

# METALEPTEA

THE NEWSLETTER OF THE



ORTHOPTERISTS' SOCIETY

## President's Message

By **AXEL HOCHKIRCH**

President

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**D**ear Society members, I hope you are all doing well and enjoying your research on Orthoptera. Our next International Congress of Orthopterology (ICO) is approaching and I assume most of you have already registered and submitted abstracts. I am very much looking forward to this event. ICO is always a great opportunity to meet colleagues and catch up with good friends. My first ICO attendance was at the 8<sup>th</sup> congress in Montpellier, France in 2001, which was organized by Michel Lecoq, who is still a very engaged member of our society's board and always provides invaluable support. At that time, I had just finished my PhD, and I still remember meeting several colleagues for the first time, some of whom are now renowned orthopterists and active society members, including Fernando Montealegre-Z, our President Elect, Hojun Song, our excellent editor of *Metaleptea*, Piotr Naskrecki, who gave a keynote at our last congress, María Marta Cigliano, our Project Director of the Orthoptera Species File (OSF), as well as numerous well-known legends of orthopterology, such as Ted Cohn, Glenn Morris, Hugh Rowell, Sigfrid Ingrisch, Jeff Lockwood, David Ragge, and Daniel Otte to name just a few. I recall discussing with Roy Kleukers during a coffee break that we should also organize a European Orthopterists' Meeting. It took quite some time



until we finally held the first European Congress of Orthoptera Conservation in 2016 in Trier, Germany.

One of the great strengths of our Society is the special dedication of our members and their passion for Orthoptera. Our Society maintains several awards to recognize members' contributions to orthopterology. During the congress we will once again present these awards, including the Ted Cohn Award for Excellence as a Young Professional Orthopterist, the D.C.F. Rentz Award for Lifetime Dedication to Orthopterology, and the Sir Boris Uvarov Award in Applied Orthopterology. The application deadlines for all three awards are approaching, so please feel free to nominate suitable candidates or support applications from young orthopterists. All information about the awards can be found on our [website](#).

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The 8<sup>th</sup> International Congress of Orthopterology in Montpellier, France (2001)

Last week, I attended the Mohamed bin Zayed Species Conservation Fund Advisory Board meeting at the Smithsonian Tropical Research Institute (STRI) in Panama. Most of you are probably familiar with the outstanding scientific work on tropical forest research that has been conducted at STRI on Barro Colorado Island for decades. For me, such visits to species-rich tropical regions are always very special, particularly to places so well-known from the literature. Let us hope that this research institution will be preserved even in times of political uncertainty. As I am not very familiar with the neotropical Orthoptera fauna, I was grateful that our member James Miskelly validated and corrected my few Orthoptera observations from Panama on iNaturalist. One of them, *Goethalsiella tridens* Hebard, 1927, has only 32 observations on iNaturalist so far, and GBIF (Global Biodiversity Information Facility) lists only four museum records in addition to



*Goethalsiella tridens* from Panama

these. This once again illustrates the value of the citizen science platforms in helping us understand species distributions. *Goethalsiella tridens* appears to have a narrow distribution from central Costa Rica to Panama. I only found two papers mentioning this species on Google Scholar. The first one was the original description by Hebard (1927), where I learned that the type specimen was collected on Barro Colorado Island. The second paper was a phylogenetic study by Mugleston et al. (2018), who collected some specimens in Costa Rica and clarified their systematic relationships. OSF provides a photo of a specimen and mentions another publication by Nickel (1992), “Katydidids of Panama,” which I was not able to access. This highlights how understudied many tropical Orthoptera still remain. The behaviour, life cycle and ecology of many species has not yet been documented, although such information is crucial to support conservation efforts.

Last week, I was also involved in a discussion on two Californian Orthoptera, *Neduba extincta* Rentz, 1977 and *Conozoa hyalina* (McNeill, 1901). These two species are listed as Extinct on the IUCN Red List of Threatened Species as they have not been found for many decades despite targeted

searches. As an update of the Red List assessments is planned, we were able to add further information provided by our long-standing members David Lightfoot and David Weissman. Both species went extinct due to the conversion of their natural habitats into industrial-scale agriculture and urban areas. The ever-increasing demand of humans for food and other products still destroys habitats of numerous species on the planet, including Orthoptera.

Here in Luxembourg, we are currently working on a new national Red List of Orthoptera. This year, we have specifically searched for species that have not been confirmed in recent years. I was pleased to find *Euthystira brachyptera* (Ocskay, 1826) and *Omocestus haemorrhoidalis* (Charpentier, 1825), both of which have become extremely rare, being restricted to a few nature reserves with traditional grassland management. However, we were not able to confirm the presence of *Metrioptera brachyptera* (Linnaeus, 1761), a boreo-montane species that requires moist heathland, moist grassland, or montane meadows. Heathland habitats have virtually disappeared from Luxembourg and many montane species are vanishing due to climate warming and the increasing frequency of droughts in our region. In the neighbouring Rhineland-Palatinate (Germany), the species has also disappeared from many sites and is now restricted to the highest altitudes of the uplands. These examples demonstrate how important it is to document the presence and absence of Orthoptera species and liaise with conservation authorities, NGOs, and other stakeholders to promote conservation action.

I wish you all many enjoyable Orthoptera observations and the best success with your research projects. Please enjoy reading this issue of *Metaleptea* and many thanks to everyone who has contributed, especially our editors, Hojun Song and Derek A. Woller.

# 15<sup>th</sup> International Congress of Orthopterology Progress Update

By **MARTINA E. POCCO**

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**T**he 15<sup>th</sup> International Congress of Orthopterology (ICO2026) will take place in **Patagonia, Argentina, from March 8–12, 2026.**

This event will commemorate “**50 Years Advancing Orthoptera Research and Collaboration,**” celebrating the 50<sup>th</sup> anniversary of the Orthopterists’ Society (<https://ico2026.com.ar/>).

Preparations for ICO2026 are actively progressing. Below are key updates on the organization and planning:

**Abstract Submission – Closed.** The abstract submission period (May 2–September 12, 2025) has officially closed. The Organizing Committee thanks the global orthopterist community for an enthusiastic response. With over 150 abstracts submitted, a

## Speakers

 <p><b>Yanina Mariottini</b> Universidad del Centro, CONICET, Argentina.</p> <p>Theme Population structure and dynamics of grasshoppers in the Pampas and Patagonia regions of Argentina</p>	 <p><b>Nathan Bailey</b> University of St Andrews, Scotland.</p> <p>Theme Evolutionary biology, genomics, social behaviour in Crickets</p>	 <p><b>Koutaro Ouid Maeno</b> Japan International Research Center for Agricultural Sciences, Kyoto, Japan.</p> <p>Theme Insights into the reproductive ecology of desert locusts.</p>
 <p><b>Martin Husemann</b> Martin Luther Universität Halle Wittenberg, Germany.</p> <p>Theme Grasshopper species diversification</p>	 <p><b>Cyril Piou</b> Desert Locust Information Service, FAO, Rome, Italy.</p> <p>Theme Modeling of gregarization risk and population dynamics of locusts</p>	 <p><b>Daniel Otte</b> The Academy of Natural Sciences of Drexel University, Philadelphia, USA.</p> <p>Theme Stories and memories of places, people, and events from his journey as one of the founders of the Orthopterists’ Society and a systematist of crickets and grasshoppers</p>

rich and diverse scientific program is currently under development.

**Congress Program.** A tentative program including information on plenary and symposium sessions is available at the website <https://ico2026.com.ar/congress#program>. The scientific program includes **six plenary lectures**, featuring leading researchers in the field of Orthoptera, along with **ten symposia, five workshops, oral presentations, and poster sessions**. These activities will cover a broad spectrum of topics relevant to Orthoptera research and are designed to foster interdisciplinary dialogue, collaboration, and the development of new research directions.

**Registration.** Early Bird Registration has now closed (previously extended through September 22, 2025). **Regular Registration** is open until December 12, 2025. Members of the Orthopterists’ Society benefit from **discounted registration rates**. Abstracts from authors who do not complete registration by the December 12 deadline will be excluded from the final program. More information on fees, categories, payment methods, and deadlines can be found at: [ico2026.com.ar/registration](https://ico2026.com.ar/registration)

**Travel and Accommodation.** Detailed information on travel logistics and lodg-



ing options in **San Martín de los Andes, Argentina** is available on the congress website. For personalized assistance, contact: **Argentina Trips** – [team@argentina-trips.com](mailto:team@argentina-trips.com)

## Photo Gallery – Celebrating 50 Years of the Orthopterists’ Society.

To celebrate the 50<sup>th</sup> anniversary of the OS, a commemorative photo gallery will be featured on the ICO2026 website. Members are invited to contribute photos from: previous ICO meetings, field and lab work, and memorable moments with colleagues. Please include captions with names, locations, and dates. Submit photos to: [icorthopterology2026@gmail.com](mailto:icorthopterology2026@gmail.com)

**Social media.** Follow ICO2026 on social media for the latest updates, important reminders, and community highlights: **Instagram**, **Facebook**, and **LinkedIn**.

Looking forward to welcoming you to Argentina in 2026 for a memorable congress!

# Update on the Singing Insects of North America (SINA) Website

By **TERESA YAWN**  
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**A** *A Revision of the Shield-backed Katydid genus Aglaothorax (Orthoptera: Tettigoniidae: Tettigoniinae: Nedubini)*, authored by Jeffrey A. Cole, David B. Weissman, David C. Lightfoot, Norihiro Ueshima, and Elżbieta Warchałowska-Sliwa, was published in *Zootaxa* in July 2025. In this revision, the five *Aglaothorax* species that are already on the Singing Insects of North America (SINA) website were redescribed (*A. diminuta*,

*A. gurneyi*, *A. longipennis*, *A. morsei*, and *A. ovatus*). Twelve new species have been added to the genus, eight subspecies have been promoted to species rank, and three subspecies were reclassified as junior subjective synonyms. I received a copy of this revision in early August and have begun the process of adding the new information and the new species to SINA. The publication (104 pages) is available on SINA at <https://orthsoc.org/sina/literature/aglaothorax-2025.pdf>. As I add the species groups, spe-



*Aglaothorax morsei* Male (Photo credit: Brandon Woo)

cies pages, and map and image pages to SINA, I will extract the pages from the article that are relevant to particular groups and species, and make them available on SINA.

