of Neuropterology

(IAN) since 2018, and recently I was named as secretary of this board, as well as co-editor of Lacewing News.

I had experience with the evolution, taxonomy, and systematics of Hexapoda, especially the superorder Neuropterida; and I maintain many applied studies using Neuroptera. In total, I have published 21 articles on Neuroptera, five on Megaloptera, one on Raphidioptera, and two on Neuropterida in general. I also published two book chapters on Neuroptera. Currently, my study's focus is the diversity of Neuropterida from the Neotropical region (including Brazilian fossils), and one of my personal goals is to strengthen the study of the Neuropterida superorder in this important region. I believe that we Neuropterologists should work as a team and collaboration, so if you have any ideas, don't hesitate to contact me.

I will not mention names so as not to run the risk of being unfair to anyone, but I would like to end this brief report by thanking all my neuropterologist friends (which, luckily for me, are several) who helped me along this path.

Social meeting

From Ulrike Aspöck and Horst Aspöck

A pleasant visit from China

Di Li – four short alphabetic characters – what a minimalistic message symbolizing charme, intelligence, power, courageousness, emancipation, cooperativeness, empathy, and at any time sparkling laughter ...



Di Li (left) just arrived in Vienna at the main station, together with Ulrike Aspöck, in COVID times. 1 September 2022.

Ms. Di Li, PhD student of Prof. Xingyue Liu, China Agricultural University, Beijing, visited Vienna and the Neuropterida collection of the Natural History Museum Vienna and the Horst and Ulrike Aspöck Neuropterida collection twice, from 1 to 9 September and from 15 to 19 October 2022 (coming from Jena, Germany, where she stayed with Prof. Rolf Beutel at the Institute of Zoology and Evolutionary Research, Friedrich Schiller University Jena).



Di Li (left) in the study room of Ulrike Aspöck (right) in the Natural History Museum, Vienna. 1 September 2022.

During her time in Vienna Di Li and the Aspöcks had an intensive cooperation concerning running projects on Berothidae and Dilaridae, on planning further projects concerning these and other Neuropterida groups in collaboration with Prof. Xingyue Liu.



Di Li (middle) with Ulrike and Horst Aspöck in the great dome hall of the Natural History Museum, Vienna. 1 September 2022.

In this context we want to emphasize that the research group of Xingyue Liu with many talented students working on Neuropterida represents an enjoyable development keeping neuropterology young, productive and hopeful.



Di Li at the microscope and Horst Aspöck in the KI (private institute of the Aspöcks). 3 September 2022.

From John Hollier, Anita Hollier, and Christina Lehmann-Graber

François-Jules Pictet (1809-1872): notes for an unpublished work on the Neuroptera

2022 is the 150th anniversary of the death of François-Jules Pictet de la Rive of Geneva, an entomologist and palaeontologist who helped transform the Geneva Academy into the modern University of Geneva and to create the Natural History Museum of Geneva (MHNG).

In the early part of his career Pictet concentrated on entomology, helping to separate Linnaeus' Neuroptera into the groups we recognise today, but without publishing on the Neuroptera sensu stricto.

In his paper on *Sialis* (Pictet, 1836) he gave an outline of his understanding of the systematics of the Neuroptera sensu lato (fig. 1), which is broadly recognisable today (without the logic of evolution, all phylogenies were then somewhat arbitrary).

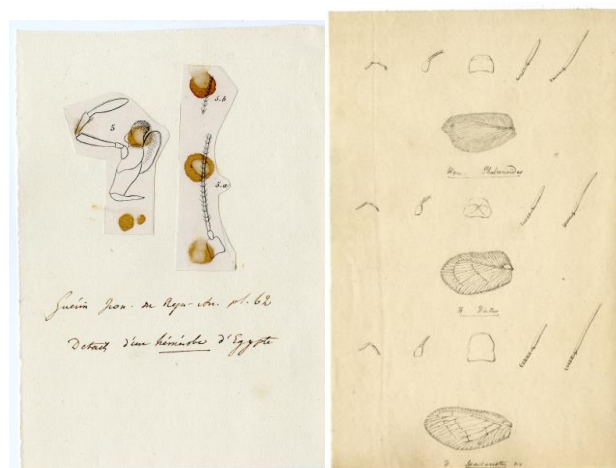
F. J. PICTET. — Sur le genre *Sialis*.

