



THE PYRALOID PLANET

Volume 16 – December 20, 2022
A Newsletter for Pyraloidea Fans

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1st Antarctic pyraloid

Editorial

This issue of the newsletter includes a wide diversity of contributions by pyraloid enthusiasts worldwide. It announces the comprehensive catalogue of Indian Pyraloidea that includes 1,695 species. There are two contributions from students, a report on lathrotelines of The Philippines from an undergraduate student at Humboldt University of Berlin, and an introduction to a graduate student from Incheon National University, Korea, who studies spilomelines. Jan Šumpich, pyraloid en-

thusiast and new contributor, reports a new species from Armenia and a new book titled “Butterflies and moths of central Europe and their caterpillars VI. Small moths II.”

In the “From the Web...” section, I provide website addresses for data about Pyraloidea specimens, including, and finally, for images of the Pyraloidea type specimens and their labels at the National Museum of Natural History, Smithsonian Institution.

In “A Smattering of Publications” of note is Matsui et. al. on Japanese pyraloids with further tweaking regarding taxa and their tribal classification in Pyraustinae and Spilomelinae with significant taxonomic changes. Also, the first pyraloid species from a research station in the Antarctic region! I have included the entire abstract and I am sure many of you can guess the species (see Câmara, P.E.A.S. et al., 2022 on page 14).

Matthias Nuss provided an update to Globiz as always. Corrections, inclusions, or questions are welcomed; do not hesitate to contact any one of the authors on the website (www.pyraloidea.org). I was contacted several times this year about entries in Globiz. Richard Mally continues to update the pyraloid database.

This year I worked on a wider variety of taxa in different subfamilies; highlights are in the “News From...” section. I spent more time curating the NMNH pyraloid collection. The final, large curation project that I have yet to start is the Phycitinae. This will soon be possible with the return of material from Herb Neunzig earlier this year, who was the prominent worker in New World Phycitinae these last 50 years. This spring I received 2,932 specimens in 28 insect boxes, including USNM types, that he had borrowed during his lifetime. Included was the Tarahumara Phycitinae from northwestern Mexico (see “From the Web...”) that we are collaborating to publish. Carolyn, his wife, communicated to me that he will not be able to continue his phycitine work.

On June 13th, I drove south to the Great Smoky Mountains in North Carolina for the Annual Meeting of the Lepidopterists’ Society (June 14-17, 2022), which was held in conjunction with the Southern Lepidopterists’ Society and Association for Tropical Lepidoptera. It was a wonderful venue, and a pleasure to speak to colleagues in person for the first time in a long time. I made the only presentation about Pyraloidea, although Steve Roble made a presentation on the inventory of the moths of Virginia, U.S., which included 4894 pyraloid specimens that I identified and/or confirmed for this project (see “From the Web...”). There was moth collecting every night (see page 23 and the article by Kelly Richers, The moths of the Cullowhee, North Carolina, meeting in the publications section).

I thank everyone who was able to send in items for the newsletter on our shared pyraloid passion.

M. Alma Solis

GlobIZ News 2022

Few entries had to be edited in the Global Information System on Pyraloidea (GlobIZ) since the last newsletter. The number of valid species included in the database increased by 102 (+ 27 synonyms). A quarter of these new species were described by David Agassiz in his revision of Afrotropical Glaphyriinae. Altogether, there are 26,895 pyraloid names, an increase of 147 names. There are 2,120 genera (+ 1,454 synonyms) and 16,723 species (+ 6,598 synonyms). The updated table below provides an overview by subfamily. I would like to thank everyone who generously contributed their time and edited data this year.

Matthias Nuss

	genera		species	
	valid	synonyms	valid	synonyms
Chrysauginae	130	61	402	129
Epipaschiinae	94	69	737	172
Galleriinae	64	62	271	117
Phycitinae	675	408	3,526	1,567
Pyralinae	136	109	1,300	401
Acentropinae	70	38	799	215
Crambinae	177	124	2,087	1,098
Erupinae	3	4	38	5
Glaphyriinae	75	58	537	200
Heliothelinae	3	3	29	14
Hoploscopinae	2	4	46	2
Lathrotelinae	6	7	45	11
Linostinae	1	0	4	2
Midilinae	11	4	59	12
Musotiminae	23	8	208	26
Odontiinae	87	39	388	144
Pyraustinae	170	107	1,283	641
Schoenobiinae	29	17	241	99
Scopariinae	20	24	588	208
Spilomelinae	344	308	4,135	1,538
	2,120	1,454	16,723	6,598

NEWS FROM.....