## Europe and Mediterranean Insect Conservation Symposium Announcement

By **LAURENT TATIN**  
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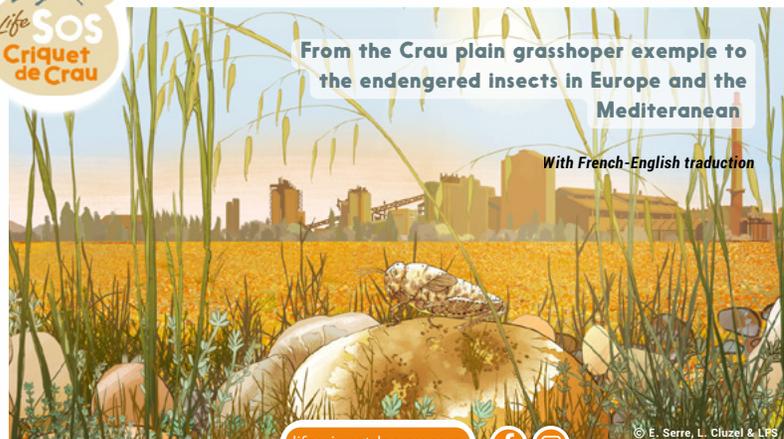
**W**e are delighted to invite you to the “SOS insects: reintroduction and conservation” symposium. Taking place on 5-6 May 2026 in Arles, France, the symposium will be bilingual, with French and English translation provided. The event will explore the challenges and how we can address them. Building on the example of the Crau Plain grasshopper we will expand our focus on endangered insects in Europe and the Mediterranean. The first day will be devoted to oral presentations and posters, while the second we will bring you into the Crau Plain and learn about 10 years of conservation actions for the endemic species *Prionotropis rhodanica*. The city of Arles, a UNESCO world heritage site, will host the conferences and dinner. Detailed information on the venues, symposium format and

### Symposium 2026

**MAY 5 & 6**  
 Arles, (France)

### SOS Insects : reintroduction and conservation

**What are the challenges and how to address them ?**



thematic areas, calls and deadlines, and travel and accommodation information will be soon available on the

event website: <https://www.lifecriquetdecrau.com/en/colloque-2026/>.

# Regional Reports - What's happening around the world?

## North America

By **KATHLEEN KING**  
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**D**r. Mathew Brust from Chadron State College in Nebraska, USA reported the following: “I teach at a small college (Chadron State College, CSC) in northwestern Nebraska and maintain an extensive insect collection. The collection at CSC currently contains over 12,000 specimens of Acrididae and Romaleidae, but very few specimens of other orthopteran groups. The specimens are primarily from the western two-thirds of Nebraska, western South Dakota, Wyoming, eastern Colorado, and Wisconsin. My primary focus on grasshoppers for the past decade has been sampling habitats that are often overlooked, such as wetlands, woodlands, and areas with abundant rock or sand exposures. The CSC grasshopper collection has been inventoried except for 2025 material, but the data are not yet available online. I also work with tiger beetles, lady beetles, cicadas, and various Lepidoptera.”

Meanwhile, the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Rangeland Grasshopper and Mormon Cricket Survey Program includes 17 western states. Each year, depending on needs and resource availability, each state conducts nymphal surveys to monitor hatching and population increases in early spring. Outbreaks may be treated to suppress populations numbers down to a more sustainable range. Mid to late summer, each state typically conducts adult surveys to monitor populations and potential areas of concern for the following year based on where adults may be depositing eggs. In 2025, USDA APHIS suffered from extreme staffing

shortages and, therefore, had reduced surveys in many areas. Final data will be presented at the National Grasshopper Management Board Meeting in early 2026. For other information about the Program or to view the 2025 Grasshopper Hazard Map, please visit: <https://www.aphis.usda.gov/plant-pests-diseases/gmmc>.

### Updates from the Global Locust Initiative: What's New on HopperWiki

At the [Global Locust Initiative \(GLI\)](#), we're committed to making information on locusts and grasshoppers more accessible, connected, and useful for the global community. That's the vision behind [HopperWiki](#), our open-access, community-driven platform that brings together science, management practices, and institutional knowledge on Orthoptera. If you are interested in contributing to HopperWiki in any way, please

request an account at the top right of the home page.

We're excited to share two major updates that expand HopperWiki's reach and strengthen its role as a global knowledge hub.

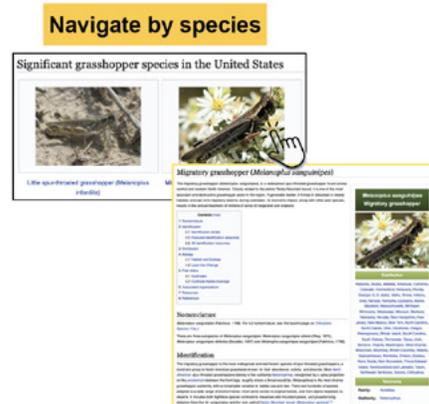
### Rangeland Community Management Portal

Grasshoppers and Mormon crickets are part of western U.S. rangelands, but outbreaks can devastate forage, consuming ~\$1.7 billion of forage annually. To help land managers respond, [GLI and the USDA APHIS PPQ Insect Management and Molecular Diagnostics Laboratory \(IMMDL Phoenix Station\)](#) created the [Rangeland Community Management Portal](#), now hosted on HopperWiki.

The portal covers 17 western states with interactive maps, species profiles, and management guides. It also makes decades of USDA surveys,



Screenshot of the current US Rangeland Management Community Portal on HopperWiki.



reports, and field records newly accessible, preserving critical knowledge while connecting it with modern tools for today's challenges.

### GLI Network Member Profiles

We've also moved [GLI Network member profiles](#) to HopperWiki to better highlight your expertise and work. Outbreaks may be unpredictable, but keeping expert knowledge visible year-round helps preserve institutional memory, foster collaboration, and amplify diverse voices.

**Search your name on HopperWiki to review your profile**

- To update or add details (including a photo), [fill out this form](#).
- If you do not see your profile but would like to be represented, please [fill out this form](#).
- If you'd prefer not to be listed, email [miraries@asu.edu](mailto:miraries@asu.edu).

Please also consider joining our online community, [HopperLink](#), the home of the [Global Locust Network](#). HopperLink is a private, easy-to-use platform where members connect, share research, events, and news, and collaborate on opportunities in orthopteran research and management.



Jacob Youngblood received an NSF grant for grasshopper research.

Congratulations to GLI Network Member Jacob Youngblood of Southern Oregon University (SOU) on his new NSF grant to study how rising temperatures and declining plant nutrients affect migratory grasshoppers. This species causes about \$393 million in forage losses annually in the USA. The three-year project, beginning August 1, combines fieldwork, lab experiments, and computer modeling to improve forecasts of

grasshopper outbreaks and inform pest management. It will also provide paid research opportunities for SOU students, advancing both national food security and student training in ecological research. The full article can be found at: <https://news.sou.edu/2025/07/sou-biologist-receives-nsf-grant-for-grasshopper-research/>.

The Entomological Society of America (ESA) annual meeting is approaching. The meeting will be held in Portland, Oregon from November 9-12. The theme for this annual meeting is "Bridging Generations with Innovation, Legacy, and Passion." For more details, check out their webpage at: <https://entsoc.org/>.

In local news of Greenview, Alberta, Canada, some counties declared an official state of disaster because of the combined impact of drought and grasshoppers. Media reports from July 2025 explain that dry conditions extending from 2024 into 2025 with the added pressures of grasshoppers have resulted in extreme impacts on livestock producers. The Municipal District of Greenview media release from July 14 stated "these conditions come at a vulnerable time for the livestock industry, and Council is concerned about the toll this is taking on our producers' mental well-being. Some producers are tilling under hay land in hopes of producing green feed in the latter half of the season. Others are contemplating liquidation, approaching auction markets for early opening." (The full article can be found at: <https://mdgreenview.ab.ca/greenview-declares-agricultural-disaster-for-livestock-industry/>). The Edmonton News also reported on the developing situation in July 2025. A Grande Cache Council member stated in a letter to the minister of Agriculture and Irrigation that "(t)he ongoing lack of precipitation over the past year, compounded by minimal spring runoff, has left pastures and hay lands severely depleted ...in addition, grasshopper infestations have exceeded action thresholds across the region, further damaging what limited

forage had managed to grow." The full article can be found at: <https://www.ctvnews.ca/edmonton/article/drought-and-infestation-prompts-live-stock-agricultural-disaster-in-western-alberta/>.

Other Orthoptera news from Canada include the anxious arrival of research publications from Dr. Dan Johnson of the University of Lethbridge in Lethbridge, Alberta, Canada. Dr. Johnson has been working on some extensive Orthoptera-over-time analyses but the paper is not submitted quite yet. Dr. Johnson also has a new paper on the role of Orthoptera in bird nutrition, which will be submitted later in September. Other pending research publications include one on extreme weather impacts on grasshoppers, and one on the biogeography of a katydid.

The 2025 Joint Annual Meeting of the Entomological Society of Alberta and the Entomological Society of Canada will take place from 5-8 October 2025 in Calgary, Alberta, Canada. The scientific program will start at 1 pm on Sunday, October 5, and the meeting will be held at the Best Western Premier Calgary Plaza Hotel & Conference Centre. Detailed information can be found on the official ESC website at: <https://entsocalberta.ca/jam2025/>.

# Theodore J. Cohn Research Fund Reports

## Impact of anthropogenic noise on the acoustically communicating Ensiferan communities A study from Eastern India

By **SOURADEEP DUTTA**

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**T**he health and sustainability of an ecosystem depend on its biotic organisation. A diverse ecosystem is a good indicator of its health, as biodiversity provides resilience and redundancies that are key to ecosystem functioning. Hence, threats to biodiversity, in the form of human activities, can lead to the functional collapse of an ecosystem.

Understanding threats to biodiversity requires a proper and effective way to measure it across different habitats. A majority of such research is intrusive and focuses on visually measurable biodiversity, ignoring the significance of elusive and nocturnal organisms. Interestingly, most organisms (>40%), including diurnals, use acoustics as the main modality for communication. By eavesdropping on this communication network through non-invasive passive recording, we can estimate biodiversity.

Since insects are the most diverse taxa, their diversity can serve as a crucial indicator of ecosystem health. Among insects, ensiferans are one such taxon that is present across various habitats and has mesmerizing acoustic diversity and complexity. The calls are species-specific and are used for conspecific recognition, male-male competition, and mate choice. However, anthropogenic noise, which has no particular signal structure, can mask the information exchange and result in communication breakdown, leading to the loss of species diversity.

This is especially true in developing countries like India where unrestricted

urban planning leads to habitat loss and indirect loss of species due to anthropogenic noise. In India, though the diversity of ensiferans is expected to be high, they are extremely data-deficient. Hence, globally and especially in India, it is critical to understand the effect of anthropogenic noise on acoustically communicating ensiferan communities.