TERMITINES.	Termitines propr.	Termès.
PERLIDES.	Psocides.	Psoques.
SUBULICORNES.	Éphémérides.	Némoures.
	Labellulines.	Éphémères.
		Labellules.
		Æshnes.
	Myrmélicornes.	Agriens.
		Fourmilions.
		Ascalaphes.
PLANIPENNES.		Hémérobes.
		Osmyles.
NEUROPTÈRES.		Nymphes.
		Corydals.
		Chauliodes.
		Sialis.
		Raphidies.
		Mantispes?
		Némoptères.
PANORPATES.		Bittagues.
		Panorpes.
		Borées.
		Phryganes.
		Mystacides.
		Trichostomes.
		Séricostomes.
		Rhyacophiles.
		Hydropsyches.
		Psychomyies.
		Hydroptiles.

Fig 1 Systematics of the Neuroptera from Pictet 1836

Amongst the holdings of the MHNG are Pictet's manuscript workings for a study of the Neuroptera in the modern sense, dating from 1840 but never completed. These comprise some 80 folded paper files, each containing notes and usually images. The first is entitled "Famille des Planipennes" and has Pictet's notes for dividing the family into 4 tribes (these are working notes and the 4 is preceded by a crossed-out 3). He groups the current Myrmeleontidae, Ascalaphidae and Nymphidae in the first tribe, the current Hemerobiidae, Chrysopidae, Dilaridae, Osmylidae and Coniopterygidae in the second, places the current Megaloptera in the third and the Raphidioptera in the fourth. The next folder divides the second grouping into the genera *Dilar*, *Hemerobius* (subdivided into *Hemerobius* and *Chrysopa*), *Trigoniopteryx* (an unpublished and unavailable name) and *Osmylus*. He was clearly uncertain about the position of *Osmylus*, and, given the basal position of this group in the classification, this is not surprising.

The third folder deals with the genus *Hemerobius*, in which Pictet groups the species currently placed in the Hemerobiidae and Chrysopidae. It contains morphological notes and drawings (figs 2 and 3), tables of distribution and a list of 83 notional species, most of them considered by Pictet as new to science. The remaining folders each contain notes and drawings of one of these species, although not all those on Pictet's list are represented. They include species from Africa, the Americas and



Figs 2 & 3 Unpublished drawing of mouthparts and wing venation

Asia as well as Europe. Around 20 species are noted as having been studied in the Paris museum (Muséum national d'Histoire naturelle), but no depositories are given for the other specimens.

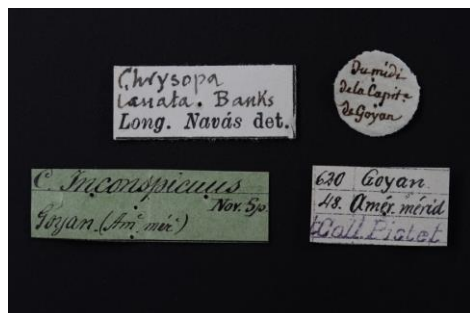
As was normal for Pictet, the habitus drawings are life-size and coloured, and the quality is astonishing. Only one of Pictet's supposed new species, a chrysopid from South America, is identifiable in the MHNG collection (fig 4).



Fig 4 Unpublished drawing of "*Chrysopa inconspicuus*"

The specimen was placed in the collection under Pictet's manuscript name as *Hemerobius* (*Chrysopa*) *inconspicuus*. It was identified as *Chrysopa lanata* Banks, 1910 by Longinus Navás (1858-1938), probably in 1912 while he was going to or from the 2nd International Congress of Entomology in Oxford, (figs 5 and 6). The current combination would be

Chrysoperla externa (Hagen, 1861).



Figs 5 & 6 Labels associated with the specimen [N.d. E. We do not received fig. 5 from authors: the label was <Pictet's specimen of "C. inconspicua">]

Pictet was clearly attempting to classify his Neuroptera using an inadequate character set (taking no account of the genitalia, etc.) but his powers of observation were outstanding, as can be seen from his illustrations of some species that had already been described (figs 7-11)



Figs 7-11 Unpublished drawing of *Italo-chrysa italica* (Rossi, 1790), *Drepanepteryx phalaenoides* (L., 1758), *Psectra diptera* (Burmeister, 1839), *Wesmaelius nervosus* (Fabricius, 1793), and *Micromus variagatus* (Fabricius, 1793)

It is not clear why Pictet never completed this work, or why he abandoned entomology for palaeontology (passing through the intermediate stage of studying amber insects). His later career included many administrative and political duties – he was rector of the Academy and represented Geneva at the federal parliament – so it is possible that he just didn't have time. Pictet's collection was left to his son Albert-Edouard (1835-1879) and was given to the MHNG by his grandson Jules-Camille (1864-1893), apparently in a disappointingly poor condition. The MHNG and the University of Geneva owe much to Pictet, who is also

regarded as one of the godfathers of the Ephemeroptera, Plecoptera and Trichoptera; a legacy worth celebrating 150 years on.