Richard Mally

New *Udea* species from Africa

In November, our revision of Afrotropical *Udea* was published in *Nota Lepidopterologica*. Apart from removing two species from the genus and synonymising one (*Phlyctaenia epicoena*) with the widely distributed *U. ferrugalis*, we describe five new species: *U. namaquana* from South Africa, *U. kirinyaga* from Mount Kenya, and *U. meruensis*, *U. momella*, and *U. nicholsae* (named in honour of the late actress Nichelle Nichols best known for her portrayal of Officer Uhura on “Star Trek”) from Mount Meru. The genus now counts eight species in Africa (see images on this page and next), and a phylogenetic analysis based on morphological characters, as well as COI and wingless sequences, places all but one (*U. hageni*) in the *U. ferrugalis* species group.

For most species, we had only one or a few specimens available for study, and for all but one of the new species, only one sex was among the material. Therefore, if you have additional *Udea* material from Africa (like David Agassiz, who already informed me about his additional material of *U. kirinyaga*, including females), please get in touch with me – I would very much like to continue investigations of *Udea* and would be happy to collaborate with you on this topic.

Mally, R., L. Aarvik, T. Karisch, D. C. Lees, & T. Malm. 2022. Revision of Afrotropical *Udea* Guenée in Duponchel, 1845, with description of five new species of the *U. ferrugalis* (Hübner, 1796) group (Lepidoptera, Crambidae, Spilomelinae). *Nota Lepidopterologica*. 45: 315–353. <https://doi.org/10.3897/nl.45.94938>



Udea delineatalis (Walker) & *U. kirinyaga* Mally



Udea epicoena Meyrick & *U. meruensis* Mally



Udea nicholsae Mally



Udea hageni Viette, *U. momella* Mally,
& *U. namaquana* Karisch & Mally

Catalogue of the Pyraloidea of India

In October, the catalogue of Indian Pyraloidea – a project conceptualised long back in 2013 and largely realised during the Covid-19 pandemic – was published in Zootaxa. The catalogue covers the 15 subfamilies of Pyralidae and Crambidae present in India, with 1,695 species (518 Pyralidae and 1,177 Crambidae species), 2,390 synonyms, and 330 species doubtfully recorded for the subcontinent.

A significant part (30 pages) of the 423-page monograph is dedicated to biodiversity, with overviews of the families and subfamilies, including graphs on the num-

bers of genera (and their species count) per subfamily, and their distribution among the Indian biogeographic zones. It summarises the numbers of Indian species described by author (with George Hampson and Francis Walker leading the field), and by decade, with 1851–60 and 1881–1900 being the most productive periods, reflecting the impacts of Walker and Hampson. A Sankey diagram (on next page) illustrates the representation of the various pyraloid subfamilies among the biogeographic zones of India.

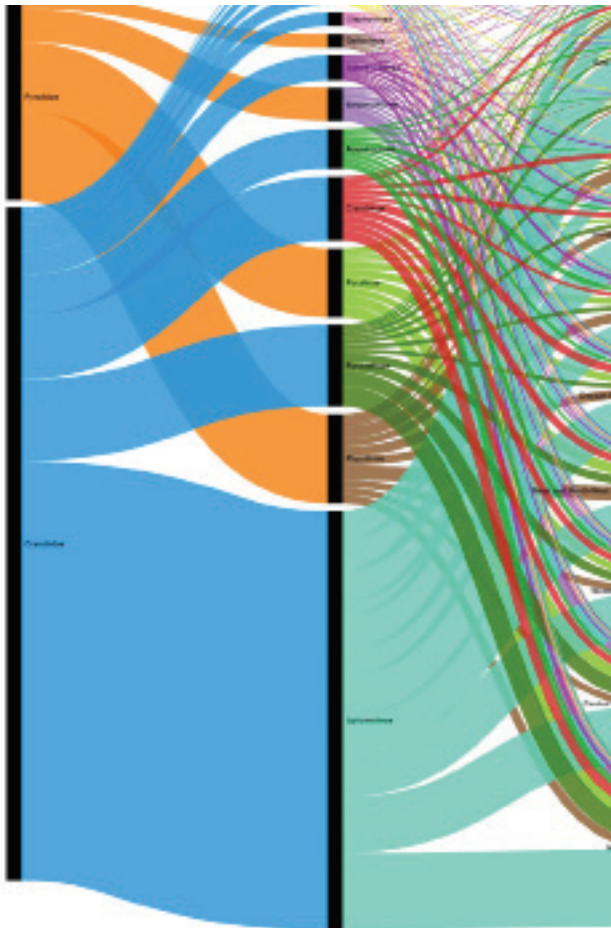
The catalogue finishes with a list of species previously recorded for India that could not be confirmed, a list of previous misspellings and their corrected names, and the references section, citing more than 1,300 publications.