In this study, we aim to estimate the health of natural ecosystems that are under anthropogenic stress (noise) by studying acoustically communicating ensiferan communities. Owing to its rapid growth, several natural habitats are under serious threat in the form of anthropogenic disturbance. However, due to a lack of proper studies, the threat status of most taxa and habitats is unknown. The two main questions of our study were:

1. Can anthropogenic noise affect the diversity and distribution of ensiferan communities?
2. Can anthropogenic noise alter communication patterns and acoustic traits in these communities?

### Results

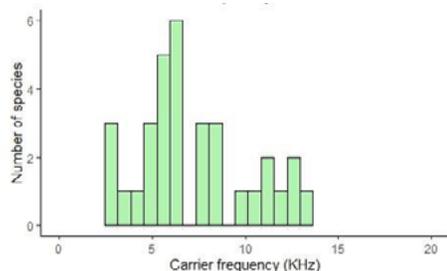
As the study sites were largely unexplored, very little was known about the existing species diversity and their distribution. Hence, year-long sampling was required, as Ensifera populations peak in the pre-monsoon and post-monsoon seasons and, thus, accounts for the seasonal variations and overall species diversity.

**Species Richness:** There are 40 different ensiferan species in the Il-

lambazar forest. Out of these, there are: 26 field crickets, 1 tree cricket, 1 raspy cricket, and 12 katydid. These species exhibit diverse temporal patterns, ranging from short chirps (each pulse of sound produced is known as a syllable, and they are grouped to form a chirp) to long uninterrupted trills (continuous, rapid series of similar pulses). Significant variation is also observed in the number of syllables in chirps. We also found considerable variation in spectral properties (carrier frequency, Fig. 1), ranging from 3KHz to 14 KHz. Both of these temporal and spectral properties are extremely species-specific and important for mate choice.



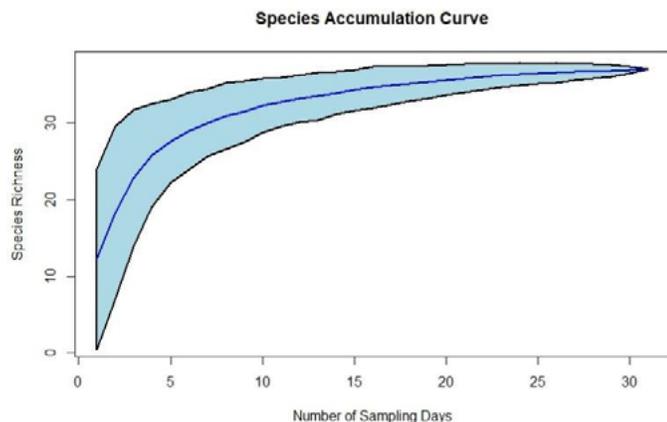
Variation in the carrier frequency of the Illambazar ensiferan community:



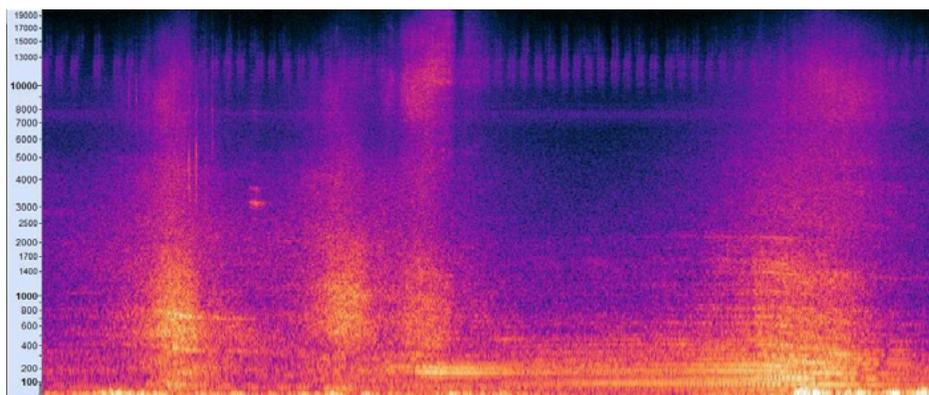
**Figure 1.** Carrier frequency of the different ensiferan species present in Illambazar.

Biodiversity estimation: Once I had a detailed idea about the species present in the study site, I started doing acoustic spot-sampling to estimate biodiversity. I also randomly deployed passive acoustic recorders (PAR) to gather the whole night data. PAR will account for the ultrasonic calls, which cannot be sampled by humans, and hence take care of the biased results. My data presently comprises only species richness. The abundance of these 40 species is currently being examined.

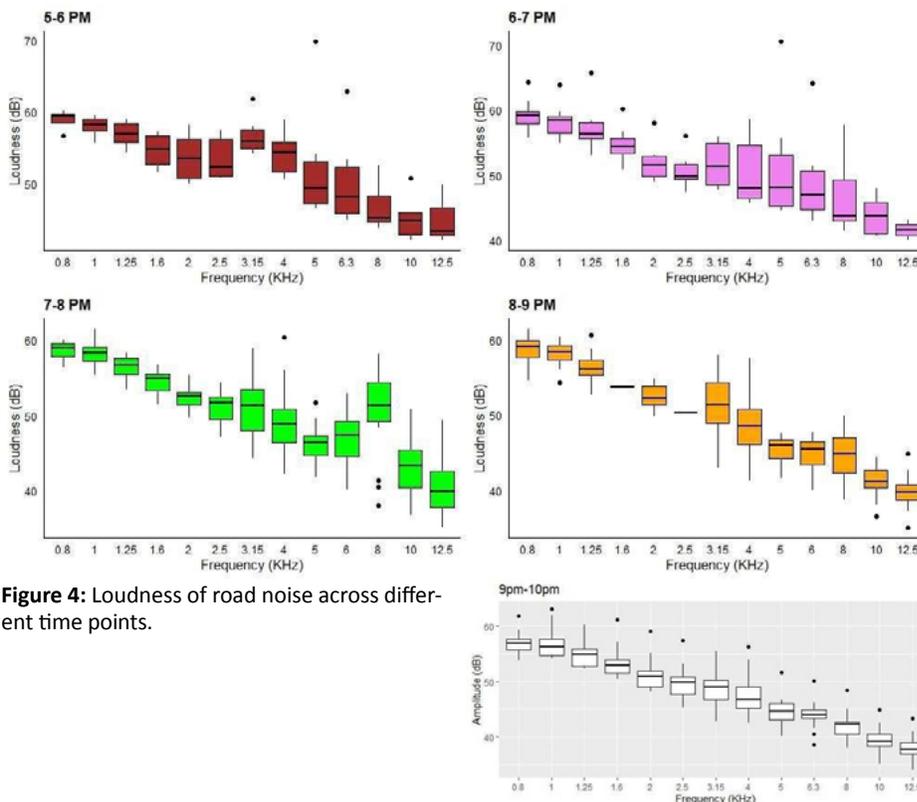
Sampling effort: We plotted the species accumulation curve (Fig. 2) to estimate our sampling effort and the probability of finding newer species with more sampling. The slope value of the curve is saturated, which suggests a very low probability of finding new acoustically communicating ensiferan species in this area with more sampling, at least post-monsoon season. Hence, we must sample this habitat more year-round, especially during the monsoon and pre-monsoon months.



**Figure 2.** Species accumulation curve of the acoustically communicating Ensifera community.



**Figure 3.** Spectrogram of road noise.



**Figure 4:** Loudness of road noise across different time points.

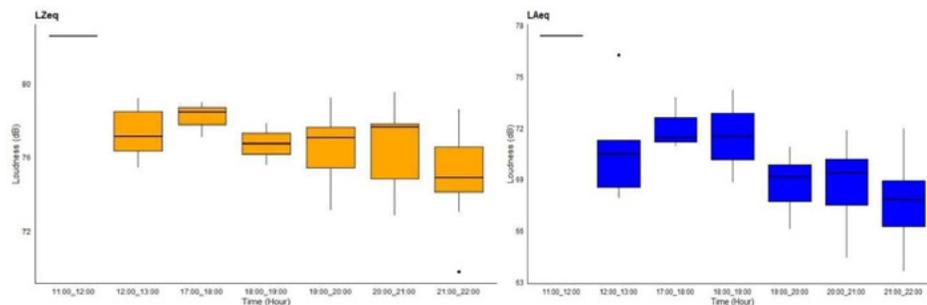
Estimation of anthropogenic disturbance (road noise): The image in Figure 3 shows the spectrogram of road noise. The road noise was quite high and encompassed most ensiferan species' calling frequencies in the region.

In our detailed temporal analysis, we also found (as depicted in Figure 4 below) that road noise in the Illambazar jungle is considerably high from the perspective of the ensiferan auditory

system. It had considerable overlap with the animal-calling frequency and activity time (evening, 6-10 PM) and could easily disrupt the communication network and information exchange. This clearly demonstrated that road noise poses a serious threat to the acoustically communicating ensiferan community.

Although the loudness of road noise decreases with increasing frequencies, the loudness between 3.15 - 10 kHz poses a significant selection pressure as it overlaps with the dominant spectral band of the ensiferan community. However, this analysis needs more work.

The previous graphs of road noise in



**Figure 5.** Loudness of road noise (in LAeq and LZeq modes).

Figure 4 showed only instantaneous measurements, which might have provided incomplete information. Hence, we measured loudness in LAeq and LZeq modes (Fig. 5), which provide cumulative loudness over a duration of time without any frequency bias. We found that the loudness in these modes was significantly higher, sug-

gesting a stronger impact of anthropogenic noise.

#### Future directions

This study revealed that the Illambazar forest has extremely high ensiferan diversity and their communication is likely disrupted by anthropogenic noise. This preliminary

study demonstrates the necessity of further, longer-term studies in this and surrounding areas. We are currently exploring these three objectives:

1. Compare the ensiferan diversity (richness and abundance) between the roadside and non-roadside habitats of the Illambazar forest.
2. Compare the ensiferan diversity (richness and abundance) with the other least-disturbed and intermediately disturbed sites.
3. Compare the call parameters (spectral, fine, and coarse temporal characters, loudness) of the same species populations present in the other least-disturbed and intermediately disturbed sites.

## Orthoptera Species File Grant Reports

### Documenting the types of poorly known Ensifera: Orthoptera in European museums

By **VICTOR MORAIS GHIROTTO**

Programa de Pós-Graduação Em Evolução E Diversidade, Universidade Federal Do ABC  
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**O**n my first time ever outside of Brazil, I could only be amazed to visit three of the largest natural history collections in the world. Museums hold ineffable importance to science, to biology, to taxonomy. In the Museum d'Histoire Naturelle (MHNG), Geneva, Switzerland, the Museum für Naturkunde (MfN), Berlin, Germany, and the Naturhistorisches Museum Wien (NMW), Vienna, Austria, I was able to be awed at the large collections of stick insects or phasmids (Phasmatoidea), my main scope of study, comprising thousands of specimens from all over the world, and of Orthoptera, the main subject of the grant I received from the Orthoptera Species File (OSF).