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Lacewing Digital Library (LDL) Back Online

by John D. Oswald

I am happy to announce that, after being down for several months, the Lacewing Digital Library (LDL) web site is now back online and openly accessible. The site should now be restored to the state that it was in when it was taken off line on 4 June 2022. Please report any problems that you may run across on the newly-restored site directly to me (j-oswald@tamu.edu) as soon as possible.

The LDL's road to recovery has been a rather long, and often frustrating, one. The virtual server that hosted the LDL site, together with several other web sites, was taken down by the hosting university after it was discovered that the server had been compromised by outside hackers. Subsequent investigation revealed that the security vulnerabilities that lead to the server breach were not contained in the LDL web applications, but were contained in other web applications hosted on the same server. A plan

was devised to remove the problematic applications to a different server, thus leaving the LDL in a less vulnerable position on the original server. Unfortunately, implementation of the removal plan was significantly delayed due to administrative reorganizations and altered web development priorities within the university that hit just as those removals were to have begun (our very bad luck on that...). We have now moved past those delays, and have completed implementation of several additional security-related measures as well. We appreciate the assistance of the TAMU and AgriLife IT personnel that helped us work through many different issues over the past several months.

Many of you have contacted me individually to let me know how important and useful the LDL publications are to your research. It is nice to know that the LDL publications are meeting a range of needs within the community. I appreciate your support and patience as we worked to restore the LDL back to service. The new LDL implementation is founded on a more stable and secure platform for the future, and the LDL developer team will continue with new development activities after the New Year.

Standing on giant shoulders

Edmund Aleksander Jarzembowski is septuagenarian



Ed Jarzembowski talking at the 7th Fossils X3 conference in Edinburgh, UK, 28 April 2016. Photo: Chung-Kun Shih

Peter Austen and co. (2022; DOI 10.11646/palaeoentomology.5.3.1) have recently published on Palaeoentomology an editorial dedicated to dr. Jarzembowski on his seventieth birthday

In his huge bibliography, several papers concerning fossil Neuropterida. A complete review of these data in Austen&co.'s paper.

Nouvelles frontiers

Yu-Hsiu “Hugh” Lin
PhD student at Department of Entomology,
Texas A&M University, Texas, USA.

Dear Neuropterists, I would like to introduce myself and my PhD project to the community. I am from Taiwan and is currently PhD student in Dr. John Oswald's lab at Texas A&M University. My interest in Neuroptera, particularly Myrmeleontidae, started when I was an undergrad in the department of entomology, National Taiwan University, which is the same institution where I did my master's degree. For my master's degree, I worked on the antlion tribe Myrmeleontini in Taiwan, with a taxonomic revision on both adults and larvae. I have also presented my work on the Taiwanese Myrmeleontini during the 2022 International Symposium of Neuropterology.

I have started my PhD program here at Texas A&M University in Fall 2022 and will continue to work on Myrmeleontini under the guidance of Dr. John Oswald. The antlion tribe Myrmeleontini is well-known due to the pit-building behavior of their larvae. Recent phylogenetic studies have revealed that *Myrmeleon*, the largest genus within Myrmeleontini, is highly paraphyletic. My project aims to revise the tribe Myrmeleontini on a global scale containing both phylogenetic and taxonomic components. For this project, we hope we can cover as many species as possible from different parts of the world. We will soon start to contact researchers to acquire materials, but if you think you have extra materials you can provide, please feel free to contact me, both adult and larva materials of Myrmeleontini are welcome.



in the TAMU insect collection

Contact address: hughlin06@gmail.com

Recent Literature on the Neuropterida (2022)

Organized by Agostino Letardi

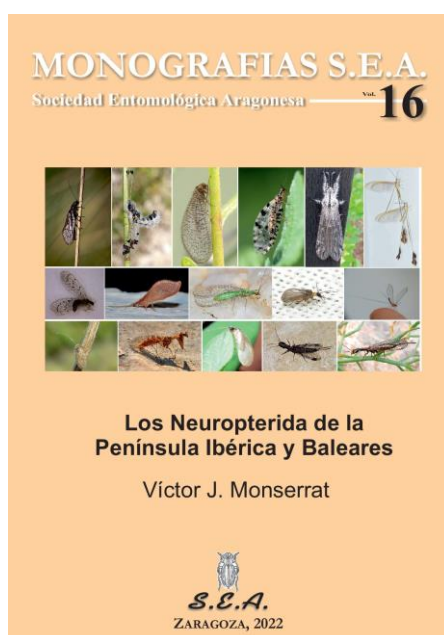
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Picture of the semester



Trichogramma sp. attacking eggs of Chrysopidae. 9 September 2022, Castel Maggiore (Bologna, Italy)
44.576 N, 11.364 E. Photos by Franziska Luthi, identification by Francesco Tortorici, editing by
Roberto A. Pantaleoni.

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