Singh, N., R. Ranjan, A. Talukdar, R. Joshi, J. Singh Kirti, K. Chandra, & R. Mally. 2022. A catalogue of Indian Pyraloidea (Lepidoptera). Zootaxa. 5197 (1): 1–423. <https://doi.org/10.11646/zootaxa.5197.1.1>

Yves Basset

Pyraloidea of Barro Colorado Island, Panama

The ForestGEO Arthropod Initiative at the Smithsonian Tropical Research Institute has been monitoring selected insect taxa at several sites in the tropics since 2009, including at the ForestGEO permanent plot of Barro Colorado Island in Panama. The taxa currently being monitored at Barro Colorado Island include Flatidae, Reduviidae, Passalidae, Platypodinae, Dynastinae, Rhopalocera (all butterflies), Geometridae, Arctiinae, Pyraloidea, Saturniidae, Formicidae, Halictidae and Euglossini. These monitoring programs are to detect long-term changes driven by climatic change, as reflected in priority assemblages.



Pyraloid subfamilies among Indian biogeographical zones.

We aim to identify species traits that may predispose to population decline and to contrast those traits among various insect taxa. Our results so far indicate that patterns in population trends greatly differ among insect taxa and species, with clear winners and losers. Our reference insect collection for Barro Colorado Island includes +75,000 pinned insects and is supported by a large on-line insect database with +680,000 insect records. This includes about 390 and 110 species of Crambidae and Pyralidae, respectively. From this material we have obtained 953 sequences representing 310 BINs (DNA barcodes) deposited in the project BCIPY of the Barcode of Life Database. We are interested in establishing a time series for Pyraloidea from 2009 to

2022 (14 years), but would prefer, as much as possible, to have “clean” data in terms of species assignment and identifications. We would welcome collaboration with Pyraloidea experts to study any material of interest and/or interpret the trends of a time series. We can loan or donate specimens of interest. If interested, please contact Yves Basset (Smithsonian Tropical Research Institute) at basset@si.edu.

Bernard Landry

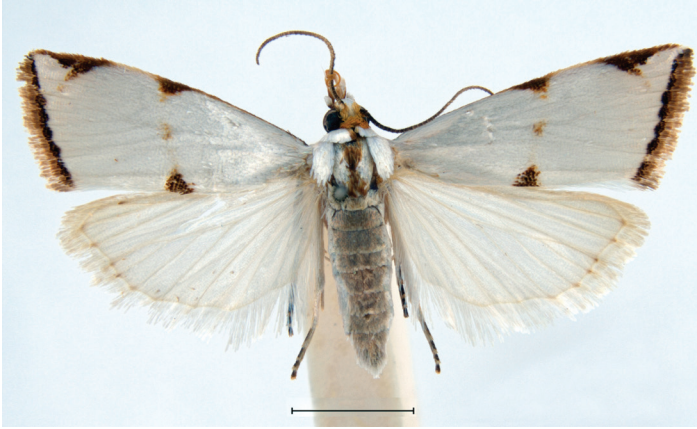
Identity of *Argyria* species

Collaborative research with Julia Bilat, James Hayden, Alma Solis, David Lees, Nadir Alvarez, Théo Léger, & Jérémy Gauthier, resulted in a submission to ZooKeys which is available for pre-publication review here: <https://www.biorxiv.org/content/10.1101/2022.10.10.511518v1>. This work aims to clarify the identity of *Argyria lacteella* (Fabricius, 1794), a crambine species widely distributed in the Americas to which several synonyms are associated.

Using an innovative method of DNA capture by hybridization developed at the Muséum d’histoire naturelle, Geneva, Switzerland, we succeeded in obtaining the DNA barcode sequence of the gene coding for the cytochrome oxidase 1 for the type specimen of *A. lacteella*, as well as for three other type specimens of species described in 1859, 1863, and 1914. Sequences obtained this way, as well as others obtained in a traditional way (Sanger sequencing), were compared to the 229 barcode sequences of *Argyria* specimens available in the Barcode of Life Database.

This analysis confirmed two synonyms, revealed two others, and validated the morphological identity of *A. lacteella*, as

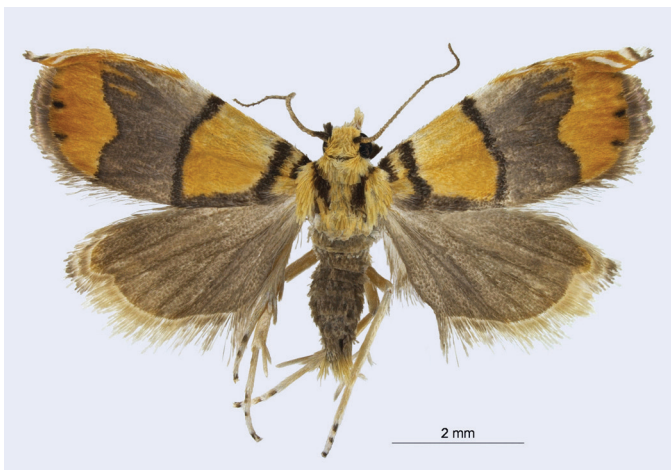
well as that of four other *Argyria* species. The morphological examination of more than 800 specimens enabled maps to illustrate geographical distribution of *A. lacteella* and three other *Argyria* species.