I was very kindly received by Dr. Lionel Monod and Mr. John Hollier at the MHNG, Dr. Birgit Jaenicke at the

MfN, and Dr. Susanne Randolf and Mag. Harald Bruckner at the NMW. They were very considerate and visiting the collections wouldn't be possible without them, so I'm sincerely thankful for their assistance.

For my Master's research in Brazil, I needed to visit these museums to study project-related specimens. The grant allowed me to do that successfully (Ghirotto et al., 2023; 2024) and, furthermore, to contribute to both the Phasmida Species File and the OSF, amazing databases that have always been helpful to me.

I proposed to photograph some phasmid types and also 422 valid and synonymized species of Ensifera orthopterans of the families Tettigoniidae, Gryllacrididae, Anostostomatidae and Stenopelmatidae that I noted lacked pictures on the OSF platform (Cigliano et al., 2025). Those are among the least-studied groups of Orthoptera (Cigliano et al., 2025),

hence the importance of photographing type material, taking synonyms into account as there are many new information that could arise from a modern revision of such material, including taxonomic decisions. In entomology, it is not uncommon to discover old synonymies to be in error. Finding much frustration when I see an old species with no pictures, or with only few poorly detailed pictures on the Phasmida Species File (PSF) and required to do detective work on original descriptions to make out conclusions, I know first-hand how helpful for taxonomy good quality pictures of type materials are.

Not all of those species were located and once I was in Europe I noticed several of the species that I proposed to illustrate (exactly because they lack pictures) had already been photographed and counted with pictures available on the OSF, especially for representatives of Tettigoniidae. Fur-



**Figure 1.** Example of photographed specimen, showing only part of the pictures uploaded to the Orthoptera Species File for this species. Holotype male of *Hadrogyllacris modesta* (Brunner von Wattenwyl, 1888), its position in its drawer, its labels, habitus, and details, from Naturhistorisches Museum, Wien, Austria.

thermore, I did not photograph around 58 species in Berlin, because they were described from 2009 to 2020 and are already illustrated through good quality pictures available for researchers in online published papers, plus I had some time constraints there. Still, much work was done. I photographed in detail 210 species, totalling 290 specimens, illustrated in around 2,600 photos. In several instances, the junior synonyms that I photographed are currently the only type material of the valid species available on the OSF. Also, some of the additions include the only pictures on the platform available for an entire genus: *Diastellidea* Bolívar, 1902 with no recent papers illustrating it. Figure 1 shows an example of a photographed specimen, and Table 1 lists all photographed specimens. Each insect was photographed in several views (Fig. 1), varying for each case

as I had to deal with the condition of fixation of each specimen, which could include structures being covered or hidden from view by other appendages (Fig. 2, first row), collapsed abdomens, bent or deformed bodies (Fig. 2, second row), etc. Additional type specimens of a same sex were sometimes also photographed, although in fewer views. The labels of each specimen were also photographed. For each species, I aimed at photographing anterior, dorsal, lateral, ventral and posterior views, as well as details of wings and terminalia of both sexes whenever possible. Sometimes more than one photo of the same structure in similar view were needed with slightly varying angles to convey obstructed visualization of such structure (Fig. 2).

In Geneva, six species on my list were already photographed by Christina Lehmann-Graber of the MHNG and I uploaded these photos with permission (species marked with an asterisk in Table 1). The pictures were all uploaded in the platform through Taxon Works, in addition to 22 new type specimens added as new collection objects that were lacking in the



**Figure 2.** Example of photographed specimens. First row, head with obstructed view, female syntype *Promeca vittata* Brunner von Wattenwyl, 1895 = *Promeca fuscescens* (Haan, 1843) from Museum d'Histoire Naturelle, Geneva, Switzerland. Second row, body deformed, showing terminalia in several angles, holotype male of *Gryllacris parvula* Brunner von Wattenwyl, 1888 (homonym) = *Caustogyllacris podocausta pallidior* (Pictet & Saussure, 1893) from Naturhistorisches Museum, Wien, Austria.

Genus	Species	M	F	MHNG	MFN	NMW	Genus	Species	M	F	MHNG	MFN	NMW
Abelona	<i>Ab. parvula</i>		X			O	Conocephalus	<i>Co. albescens</i>		X	O		
	= <i>Gr. haitensis</i> syn. j.							= <i>Xiph. latifrons</i> syn. j.					
Afrogyllacris	<i>Af. agricana piceotecta</i>		X			O		<i>Co. ictus</i>	X	X	O		
Ametroides	<i>Ame. brunni</i>	X				O		= <i>Xiph. mexicanum</i> syn. j.					
	<i>Ame. innotatus</i>		X			O		<i>Co. saltator</i>		X	O		
	<i>Ame. ituriensis</i>		X			O		= <i>Xiph. brachypterum</i> syn. j.					
Ammopelmatus	<i>Amm. hydrocephalus</i>		X			O		<i>Co. semivittatus vittatus</i>		X	O		
Anabropsis	<i>Anb. cervicornis</i>	X				O		= <i>Xiph. geniculare</i> syn. j.					
	<i>Anb. femoratus*</i>		X	O				<i>Co. upoluensis</i>	X		O		
	<i>Anb. frater</i>	X				O		= <i>Xiph. modestum</i> syn. j.					
	<i>Anb. mexicana</i>	X	X	O			Copiphora	<i>Cop. capito</i>	X		O		
Anancistrogera	<i>Ann. bicornuta</i>		X			O	= <i>Cop. carinata</i> syn. j.						
	<i>Ann. brachyptera brevisector</i>	X				O	Cratomelus	<i>Cr. armatus</i>		X	O		
	<i>Ann. crucispina</i>	X				O	= <i>Stenopel. chilensis</i> syn. j.						
	<i>Ann. fuscineris panayensis</i>	X				O	Diaphanogryllacris	<i>Dia. aequalis</i>	X	X	O		O
	<i>Ann. nigrogeniculata</i>	X				O		= <i>Gr. annulata</i> syn. j.					
	<i>Ann. plebeja connexa</i>	X				O		<i>Dia. gladiator</i>	X				O
	<i>Ann. recticauda ochrocnemis</i>	X				O		= <i>Gr. minor</i> syn. j.					
	<i>Ann. recticauda ochropis</i>		X			O		<i>Dia. laeta laeta</i>	X				O
<i>Ann. recticauda recticauda</i>		X			O	= <i>Gr. chinensis</i> syn. j.							
Anaulacomera	<i>Anu. angustifolia</i>	X	X	O			Diastellidea	<i>Dis. pisifolia</i>	X		O		
	<i>Anu. angustipennis</i>	X		O			Dictyogryllacris	<i>Dic. reticulata reticulata</i>	X				
	<i>Anu. denticauda</i>	X	X	O	O		<i>Dic. reticulata uzeliانا</i>		X				O
	<i>Anu. securifera</i>	X		O			<i>Dic. signatifrons signatifrons</i>						
	<i>Anu. sulcata</i>	X		O			= <i>Gr. facifer</i> syn. j.		X	O			O
Anderus	<i>And. maculifrons</i>	X	X	O			= <i>Gr. latipennis</i> syn. j.						
	= <i>Onosand. maori</i> syn. j.												
Anostostoma	<i>An. spinosum</i>		X			O	Dracogryllacris	<i>Dr. nigr. nigromarginata</i>	X				O
Aphanogryllacris	<i>Aph. emarginata</i>		X			O	Dysonia	<i>Dy. melaleuca</i>		X	O		
	<i>Aph. inconspicua kuhnei</i>	X	X			O	= <i>Aphidnia decolor</i> syn. j.						
	<i>Aph. samarita</i>	X				O	Engonia	<i>En. minor</i>		X	O		
	<i>Aph. melanosticta</i>	X				O	Ephippiger	<i>Ep. terrestris</i>	X	X	O		
	<i>Aph. modesta</i>	X				O	Eremus	<i>Er. basalis basalis</i>	X	X			O
	<i>Aph. patellaris</i>		X			O		#NAME?					
	<i>Aph. privata</i>		X			O		<i>Er. rugosifrons</i>	X				O
<i>Aph. sectoralis</i>		X			O								
Apotrechus	<i>Apo. unicolor</i>		X			O							
Arantia	<i>Ara. dentata</i>	X		O			Eugryllacris	<i>Eu. maculipennis bakeri</i>		X	O		
	<i>Ara. gracilicercata</i>	X			O			<i>Eu. moesta moesta</i>	X				O
Arota	<i>Aro. pisifolia</i>	X		O				<i>Eu. sordida</i>		X	O		
Asarcogryllacris	<i>As. macilentata ardjunae</i>		X			O		<i>Eu. vittipes lineosa</i>		X			O
Atychogryllacris	<i>At. holdhausi</i>		X			O		= <i>Gr. nasalis sibuyana</i> syn. j.					
Australogryllacris	<i>Au. ornata cyanea</i>		X			O	Fulvoscirtes	<i>Fu. manyara</i>	X	X		O	
Bochus	<i>Boc. puncticeps*</i>	X		O			<i>Fu. viridis</i>	X	X		O		
Borneogryllacris	<i>Bor. deschampsii</i>		X			O	Glomeremus	<i>Gl. marginatus</i>		X			O
Brachybaenus	<i>Brb. cubensis</i>		X	O			Gongrocnemis	<i>Go. mexicana</i>	X		O		
Brachyporus	<i>Brp. pallidifrons</i>		X			O		= <i>Go. azteca</i> syn. j.					
	<i>Brp. personatus</i>	X	X			O		<i>Go. munda</i>					
Brochopeplus	<i>Bro. exaltatus</i>		X	O				= <i>Lichen. nigrifrons</i> syn. j.	X		O		
	= <i>Bro. reticulatus</i> syn. j.							= <i>Lichen. brevistylus</i> syn. j.					
Caloxiphus	<i>Cal. brevifolius</i>	X		O			<i>Go. tenebrosa</i>		X	O			
	= <i>Scop. reticulatus</i> syn. j.						= <i>Lichen. vaginalis</i> syn. j.						
Capnogryllacris	<i>Cap. elongata</i>		X	O			Gongrocnemis	<i>Go. mexicana</i>	X		O		
	<i>Cap. obscurata</i>	X	X			O		= <i>Go. azteca</i> syn. j.					
	<i>Cap. gigantea</i>	X	X			O		<i>Go. munda</i>					
	<i>Cap. pictipes</i>	X				O		= <i>Lichen. nigrifrons</i> syn. j.	X		O		
	<i>Cap. soror</i>	X				O		= <i>Lichen. brevistylus</i> syn. j.					
<i>Cap. superba</i>	X				O	<i>Go. tenebrosa</i>		X	O				
Caustogryllacris	<i>Cau. podocausta pallidior</i>	X				O	= <i>Lichen. vaginalis</i> syn. j.						
	= <i>Gr. parvula</i> syn. j.												
Chlorobalius	<i>Ch. leucoviridis</i>		X	X	O								
	= <i>Yorkiella vidua</i> syn. j.												
	= <i>Yorkiella picta</i> syn. j.												
Clonia	<i>Cl. lalandei</i>		X	O									

**Table 1.** List of all Orthoptera species photographed, organized by genera and valid names. Junior synonyms photographed are noted below the valid name. An X marks which sex was photographed and an O marks in which museum the specimens were photographed. Shades in blue indicate representatives of Stenopelmatidae, in beige - Gryllacrididae, in brown - Anostostomatidae, and in green - Tettigoniidae. An asterisk (\*) indicates six species of which images were taken by Christina Lehmann-Graber of the MHNG and uploaded by me to the Orthoptera Species File with permission. The expression "syn. j." means "junior synonym" to indicate the invalid name.