Argyria lacteella (Fabricius)

New Species of the Year

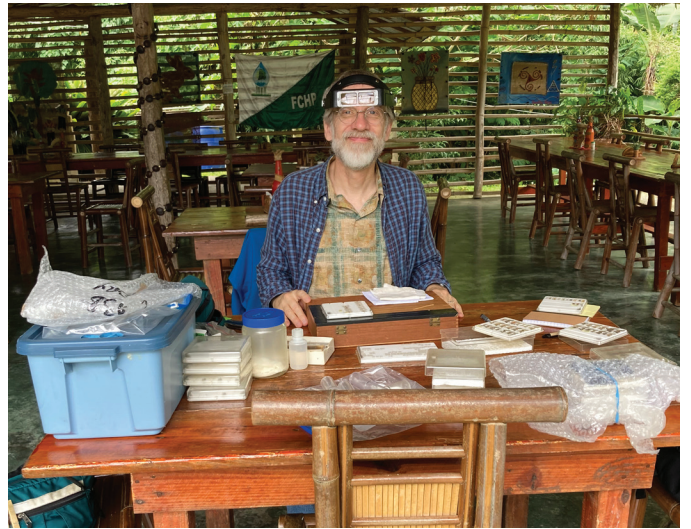
A crambine moth, *Diptychophora galvani* Landry and Becker, 2021, was selected as “New Species of the Year” by the Swiss Systematics Society. The beautiful species was named in honor of Professor Ricardo Galvão, former director of the Brazilian National Institute of Space Research (INPE).



Diptychophora galvani Landry and Becker

Landry, B. & Becker, V. O. 2021. A taxonomic review of the genus *Diptychophora* Zeller (Lepidoptera, Pyralidae *sensu lato*, Crambinae) in Brazil, with descriptions of three new species. *Revue suisse de Zoologie*. 128: 73-84. <https://doi.org/10.35929/RSZ.0036>

Currently In the Dominican Republic-- back to the Neotropics and almost purely Pyraloidea



Anne Müller

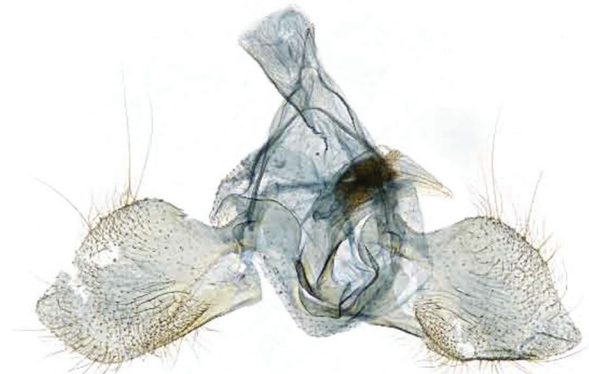
Lathrotelinae of The Philippines

For my Bachelor project at Humboldt University of Berlin, I worked under the supervision of Théo Léger, Museum für Naturkunde Berlin. The project was aimed at capturing species diversity of the Lathrotelinae in The Philippines. Lathrotelinae is a pantropical subfamily which currently includes 6 genera and 45 described species. They have been reported feeding on Arecaceae and Bromeliaceae (Solis et al., 2019), and have recently been found in ornamental plants in a few locations (Nel, 2022; P. Hall, O. Karsholt, pers. comm.).

I investigated material collected by Wolfram Mey and colleagues in the late 1990's, and selected for study all specimens in the Lathrotelinae. I visited the collections of The Natural History Museum London (NHMUK) to photograph type specimens. I was then able to identify *Orthoraphis paula* and *Sufetula brunnealis* in our material, both with type localities in The Philippines. Using wing pattern (Fig. 1), genitalia characters (Fig. 2), and DNA barcodes, I characterised 11 possible new species and redescribed two other species. My findings suggest that only 15% of the diversity in The Philippines is described in this group. Interestingly, sexual dimorphism in the colour and size of the wings was observed in some species.

I very much loved to dissect their genitalia, mount them on a slide, and then see the unique structures and compare their characteristics. On the other hand, finding clearcut genital characteristics between species was challenging because the male genitalia are simple and lack a gnathos.

Separating *Sufetula* and *Diplopestus* also turned out to be problematic because



Figs. 1-2. Adult of a new, undescribed species and its male genitalia.

the differences between them became blurry upon investigating more species. This could require a reorganisation of these two genera and their included species. The species delimitation method ASAP identified a high intra-interspecific threshold distance of 4.6%, which resulted from high intraspecific divergence observed between haplotypes on different islands.