Genus	Species	M	F	MHNG	MFN	NMW	Genus	Species	M	F	MHNG	MFN	NMW
Gryllacris	<i>Gr. aethiops</i>	X	X			O	Mimetica	<i>Mim. incisa</i>		X	O		
	<i>Gr. bancana</i>	X				O		= <i>Mim. marmorata</i> syn. j.					
	<i>Gr. contracta contracta</i>		X			O	Minarisoma	<i>Min. crassipes</i>		X			O
	#NAME?						Morgenia	<i>Mo. modulata</i>	X			O	
	<i>Gr. deminuta</i>		X	O			Nannogryllacris	<i>Nan. niaoulii</i>	X	X			O
	<i>Gr. fuscifrons</i>	X				O	Nasidius	<i>Nas. brunneri</i>	X				O
	= <i>Gr. variabilis</i> syn. j.						Neanias	<i>Nea. squamatus</i>	X	X			O
	<i>Gr. obscura robustior</i>	X	X			O	Neoconocephalus	<i>Neo. fuscinervis</i>		X	O		
	<i>Gr. kinabaluensis</i>	X				O		<i>Neo. triops</i>		X	O		
	<i>Gr. maculata maculata</i>	X	X			O		= <i>Co. obscurellus</i> syn. j.					
	= <i>Gr. lugubris</i> syn. j.							<i>Neo. tuberculatus</i>		X	O		
	<i>Gr. malayana</i>	X	X	O			Onomarchus	= <i>Co. dentifrons</i> syn. j.					
	<i>Gr. panamensis</i>		X			O		<i>Onom. leuconotus</i>	X		O		
	= <i>Gr. maculata</i> syn. j.						= <i>Onom. latipennis</i> syn. j.						
	<i>Gr. signifera intermedia</i>	X				O	Onosandrus	<i>Onos. saussurei*</i>		X	O		
<i>Gr. signifera padangica</i>	X				O	Orchelimum	<i>Or. agile</i>	X	X	O			
<i>Gr. sirambeica litoralis</i>	X				O		= <i>Xiph. nitidum</i> syn. j.						
							<i>Or. concinnum</i>	X		O			
							= <i>Xiph. inerme</i> syn. j.						
Hadrogryllacris	<i>Had. longa</i>	X	X			O	Otidogryllacris	<i>Ot. longispina</i>	X				O
	= <i>Paragr. latelineolata</i> syn. j.						Papuogryllacris	<i>Pag. rammei</i>		X		O	
	<i>Had. modesta</i>	X				O		<i>Pag. adoxa</i>		X		O	
						= <i>Gr. adoxa tenuispina</i> syn. j.							
Haplogryllacris	<i>Hap. castanea</i>	X				O	Papuoneanias	<i>Pan. lobulatus</i>	X				O
	<i>Hap. simplex</i>		X			O	Paralichenochnus	<i>Pal. turpis</i>	X	X	O		
	= <i>Gr. hieroglyphica</i> syn. j.						Paramacroxiphus	<i>Pam. rufus</i>	X	X			O
	<i>Hap. verticalis</i>	X				O	Parapleminia	<i>Pap. viridinervis</i>	X	X	O		
= <i>Gr. latifrons</i> syn. j.						Penalva	= <i>Lichen. variabilis</i> syn. j.						
Hemihetrodes	<i>Hem. bachmanni</i>		X	O			Pezodrymadusa	<i>Pez. dentata</i>	X		O		
	= <i>Hem. peringueyi</i> syn. j.						Phlugis	<i>Phl. chrysopa</i>		X	O		
Henicus	<i>Hen. brevimumcratus*</i>	X		O				= <i>Thysdrus infirmus</i> syn. j.					
	<i>Hen. pattersoni</i>	X				O	Phryganogryllacris	<i>Phr. arctatiformis</i>		X			O
Heterogryllacris	<i>Het. inexpectata</i>	X				O	Phryganogryllacris	<i>Phr. nivea</i>	X		O		
Hyalogryllacris	<i>Hya. debilis</i>		X			O		= <i>Gr. imbecilis</i> syn. j.					
	<i>Hya. munda munda</i>		X			O	Phyllomimus	<i>Phl. detersus</i>		X	O		
	= <i>Gr. hyalina</i> syn. j.						= <i>Phl. truncatifolius</i> syn. j.						
Hyperphrona	<i>Hye. bidentata</i>	X		O			Phylloptera	<i>Phy. derodifolia</i>	X		O		
	<i>Hye. prudhommi</i>		X	O				<i>Phy. tenella</i>	X		O		
	<i>Hye. submaculata</i>	X		O			Pissodogryllacris	<i>Pi. bedoti</i>		X	O		
	<i>Hye. viridifolia</i>		X	O				<i>Pi. mannae</i>		X	O		
						<i>Pi. saussurei</i>			X	O			
Hypocophus	<i>Hyo. fortior</i>		X			O	<i>Pi. silvestrii</i>		X	O			
Insara	<i>In. fasciata</i>	X	X		O		Plagiopleura	<i>Pl. nigromarginata</i>		X	O		
Isophya	<i>Is. tartara</i>	X	X	O				= <i>Pl. arbustorum</i> syn. j.					
Itarissa	<i>It. coriacea</i>	X		O			Promeca	<i>Prm. fuscescens</i>	X	X	O		
Larnaca	<i>La. eugenii</i>	X				O	Prosopogryllacris	= <i>Prm. vittata</i> syn. j.					
	<i>La. distincta</i>		X	O				<i>Pr. melanophoxa</i>		X			O
	<i>La. nigrata nigrata</i>	X				O	<i>Pr. paradoxa</i>	X				O	
Leptoderes	<i>Led. ornatipennis</i>	X		O			<i>Pr. personata personata</i>	X	X	O		O	
	= <i>Eupart. gratiosa</i> syn. j.						= <i>Gr. falcata</i> syn. j.						
Leptophyes	<i>Lep. laticauda</i>	X	X	O			Pterophylla	<i>Pt. camellifolia camellifolia</i>		X	O		
	= <i>Barbit. ruficosta</i> syn. j.							= <i>Platy. zimmermanni</i> syn. j.					
Letana	<i>Le. linearis</i>	X	X	O			Resecabimus	<i>Re. aratus</i>		X	O		
	= <i>Pyrrhi. nigrovittata</i> syn. j.						Rhacocleis	<i>Rh. annulata</i>	X	X	O		
Leurophyllum	<i>Le. nigrosparsa</i>	X		O				= <i>Pterolepis brisoutii</i> syn. j.					
	= <i>Pyrrhi. connata</i> syn. j.						Ruspolia	<i>Ru. dubia</i>		X	O		
	<i>Leu. consanguineum</i>	X	X	O			Saga	<i>Sag. natoliae</i>		X	O		
= <i>Acanthodis regina</i> syn. j.						= <i>Sag. brunneri</i> syn. j.							
Libanasa	<i>Li. femoralis</i>	X				O	Salomona	<i>Sal. godeffroyi</i>		X	O		
	<i>Li. incisa</i>		X			O	Scaphura	= <i>Sal. sigma</i> syn. j.					
= <i>Carc. fusca</i> syn. j.						<i>Sca. infuscata</i>			X	O			
Lutosa	<i>Lu. goeldiana*</i>	X	X	O			Scudderia	<i>Scu. mexicana</i>	X	X	O		
Mastophyllum	<i>Ma. scabricolle</i>		X	O			Semenoviana	= <i>Scu. furculata</i> syn. j.					
	= <i>Diophanes rex</i> syn. j.							<i>Se. tamerlana</i>	X	X	O		
Meconema	<i>Mec. meridionale</i>		X	O			Siderogryllacris	<i>Si. siderea</i>	X				O
	= <i>Mec. brevipenne</i> syn. j.												
Melaneremus	<i>Mel. fuscoterminatus</i>	X				O							
Metriogryllacris	<i>Met. amitarum</i>	X	X			O							
Microcentrum	<i>Mic. lanceolatum</i>		X	O									
	= <i>Phyllop. salvifolia</i> syn. j.												

Genus	Species	M	F	MHNG	MFN	NMW	Genus	Species	M	F	MHNG	MFN	NMW
<i>Spizaphilus</i>	<i>Sp. ornatus</i>	X	X			O	<i>Tryposoma</i>	<i>Try. brachyurum</i>	X	X			O
<i>Stibaroptera</i>	<i>Stib. nitidifolia</i>		X	O			<i>Tympanocompus</i>	<i>Tym. acclivis</i>		X	O		
	= <i>Stibara cornea</i> syn. j.							= <i>Mormotus insignis</i> syn. j.					
<i>Stictogryllacris</i>	<i>Stic. atriceps</i>		X	O			<i>Typophyllum</i>	<i>Typ. erosifolium</i>		X	O		
	= <i>Gr. picteti</i> syn. j.							= <i>Typ. peruvianum</i> syn. j.					
	<i>Stic. laetitia graueri</i>	X				O		<i>Typ. mortuifolium</i>		X	O		
	<i>Stic. nana</i>	X	X			O		= <i>Typ. lunatum</i> syn. j.					
<i>Tanusia</i>	<i>Stic. pygmaea</i>		X			O	<i>Uromenus</i>	<i>Ur. cockerelli</i>	X	X	O		
	<i>Ta. colorata</i>		X	O				<i>Ur. hastatus</i>	X	X	O		
	= <i>Ta. grandiocellata</i> syn. j.							<i>Ur. pardoi</i>	X	X	O		
	<i>Ta. decorata</i>	X	X	O				= <i>Ur. alhoceimae</i> syn. j.					
<i>Tegra</i>	= <i>Ta. variabilis</i> syn. j.						<i>Xanthogryllacris</i>	<i>Xa. astemmna</i>		X			O
	<i>Teg. viridivitta</i>		X	O				<i>Xa. punctipennis aurantiaca</i>	X				O
<i>Tenuigryllacris</i>	= <i>Tarphe fasciata</i> syn. j.						<i>Zabalius</i>	<i>Za. apicalis apicalis</i>		X	O		
	<i>Ten. fruhstorferi</i>	X	X			O		= <i>Matae. casamancae</i> syn. j.					
<i>Tinzeda</i>	<i>Ti. lobata</i>	X		O			<i>Zumala</i>	<i>Zu. cingalensis</i>		X	O		
<i>Trigonocorypha</i>	<i>Trig. abnormis</i>		X	O				= <i>Scutot. humbertiana</i> syn. j.					
<i>Triencentrus</i>	<i>Trie. amazonicus</i>	X		O									
	= <i>Anch. peruviana</i> syn. j.												

platform. By the way, the grant made possible another personal aspiration: I took very good quality pictures using my then newly acquired Canon EOS 70D camera equipped with Canon 100mm USM macro lens, covered by the grant; I had no professional cameras before that.

Furthermore, I was also able to contribute to the PSF database by providing pictures of type material consisting of 102 specimens for 86 species of mostly neotropical groups (Table 2). The phasmids were photographed in a method similarly described for Orthoptera, and pictures were forwarded to the curator of the PSF, Paul D. Brock, who swiftly uploaded the photos to the platform. Although most photographed phasmid species already had pictures on the platform, the majority of these comprised only a full body picture not showing details, which I accompanied with good quality pictures of detailed characteristics. This grant further allowed me to learn how to work with the TaxonWorks platform. I really hope my efforts contribute to research on the groups in this grant, and aid and motivate researchers. This project greatly impacted my career and my professional growth, as I was not only able to improve my master project on stick-insects by analysing crucial type material (see: Ghirotto et al., 2023; 2024), and I also got to engage with worldwide fauna of phasmids

and orthopterans. Currently, for my PhD, I'm dealing with the whole stick insect order, greatly drawing from the experience of analysing several phasmid groups in the museums I visited as a consequence of the grant. Furthermore, the grant allowed me to gain knowledge and assurance on Orthoptera taxonomy and I'm now more prepared to work with this group, which I plan to do in parallel while keeping my main focus on phasmids. I hope researchers have similar fulfilling experiences with the OSF.

I could not conclude this report without acknowledging the crucial and generous support from Dr. Maria M. Cigliano and María Belén Cabrera with the OSF and Paul D. Brock with the PSF, for which I'm very thankful.

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**Table 2.** List of all Phasmida species photographed, organized by genera and valid names. Junior synonyms photographed are noted below the valid name. An X marks which sex was photographed and an O marks in which museum the specimens were photographed. The expression “syn. j.” means “junior synonym” to indicate the invalid name.

Genus	Species	M	F	MHNG	NMW	Genus	Species	M	F	MHNG	NMW
Agrostia	<i>Ag. affinis</i>	X			O	Lamponius	<i>Lam. guerini</i>	X		O	
	<i>Ag. cinerea</i>		X		O		= <i>Ocn. adulterina</i> syn. j.				
	= <i>Per. grisescens</i> syn. j.					Libethra	<i>Lib. aculeata</i>	X			O
	<i>Ag. rugicollis</i>	X	X		O		<i>Lib. rugosa</i>		X		O
	= <i>Per. nigrogranulosus</i> syn. j.						<i>Lib. socia</i>		X		O
<i>Ag. sexmaculata</i>	X			O	<i>Lib. unidentata</i>	X				O	
Anisa	<i>Ani. flavomaculata</i>		X		O	<i>Lib. venezuelica</i>					
	= <i>Isagoras nitidus</i> syn. j.					= <i>Lib. secunda</i> syn. j.	X	X	O		
Antherice	<i>Ant. gracilis</i>	X			O	= <i>Lib. soror</i> syn. j.					
Bacteria	<i>Ba. amazonica</i>	X			O	Litosermyle	<i>Lit. inconspicua</i>	X	X		O
	<i>Ba. brasiliensis</i>	X			O		<i>Lit. submutica</i>		X		O
	<i>Ba. dentatocercata</i>	X			O	Malacomorpha	<i>Ma. poeyi</i>	X	X	O	
	<i>Ba. divertens</i>	X			O		<i>Me. armatum</i>		X		O
	<i>Ba. lobulata</i>		X		O		<i>Me. iphicles</i>		X		O
Brizoides	<i>Br. lacteipennis</i>	X			O	Metriophasma	<i>Me. pericles</i>		X		O
	<i>Br. lugubris</i>	X			O		Ocnophila	<i>O. integra</i>	X		
Canuleius	<i>Ca. inermis</i>	X			O	Paraceroy	<i>Pac. quadrispinosus</i>	X			O
	<i>Ca. ingenua</i>	X	X		O	Paraleptynia	<i>Pal. fiebrigi</i>		X		O
	<i>Ca. nattereri</i>	X			O	Parastratocles	<i>Par. adelphus</i>	X			O
	<i>Ca. pedestris</i>		X		O		<i>Par. forcipaus</i>		X		O
	<i>Ca. sanguinolentus</i>	X			O		= <i>Par. aeruginosus</i> syn. j.				
	<i>Ca. similis</i>		X		O		<i>Par. flavipes</i>	X			O
Ceroys	<i>Ce. baculus</i>	X		O		<i>Par. rufipes</i>		X		O	
	<i>Ce. cristatus</i>	X	X		O	Prexaspes	<i>Pre. quadriguttatus</i>		X		O
	<i>Ce. pusillus</i>	X		O		Prisopus	<i>Pri. biolleyi</i>	X		O	
Cladomorphus	<i>Cldm. rubus</i>		X	O		Pseudophasma	<i>Psp. amabile</i>	X			O
Cladoxerus	<i>Clxs. dentipes</i>		X	O			<i>Psp. blanchardi</i>	X	X		O
	<i>Clxs. longimanus</i>		X	O			= <i>Psp. annulipes</i> syn. j.				
Creoxylus	<i>Cr. impennis</i>	X	X		O		<i>Psp. boliviana</i>	X	X		O
	<i>Cr. poeyi</i>	X		O			<i>Psp. flavicorne</i>		X		O
Dyme	<i>D. atropurpurea</i>	X		O			<i>Psp. flavipenne</i>		X		O
	<i>D. bifrons</i>	X	X		O		<i>Psp. marmoratum</i>	X	X		O
	<i>D. mamillata</i>	X			O		<i>Psp. quitense</i>		X	O	
Ecuadoriphasma	<i>Ec. cognatum</i>	X	X		O		<i>Psp. rugosum flavolineata</i>	X			O
Eucles	<i>Eu. imperialis</i>	X	X		O		<i>Psp. rugosum rugosum</i>	X	X		O
	<i>Eu. intermedius</i>		X		O	Pseudosermyle	<i>Pss. inconspicua</i>	X		O	
Exocnophila	<i>Ex. brevitarsata</i>	X	X		O	<i>Pss. olmeca</i>	X		O		
Globocalynda	<i>G. simplex</i>		X		O	<i>Pss. parvula</i>	X		O		
Heteronemia	<i>H. emortualis</i>		X	O		Pygirhynchus	<i>Py. bispinosus</i>	X	X		O
	<i>H. maxima</i>		X		O		= <i>Ocnoph. armata</i> syn. j.				
	<i>H. paucispinosa</i>		X		O		<i>Py. fortior</i>	X			O
Isagoras	<i>I. brevipes</i>		X		O	<i>Py. muricatus</i>		X		O	
	<i>I. dentipes</i>		X		O	Sermyle	<i>Se. mexicana</i>		X	O	
	<i>I. glyptomerion</i>		X		O	Urucumania	<i>U. dentata</i>		X		O
	= <i>I. proximus</i> syn. j.					Xera	<i>Xera debilis</i>		X	O	
	<i>I. perillus</i>		X		O	Xerosoma	<i>Xero. canaliculatum</i>		X		O
	<i>I. plagiatus</i>	X			O		= <i>Xero. senticosa</i> syn. j.				
<i>I. jurinei</i>	X		O		<i>Xero. michaelis</i>			X		O	
Laciphorus	<i>Lac. capitatus</i>	X		O							

## Contributed Articles

### Orthopterological Operas: Beauties and the Beasts

By **JEFFREY A. LOCKWOOD**  
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**T**hose who attended the 13<sup>th</sup> International Congress of Orthopterology in Agadir, Morocco, were treated to a live performance of *Locust: The Opera*. This 1-hour chamber opera told the story of the extinction of the infamous Rocky Mountain locust, *Melanoplus spretus*, and what the disappearance of this iconic species means for understanding our place in the natural world. A very fine video-recording of an earlier performance along with the subtitled libretto is available:

**Scene I:**

[https://youtu.be/L\\_4xzj7gAjA](https://youtu.be/L_4xzj7gAjA)

**Scene II:**

<https://youtu.be/KyK4jQwcfw>

**Scene III:**

<https://youtu.be/tuq1U815e6Q>

For those who are curious about the rationale for writing and producing an opera based on a historical event of ecological importance, the *Bulletin of the Ecological Society America* published “Librettos, Sopranos, and Science: Communicating Ecology Through Opera” (<https://esajournals.onlinelibrary.wiley.com/doi/10.1002/bes2.1730>). This article included the results of a survey of those who attended the opera in Agadir. As the librettist, I was delighted that the feedback was overwhelmingly positive. Respondents registered their greatest agreement with the statement that “the opera was interesting and thought-provoking” and strongly agreed that the performance effectively communicated both science and philosophy.

Given the evident enthusiasm among orthopterists for the weaving together of art, history, and science, perhaps many will be interested in viewing a very short

opera (18 minutes!) on another species, the Mormon cricket, *Anabrus simplex* (<https://www.youtube.com/watch?v=DwwHO6x0TMc>; a more recent, if less elegantly produced, version with the music rewritten by another composer and a mostly new cast of singers can be viewed at [https://www.youtube.com/watch?v=oD\\_2NgyMO1M](https://www.youtube.com/watch?v=oD_2NgyMO1M)).