Otherwise, most of the species are endemic to a single island and it should be noted that three species are only represented by one specimen. Additionally, altitudinal endemism was observed in some species. These results indicate that there is still a lot we don't know about this subfamily and about the Philippine pyraloid fauna. Further investigations of this group in southeast Asia will undoubtedly reveal more undescribed species.

References

Nel, J. 2022. Découverte en France et description de *Sufetula boileauae* sp. n. espèce originaire du Honduras (Lepidoptera, Crambidae, Lathrotelinae). Revue de l'Association Roussillonnaise d'Entomologie, Perpignan. 31(1): 19-23.

Solis, M. A., J. E. Hayden, F. V. Sanabria, F. Gonzalez, C. S. Ujueta, & C. J. Gulbranson. 2019. A new species of *Sufetula* Walker (Lepidoptera: Crambidae) feeding on the roots of pineapple, *Ananas comosus* (L.) (Bromeliaceae), from Costa Rica. Proceedings of the Entomological Society of Washington. 121(3): 497-510.

Rob Schouten

Back to crambine research

I was working full-time as a manager at the Museon (www.museon-omniversum.nl) since 1997, and my time for research on Crambinae came to a stop. I recently (& very happily) retired and am now restarting my research on Crambinae. I became a Research Associate at Naturalis Biodiversity Center Leiden, The Netherlands, in October 2022, and started working on the Crambinae collection. Prior to 1997, I had published research about *Euchromius* Guenée and its allies, and started a few research projects that I plan to continue. I can be reached at Rob.Schouten@naturalis.nl



Jan Šumpich

New Armenian odontine

My colleagues & I described a beautiful, new odontine species, *Tegostoma burtoni* Šumpich, Karsholt, Savenkov & Roweck (Fig. 1), from Armenia. The species is named in honor of John Andrew Burton for his support of the Caucasus Wildlife Refuge in Armenia.

The new species was found in the National Sanctuary Gorovan Sands that is about 175 hectares in size. It is an arid area with “sandy *Artemisia* semi-deserts” and “extreme drought and temperature variation.” (Fig. 2). We provide a list of Armenian *Tegostoma* species, including the similar-looking *T. lepidalis* and *Pyrausta gulpembe* that are reported as new records for Armenia.



Fig. 1. Holotype of *T. burtoni*



Fig. 2. Habitat of *T. burtoni*, Gorovan Sands near Vedi, Armenia (photo by A. Pavlíčko)

Alma Solis

Various pyraloids

My involvement in the Pyraloidea was diverse this year. I identified the chrysaugine *Paridnea squamicosta* (Walker) that my co-authors discovered was causing most of the damage in a salmwood plantation in Colombia. The tree is planted as a shade plant for cacao and coffee. The larva hides from enemies in domatia, a part of the plant modified to form a chamber and used as a shelter by arthropods. The larva comes out of its shelter to feed on salmwood leaves (Montes-Rodríguez et al., 2022).

I was sent images of a moth reared on a mealy bug (Hemiptera) in a vineyard in Ensenada, Baja California, Mexico, which had mistakenly, but not unexpectedly, been identified as a phycitine, but it was the galleriine, *Cacotherapia angulalis* (Salas-Monzon et al., 2022). Michael Shaffer (deceased, The Natural History Museum, London) brought *Cacotherapia* to my attention in the 1990's, but I had not paid much attention to this genus except to accumulate specimens from unsorted material. I curated the taxon (Fig. 1) in our collection and decided to write a paper to bring the genus to the attention of lepidopterists (Solis, 2022). The NMNH had almost all the type specimens, except for one in the Paris Museum that Joël Minet very kindly shared. I designated 5 lectotypes and discussed the issue of the locality of the type species, *C. nigrocinerella* Hulst, which had been reared on scale insects. Hulst had reported that it was reared and collected by the coleopterist E. A. Schwarz in Texas, but Dyar had reported that the type locality was incorrect and instead should be Utah. I confirmed Dyar's observation with the discovery of a published map of Schwarz's collecting localities by year.



Fig. 1. *Cacotherapia* n. sp.

I identified an epipaschiine that was intercepted at the Detroit airport as *Salma brachyscopalis* Hampson, 1912 (Epipaschiinae: Pyralidae) (Figure 2). It was found in *Lagerstroemia* sp. pods from The Philippines. The discovery was reported to news outlets by U.S. Homeland Security (without attribution) after I mentioned that the moth had not been seen in over a hundred years since its description by Hampson from Sri Lanka. I was interviewed for an article in the New York Times digital version (not permanent) (<https://www.nytimes.com/2022/05/23/science/moth-species-discovery-detroit.html>). I received many emails from pyraloid enthusiasts asking if I had identified the species!