With respect to the intermingling of fact and faith, this opera delves into a famous legend of the Church of Jesus Christ of Latter-day Saints by using surrealistic characters, as might be inferred from the title, *Miracles: A Mormon, a Seagull, and a Cricket Walk Into a Bar....* The drama revolves around a young Mormon who is struggling to reconcile historical and scientific information with his religious community’s story of how a flock of seagulls miraculously arrived in Utah to save the early settlers from losing their crops to an outbreak of insects. My libretto explores the essence of myth and the nature of Nature.

This opera addresses several conceptual issues: **1)** myths are not meant to be understood literally (these stories tell us how we ought to treat nature and one another), **2)** the wonders and mysteries of the natural world abound (whether or not events

can be objectively explained, they can provide a source of meaning and inspiration), **3)** ecology does not play favorites (humans, birds and insects all compete and cooperate without any species being privileged), **4)** how we interpret the world depends on our perspective (while relativism is an intellectually vacuous approach, our interests, needs, and desires shape how we view phenomena), and **5)** beauty can be as important as truth in our lives (aesthetic engagement and appreciation are vital to human flourishing).

*Miracles* has been performed in a bar, a church, an art museum, and on an outdoor stage. Audiences have responded with provocative questions and lively discussions about both religion and science (I’d be delighted to hear your thoughts at [lockwood@uwyo.edu](mailto:lockwood@uwyo.edu)). The opera makes evident that facts and beliefs exist in a complex relationship. Whatever our religious inclinations (including none at all), everyone is prone to confirmation bias, favoring those interpretations of empirical evidence that accord with our ideas about the world. One might even say that facts and data are the handmaidens of values and fears, even for scientists.



# Advancing European Orthoptera Sound Recording through Training and Collaboration

By **FLORENT PRUNIER & MARTA VILLASÁN**

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**T**he **Training European Orthoptera Sound System (TEOSS)** project stands at the forefront of modern natural history, building a continent-wide network to train specialists and enthusiasts in the art and science of recording Orthoptera songs. Funded within the Horizon Europe TETTRIs program, TEOSS is a collaboration between leading centres in three biodiversity-rich Mediterranean regions: Iberia (Spain), Italy, and Greece—the heartlands of European Orthoptera diversity.

Europe hosts around **1400 Orthoptera species**, with nearly **two thirds being endemic** to the continent, reflecting both ancient evolutionary radiations and the conservation significance of the region. Documenting their voices is critical: sound-based identification has emerged as a revolutionary advance in taxonomy and field ecology, enabling wider public participation and allowing detection of elusive species through their distinctive calls.

## A Pan-Mediterranean Training Network

Unlike traditional survey projects, **TEOSS is fundamentally a training initiative**, aiming to build capacity across Europe for high-quality Orthoptera sound recording. The program is anchored by five major field workshops, hosted in the three Mediterranean peninsulas, where the richness of Orthoptera endemism is at its peak:

**TEOSS 1: Verona, Italy (2024).**

**TEOSS 2: Sierra de la Demanda, Spain (2024).**

**TEOSS 3: Serranía de Cuenca, Spain (2025).**

**TEOSS 4: Konitsa & Epirus,**

**Greece (2025).**

**TEOSS 5: Expedition in Andalucía – Sierra Nevada & Sierras Béticas, Spain (2025).**

**Training participants**—professional biologists, students, and skilled amateurs—receive hands-on instruction from top European experts such as **Baudewijn Odé** and **Filippo Buzzetti**. These trainers introduce practical protocols, from field microphone deployment to stratified night/day sampling and standardized metadata collection.

TEOSS operates as a dynamic cycle of concise training sessions—including conferences, practical field work, and laboratory analysis of sound recordings. With each turn of the cycle, participants strengthen their practical skills and are introduced to new concepts and techniques. Regular exchanges between students and teachers are important to solve issues and increase commitment to the survey protocol. This ongoing, modular approach allows trainees to continually expand their knowledge, ensuring that every event builds upon the last and brings fresh ideas. We also learn the use of major biodiversity platforms including **Xeno-canto** and **Observation.org** to keep the records for public legacy.

## TEOSS 1: Verona, Italy

In **Verona**, the TEOSS journey began right after the European Congress on Orthoptera Conservation (ECOC IV, Rovereto, Italy), with a workshop organized by the World Biodiversity Association (WBA). Participants learned how to record, annotate, and analyze grasshopper and bush-cricket calls using modern audio software and online tools. Mediterranean and Alpine valleys provided varied soundscapes, showcasing the acoustic

richness of Italian Orthoptera. Beyond the technical, the workshop fostered connections between institutions and generations, setting standards for teamwork in later events.

## TEOSS 2: Sierra de la Demanda, Spain

The **Sierra de la Demanda** workshop delved into Iberian uplands known for diverse Ensifera and Caelifera. The training syllabus explored field techniques to maximize detection of both diurnal and nocturnal taxa. Sound recognition proved especially powerful for cryptic and ultrasonically stridulating bush-cricket, underscoring the advantage that acoustic training provides for comprehensive biodiversity monitoring. The cohort included Spanish and international attendees, reinforcing cross-border scientific ties.

## TEOSS 3: Serranía de Cuenca, Spain

High in the mountains of **Cuenca**, the third workshop continued TEOSS's mission, combining field recording with systematic data management. The group prioritized skills for capturing and uploading field recordings, integrating them with photographic and geolocation metadata. The collaborative spirit flourished, with Spanish experts and guests working side-by-side in habitats ranging from pine forests to highland pastures. This event highlighted nocturnal training sessions where participants learned to recognize and record the full range of sound-producing Orthoptera present.

## TEOSS 4: Konitsa & Epirus, Greece

This Summer School was organized by prof. Kiki Kati and her team (Ioannina University) at the Educa-

tional Center for the Environment and Sustainability of Konitsa. **Epirus** marked the eastward expansion of TEOSS, home to unique Balkan endemics and Mediterranean elements. This event emphasized skill-building in recording species with ultrasonic and complex songs, vital for bush-cricket diversity. A wide range of nationalities was present at the workshop strengthening Mediterranean-wide collaboration in Orthoptera acoustic science.

### TEOSS 5: Sierra Nevada & Sierras Béticas Expedition

By contrast, **TEOSS 5** was deliberately designed as an expedition-style event. Focused on the southern endemics of Spain, participants explored a succession of ecological zones, combining high-altitude crioromediterranean habitats and lowland valleys. Experts and trainees documented remarkable diversity, including 80+ species, with a record number of field recordings deployed to Xeno-canto. This “targeted strike” illustrated the cumulative power of the training model: most team members had been previously trained in earlier workshops, leading to exceptionally high data yield and methodological refinement.

### Collaborative Innovations and App Development

Collaboration is TEOSS’s backbone. The workshops consistently attract leading names in Orthopterology—**Julien Barataud and others**—who work alongside next-generation biologists and local naturalists. Cross-country teamwork, especially between Spain, Italy, and Greece, accelerates transfer of protocols and supports taxonomic consistency across regions. Some of the most beautiful moments were the gathering of young European orthopterologists who could share their passion and enjoy a travel abroad to learn science and have fun altogether. We believe this is the true nature of Europe and we are proud to make it possible thanks to TETRIS. A major technical advance is the **sound recording mobile app**, that is being developed by **Burooj Ghani at Naturalis Biodiversity Center (Netherlands)**. TEOSS workshops served as testbeds for the Beta model, integrating real-time sound upload, automated metadata, and direct links to biodiversity databases. This innovation is set to democratize field recording, empowering professionals and citizen scientists alike to contribute confidently to Europe’s growing

orthopteran sound archive.

### The Science and Significance of Sound Recognition

Sound recognition—both by ear and via machine learning—is revolutionizing natural history. TEOSS supports development for species ID based on audio, closing the gap between expert taxonomy and citizen science. High-quality training ensures the community can generate robust reference recordings for further algorithm development.

With **approximately 1400 European species** of which over 900 produce sound many endemic and threatened, the ability to train participants to reliably detect and record Orthoptera is an essential leap forward. TEOSS has shown that embedded, field-based training yields not just better data, but stronger networks—ensuring the future of European orthopterology is collaborative, interdisciplinary, and sonically enriched.

This project has received funding from the European Union’s Horizon Europe Research and Innovation programme within the framework of the TETRIS Project funded under Grant Agreement Nr 101081903.

## Recap of the Cricket Course 2025 in Costa Rica

By **HOJUN SONG**

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**A**mong all animals, insects show unparalleled diversity in hearing and sound production. Of all insects, the orthopteran suborder Ensifera comprises more than 15,000 described species, including familiar singing insects, such as crickets and katydids, as well as interesting non-singing insects like cave crickets and weta. This suborder represents the most species-rich lineage that utilizes acoustic signals as its primary mode of communication. Nevertheless, there has been no

platform in North America to provide structured, hands-on training in the identification, ecology, behavior, and bioacoustics of these amazing insects. Therefore, as part of the National Science Foundation grant titled “NSFDEB-NERC: Multidisciplinary approach to bioacoustics: Integrating phylogenomics, biophysics, and functional genomics to unravel the evolution of hearing and singing in katydids, crickets, and allies” (DEB-1937815), we have assembled a team of currently active specialists to create and offer a unique workshop called

“THE CRICKET COURSE.” We offered the first one in 2023 at the beautiful Archbold Biological Station (ABS) near Lake Placid, Florida, which was highly successful. This year, we offered a 7-day workshop (June 30-July 6, 2025) at the Soltis Center for Research and Education in Costa Rica, exposing participants to a tropical setting where the diversity of Ensifera is remarkable. The Soltis Center is also where I have taught my study abroad course in field entomology for many years, so it was logistically easier to organize the course



here.

The instructors for the CRICKET COURSE 2025 were myself and Brandon Woo from Texas A&M University, who specializes in systemat-

ics, Dr. Fernando Montealegre-Z and Lewis Holmes from the University of Lincoln (U.K.), who specialize in bioacoustics, and biophysics, Dr. Nathan Bailey and Dr. Benito Wainwright

from the University of St. Andrews (U.K.) who specialize on behavioral genetics and mating biology, and Dr. Piotr Naskrecki from the E.O. Wilson Biodiversity Laboratory at Gorongosa

National Park, Mozambique, who specializes in katydid taxonomy and macrophotography. My graduate student Jackson Linde served as a TA. We had 15 participants, mostly from the U.S., but also from the U.K., Italy, South Korea, and Canada. The participants primarily consisted of graduate students, as well as an undergraduate student, a postdoctoral researcher, amateurs, and other professionals.

June 28<sup>th</sup> was the travel day for the instructors. Brandon, Jackson, and I traveled together from Texas to San Jose, Costa Rica. At the airport, we met up with the other instructors and all took a shuttle together to the Soltis Center, arriving that evening.