Fig. 2. *Salma brachyscopalis* Hampson

In late May-early June, I was contacted by Pasquale Trematerra (2022), who requested, and to whom I provided, images of adults and genitalia for his paper (see publication list) about *Amyelois transitella* in the Phycitinae as “a potential Union quarantine pest.” I was also contacted by a USDA colleague who maintains a colony of *A. transitella* for SIT, or the sterile insect technique, for control of this species in the United States which is “the scourge of California’s increasingly prevalent and pricey tree nut crop...”. He and a colleague discovered that *B. affinitella* from south Texas “COI barcoded” the same as some *A. transitella* specimens. I responded that these two species are not the same and are not even closely related phycitine species. I provided an image of all the specimens in BOLD with the correct names below the image (Figure 3).

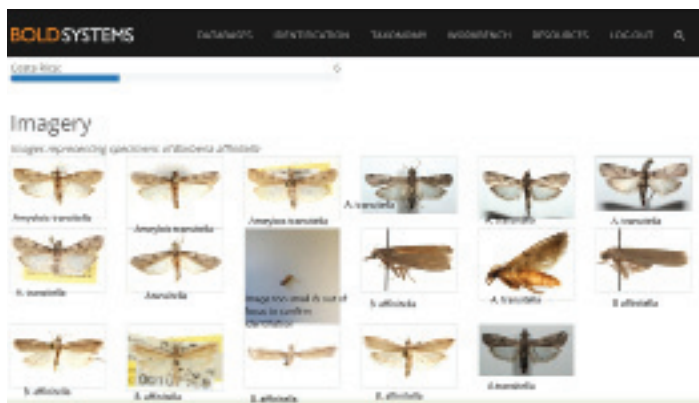


Fig. 3. BOLD images with species name below.

Also, I communicated to them that contamination somewhere in the COI barcoding process was probably the issue. Scott Miller, manager of the North American Barcoding Project (LNAUU) at the NMNH, contacted and rectified the issue in BOLD: “The sequence for LNAUU4472-15, a specimen of *B. affinitella*, which is a voucher for Shaffer 1968: 97, is contaminated, and caused BIN ACJ5942 to be

called *B. affinitella*, when in fact ACJ5942 is a species within the *A. transitella* complex.” He has sent four other specimens of *B. affinitella* for future NGS sequencing to BOLD.

The direct consequence to me was that I looked at many images of sticky traps (up until last week) from throughout the southern United States to verify the identity of *A. transitella*, and even dissected *A. transitella* moths from sticky traps when necessary to confirm their identity (see Figure 4). [Note: Although you can remove the “sticky” substance on the moth from the trap with a chemical process, and in order to save time, I removed abdomens from the trap and put them directly into KOH to boil. Afterwards the outside of the abdomen still has the “sticky” substance, but the genitalia inside will be cleared and can be pulled out for identification.]

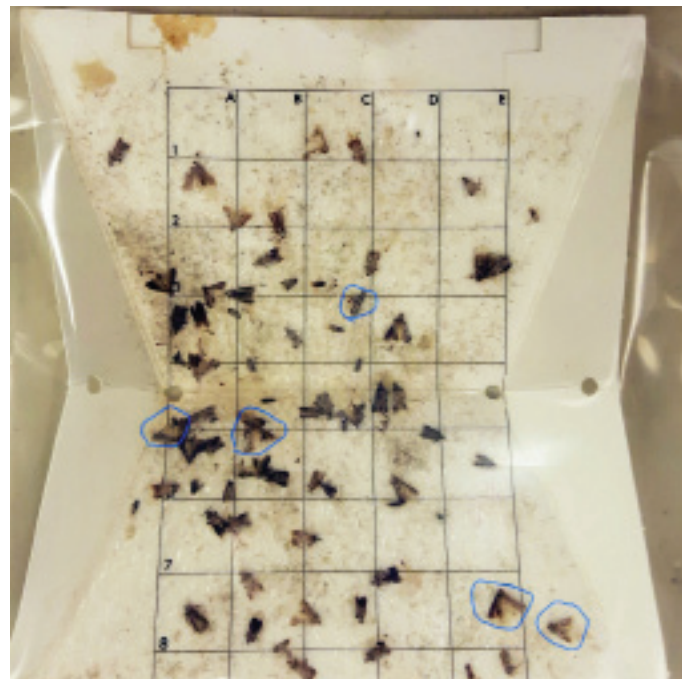


Fig. 4. *Amyelois transitella* specimens on sticky trap.

In June, I made a presentation via Zoom about Guatemalan *Diatraea* (Crambinae) sugarcane borers to over 100 agriculturalists,

specifically about *D. postlineella* Schaus (it had been identified mistakenly as *D. grandiosella*), a species previously known only from the male type specimen described from Guatemala (Solis et. al., 2021). I presented on recent *Diatraea* research in the *D. crambidoides* complex (Fig. 5) at the Entomological Society of America meeting in Vancouver in November.

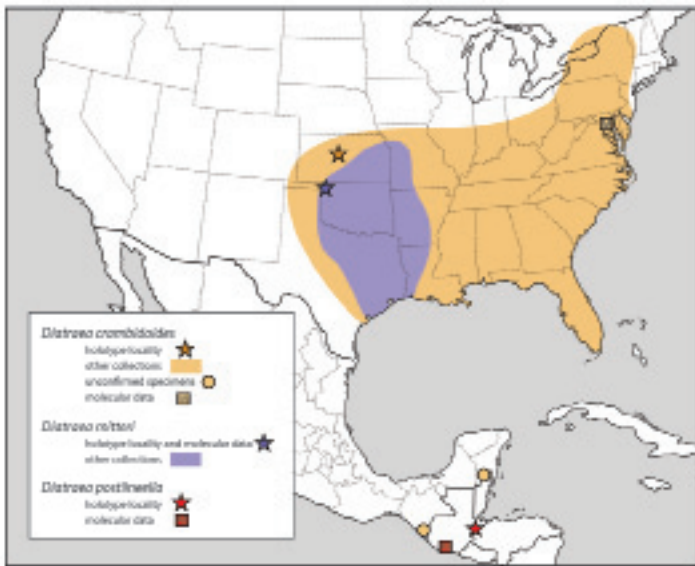


Fig. 5. Known distributions for *D. crambidoides*, *D. mitteri*, and *D. postlineella*, including holotype localities and specimens analyzed for molecular study.

Finally, I was involved in a BBC panel program on moths that is now available online (BBC World Service - The Forum, Moths: The story of the butterfly of the night), and although it was generally about moths, I was able to mention the exploratory research (in collaboration with USDA colleagues and Shen-Horn Yen) for musotimine larvae feeding on the Old World climbing fern in southeast Asia (e.g., Solis et al. 2005) (Fig. 6).

References

Montes-Rodríguez, J. M., P. E. Hernández Pérez, F. N. Vega, A. Guarín, M. A. Solís, & D. A. Zarate.

2022. Insects associated with severe defoliation of salmwood (*Cordia alliodora* (Ruiz & Pav.) Cham.) (Boraginaceae) in Colombia. *Proceedings of the Entomological Society of Washington*. 124(2): 316-324.

Salas-Monzon, R., J. Gonzalez-Cabrera, Y. Contreras-Bermudez, J. A. Sanchez-Gonzalez, & M. A. Solis. 2022. First report of *Cacotherapia angulalis* (Barnes and McDunnough) (Pyrilidae) feeding on *Planococcus ficus* Ben-Dov (Pseudococcidae), the grape mealybug, in Mexico. *Proceedings of the Entomological Society of Washington*. 124(2): 372-374.

Shaffer, J. 1968. A revision of the Peoriinae and Anerastiinae (Auctorum) of America North of Mexico (Lepidoptera: Pyralidae). *United States National Museum Bulletin*. 280: 1-124.

Solis, M. A. 2022. *Cacotherapia* Dyar (Pyrilidae: Galleriinae) at the National Museum of Natural History, Washington, D.C.: Type images and lectotype designations. *Proceedings of the Entomological Society of Washington*. 124(2): 346-358.

Solis, M. A., S. J. Scheffer, M. Lewis, & P. Rendón. 2021. *Diatraea postlineella* Schaus (Lepidoptera: Crambidae) from Guatemala: molecular identity and host plant. *Proceedings of the Entomological Society of Washington*. 123(3): 638-651.

Solis, M. A., P. Pratt, J. Makinson, R. ZONEVELD, & E. Lake. 2017. Another new *Lygodium*-boring species of the musotimine genus *Siamusotima* (Lepidoptera: Crambidae) from China. *Proceedings of the Entomological Society of Washington*. 119 (3): 471-480.



Fig. 6. *Siamusotima disrupta* Solis

IN SEARCH OF...

African *Udea*

Richard Mally

If you have *Udea* specimens from Africa, please get in touch with me at spilomallynae@gmail.com. I would be happy to collaborate with you on this taxon.

About Pyraloidologists...

Tak-Gi Lee

I'm in a Ph.D. program with Prof. Bae at Incheon National University, Incheon, Korea. Since childhood, I have been very interested in various animals, including insects around my hometown. It was surprising to me that many elders around me didn't know about other living things besides humans. I observed and caught various animals in many places, and found them in books and documentaries.



Among them, insects were the most impressive and caught my eyes. I joined the laboratory of Professor Bae to study insects, and I was able to survey many regions in Korea. My first night collecting was a great experience. I began by surveying on some islands of Incheon; the moths were beautiful and wonderful. I studied pyraustine moths first, because the subfamilies Pyraustinae and Spilomelinae were treated as the same subfamily as the tribes Pyraustini and Spilomelini in the subfamily Pyraustinae. However, I soon focused on spilomeline moths.