On June 29<sup>th</sup>, I returned to the San Jose airport to pick up all 15 participants who had traveled separately from various locations. We traveled back to the Soltis Center, arriving in the evening. After the rooms were assigned, the Soltis Center's subdirector, Ronald Vargas, gave a safety orientation and an introduction to the Center. The participants were already buzzing with excitement to start collecting, so we set up a light trap. We quickly discovered many different katydid species on the first day.

**Day 1 (June 30<sup>th</sup>).** Our first full

day began with a guided hike on the rainforest waterfall trail at the Soltis Center. The weather was beautiful, and for many participants, this was their very first time being exposed to a tropical rainforest. It was a fantastic experience for them, as they saw not just various insects, but also tropical plants and frogs, and they had a great time collecting specimens and taking photos. In the afternoon, we moved into the classroom for a lecture on the taxonomy and phylogeny of Ensifera. Jackson gave a talk on phylogeny, which was followed by my lecture on taxonomy. After the lecture, we had a hands-on lab. We had microscopes set up, and the students used an identification key to learn how to identify different families and subfamilies of Ensifera. They worked with the specimen collection already at the Soltis Center, which was built from my previous study-abroad courses. After dinner, we then went on a guided night hike into the rainforest. The collecting was fantastic; we found a variety of katydids and crickets.

**Day 2 (July 1<sup>st</sup>).** The day began with a master class on the diversity of Costa Rican Ensifera led by Piotr. He went over every single group in incredible detail, accompanied by

amazing photos and fascinating natural history stories, giving the students a deep dive into the local fauna. In the afternoon, Nathan gave a lecture on the ecology and natural history of Ensifera. Following his talk, he and Benito introduced a clever experiment on a masquerade. We divided the participants into small groups. Their task was to attach paper cutouts of leaf-mimicking katydids in different colors ("fake katydids") to vegetation along trails. This was a variation of a classic experiment on the effectiveness of masquerade against vertebrate predators. In the evening, we spent more time collecting nocturnal ensiferans.

**Day 3 (July 2<sup>nd</sup>).** In the morning, the participants were divided into several groups to conduct a behavioral experiment by placing the fake katydids on trees. We used green playdough to document bite marks incurred during the trial. After setting up the experiment, we returned to the classroom, and Brandon gave a lecture on the various online resources available for ensiferan research. This was immediately followed by a practical lab session, where participants learned the essential skills of field collection, including killing, pinning, evisceration, and stuffing insects



properly. The entire afternoon was dedicated to the fascinating topic of bioacoustics. Fernando gave a lecture on sound production and analysis, followed by a lab where everyone had the opportunity to practice with sound-recording equipment. He brought some incredible tools to demonstrate complex concepts. He used an acoustic levitator to help everyone visualize sound waves, which was amazing to see. At night, the participants were given an Echometer ultrasonic microphone to record katydid sounds and learned how to analyze recordings on their computers.

**Day 4 (July 3<sup>rd</sup>).** We took a field trip to the nearby Pocosol Biological Station, located in the Cloud Forest. The trip was fantastic, but it rained heavily that day, and people got quite soaked. Despite the downpour, we were still able to hike and explore the area. The night collecting was particularly rewarding; we saw many interesting katydids and king crickets that we wouldn't have found otherwise.

**Day 5 (July 4<sup>th</sup>).** We took another deep dive into bioacoustics, focus-

ing on hearing, led by Fernando. He didn't just lecture, but brought some incredible tools to demonstrate complex concepts. He brought 3D-printed models of insect trachea and tympana to clearly demonstrate the biomechanics of hearing and how pinnae can help detect bat echolocation. In the afternoon, we retrieved the fake katydids from the trails. We learned that the playdough was water-soluble, which affected our data generation, but the exercise was quite interesting. The afternoon was an open lab session where participants could work on identifying their specimens, recording sounds, or taking pictures. It was incredible to see how many accomplished photographers were in the group; they were able to capture stunning images and share their techniques with each other.

**Day 6 (July 5<sup>th</sup>).** This was a more unstructured day designed for exploration and personal projects. We organized a day-hike for more collecting, but otherwise, it was an "open day for figuring things out." This provided students with the opportunity to truly

engage with the material and the environment.

**Day 7 (July 6<sup>th</sup>).** On our last full day, the morning lecture focused on outreach and interdisciplinary research, where we developed bio-inspired designs, inspired by *Ensifera*. It was a fun exercise to think outside the box and think about some real-life applications inspired by the ensiferan insects. In the evening, we all went into downtown La Fortuna to experience the local town and get souvenirs, followed by a final group dinner to celebrate a successful week. It was a wonderful way to end the course.

Overall, the second CRICKET COURSE was a resounding success, and the students became much more knowledgeable about *Ensifera*. The Soltis Center was a fantastic place to host this Course, with unlimited access to diverse natural areas where many crickets and katydids were abundantly present. We hope to offer the CRICKET COURSE regularly, and hopefully, we will choose another exciting venue for amazing educational experiences.

## In Memoriam: Dr. John Edward Henry (1932–2025)

### *Past President of the Orthopterists' Society (1982–1985) and a Global Pioneer in Grasshopper-Locust Pathology and Microbial Control*

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It is with deep sadness that we mark the passing of Dr. John Edward Henry, a foundational figure in insect pathology and a true pioneer in the microbial control of acridid pests.

Dr. Henry passed away on June 30, 2025. As the third President of the Pan American Acridological Society (PAAS) (1982-1985), he played a pivotal role in shaping the society's future. During his presidency, he led the transformation of that regional body into what would become our current Orthopterists' Society, a visionary move that elevated the organization

to global stature and set the stage for its continued growth and scientific impact.

John's distinguished career was based primarily at the USDA's Rangeland Insect Laboratory and Montana State University in Bozeman, Montana, U.S.A. At a time when chemical control was the dominant



John Henry in his early days



John Henry formulating microbial control agents against grasshopper pests.

paradigm for managing grasshopper and locust populations, John had the foresight to pursue environmentally sustainable alternatives. His tireless field research in the western U.S., coupled with meticulous laboratory investigations, culminated in the selection and registration of *Parano-sema* (=Nosema) *locustae* in 1980. This remarkable microsporidium (still the only one ever registered for pest control) remains a cornerstone of integrated grasshopper management, valued for its ecological safety and practical effectiveness.

John's scientific contributions helped establish *P. locustae* as a model for microbial biocontrol because it showed a wide host range among acridids, efficient horizontal and vertical transmission, moderate but cumulative virulence, and persistence in field conditions. He tackled practical barriers with characteristic ingenuity, devising in vivo mass-production methods and bait-based delivery strategies that made biological control both feasible and scalable.

The impact of John's work reached far beyond North America. His research inspired programs and pathogen discovery efforts across continents: in China, India, West Africa, Canada, Argentina, Australia, and elsewhere. His influence ex-

tended well beyond his publications. John was known for his charismatic personality, cross-cultural fluency, and exceptional capacity for mentorship. He was an insightful problem-solver, a tireless and persuasive leader, and a generous colleague whose enthusiasm for science was contagious.

Among his many international collaborations, John held a special affection for Argentina and the long-standing partnership with his colleague and friend Dr. Ricardo Ronderos. Their relationship began in December 1976 at the founding PAAS meeting in San

Martín de los Andes, Patagonia, an event that marked the beginning of a decades-long friendship and scientific collaboration.

On a personal note, I owe much of my own scientific path to John. His early mentorship was instrumental in shaping my career, not only in terms of research training, but also in modeling how to work with integrity, purpose, and care. Whether conducting field and lab work in Montana and Wyoming, or in distant places like Cape Verde and Madagascar, time spent with John was always both intellectually enriching and personally rewarding. I recall with particular pride our joint efforts collecting Mormon crickets in Wyoming and migratory locusts in Madagascar, experiences that led to the discovery and description of two other unusual microsporidia: *Heterovesicula cowani* and *Johenrea locustae*, the latter named in John's honor.

John Henry's legacy lives on through the continued use of *P. locustae*, through the many scientists he mentored and inspired, and through the high standard he set for ethical and ecologically mindful science. The Orthopterists' Society remembers and honors a pioneering entomologist, a devoted mentor, and a true global ambassador of our field.



John Henry and Jerry Onsager in the field

# Editorial

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I am finalizing this issue in my new office at the Arizona State University Biocollections in Tempe, Arizona. This past summer was particularly hectic for me. Due to my new job, my family had to relocate from Texas to Arizona. It was remarkable how much stuff we had accumulated over the past decade. We also put our house on the market, so coordinating packing, house-showing, and moving was all very tedious. In mid-June, my family and I left College Station to start the next phase of our lives. After about 2 weeks of settling in, I traveled to Costa Rica to run the Cricket Course. This was my second time running this course, and having a group of like-minded folks all focused on katydids and crickets at a fantastic tropical location was quite magical. After the Cricket Course was over, I stayed in Costa Rica for another three weeks to run my last study-abroad course. I developed this course in 2017 and have continuously offered it at the Soltis Center for Research and Education, which is owned by Texas A&M University. This time, Spence Behmer and Greg Sword joined the course as co-instructors, and we had a fantastic time together. To think that it was the last time that I would teach this course was a bit sad, but I am happy that it will continue to run under the capable hands of Spence and Greg.

I returned to Texas at the end of July and had only a few days to clean my office and lab. Then, I rented a 26-foot Penske truck to move my lab, including six freezers full of DNA-grade specimens. I was able to drive from College Station to Tempe in two days.

My new position started on August 1. I quickly realized that this job was actually three people's jobs wrapped into a single position. Due to my administrative role, I am constantly

attending non-stop meetings with upper administrators, staff members, and other researchers within and outside ASU. I left four graduate students at Texas A&M, so I have to remotely supervise them while setting up a new lab here. This position is quite challenging and emotionally draining, but I remain very excited. The prospect of developing a world-class locust facility here, in collaboration with the Global Locust Initiative, is also thrilling.

This issue of *Metaleptea* is another solid issue with several articles and contributions. Our society is vibrant and strong. I am also very excited about the upcoming ICO in Patagonia.

It will be an opportunity to look back and see how much we have grown as a society, and I look forward to meeting many young orthopterists in person!

I want to thank our Associate Editor, Derek A. Woller, for his continued assistance in the editorial process during his busy schedule.

To publish in *Metaleptea*, please send your contribution to [hojun.song@asu.edu](mailto:hojun.song@asu.edu) with a subject line starting with [Metaleptea]. The next issue of *Metaleptea* will be published in January of 2026, so please send me the content promptly. I look forward to hearing from you soon!

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