Currently, I am studying the Spilomelinae of Korea, and plan to graduate from the Ph.D. program in February 2023. The title of my Ph.D. dissertation is "Systematic study of the subfamily Spilomelinae (Crambidae, Lepidoptera) from Korea" and will cover 141 species in 57 genera. I conducted research on and published the following papers this year:

Lee, T.G., U. H. Heo, & Y.S. Bae. 2022. Status of *Patania harutai* (Inoue, 1955) in Korea, with a new species (Lepidoptera, Crambidae, Spilomelinae), and clarification of their host plants. *Zootaxa*. 5196 (3): 407–419, and

Lee, T.G., J. H. Ko, B. S. Park, & Y.S. Bae. 2022. Review of the genus *Botyodes* Guenée (Lepidoptera: Crambidae) from Korea, with a new Asian records. *Journal of Asia-Pacific Biodiversity*. 15 (2): 254–259.

During my studies, the pyraloid database GlobIZ has been very helpful. I hope my research on the Spilomelinae of Korea will be useful to other researchers in their studies. Thank you very much.

From the Web...

USNM (NMNH) images of Pyraloidea type specimens

Finally, almost 5000 images of type specimens (adults and genitalia), and their labels, are now available to the public. This is a continuing project for a variety of reasons: some type specimen(s) were not located, or were not located until after the contract was finished, some photos still to be taken or need to be uploaded. Please contact me about issues with specific genitalia images as many are being retaken with new imaging technology. All images are public domain unless the specimen was collected from Brazil. These images can be found on the public side of EMU: <https://collections.nmnh.si.edu/search/ento/>

Or you can also search the open access portal: <https://www.si.edu/openaccess>

Virginia pyraloid specimens (data only, no images)

http://collections.si.edu/search/detail/edanmdm:nmnhentomology_14370489?q=pyralidae%2C+virginia&fq=data_source%3A%22NMNH++Entomology+Dept.%22&record=66&hlterm=pyralidae%2C%2Bvirginia

Biodiversity of the Sierra Tarahumara. Lepidoptera: Mimallonoidea, Lasiocampoidea, Bombycoidea and Pyraloidea (data only, no images):

<https://datos.gob.mx/busca/dataset/biodiversidad-de-la-sierra-tarahumara-lepidoptera-mimallonoidea-lasiocampoidea-bombycoidea-y-py>

A “smattering” of publications

PYRALIDAE

Chrysauginae

Becker, V.O. 2022. A review of the Antillean genus *Murgisca* Walker, 1863 with descriptions of four new species (Lepidoptera: Pyralidae: Chrysauginae). SHILAP Revista de Lepidopterologia. 50(198): 265-275.

Epipaschiinae

Ranjan, R., N. Singh, & J.S. Kirti. 2022. On the taxonomy of genus *Teliphasa* Moore, 1888 (Lepidoptera: Pyralidae: Epipaschiinae) with the description of two new species and two new species records from India. Zootaxa. 5141(1): 60-70.

Ranjan, R., N. Singh, & J.S. Kirti. 2022. Review of the genus *Locastra* Walker (Lepidoptera: Pyralidae: Epipaschiinae) from India, with a new species and a new species record. Zootaxa. 5165(1): 71-78.

Ranjan, R., N. Singh, & J.S. Kirti. 2022. On the taxonomy of genus *Termioptycha* Meyrick, 1889 (Pyralidae, Epipaschiinae) with description of two new species and two new species records from India. Zootaxa. 5165(3): 415-424. [1 new genus and 26 new species]

Rong, H., Y. Wang, M. Qi, & H. Li. 2021. Taxonomic review of the genus *Lista* Walker, 1859 from China (Lepidoptera, Pyralidae, Epipaschiinae), with descriptions of five new species. Zootaxa. 5081 (2): 237-262.

Galleriinae

Becker, V.O. 2022. A review of the Neotropical Tirathabini genus *Xenophasma* Dognin, 1905 with description of two new species (Lepidoptera: Pyralidae, Galleriinae). SHILAP Revista de Lepidopterologia. 50(197): 43-49. [three new species from Brazil]

Becker, V.O. 2022. A new genus and two new species of Tirathabini from the Neotropical region (Lepidoptera: Pyralidae: Galleriinae). SHILAP Revista de Lepidopterologia. 50(197): 83-87.

Becker, V.O. 2022. Five new species of the New World genus *Thyridopyralis* Dyar, 1901 (Lepidoptera: Pyralidae, Galleriinae). SHILAP Revista de Lepidopterologia. 50(198): 355-365.

Guo, J., Z. Du, G. Cui, Z. Wang, J. Wang, & X. Zhou. 2022. Ultrastructure characteristics and sexual dimorphism of antennal sensilla in *Tirathaba rufivena* (Lepidoptera: Pyralidae). Insects. 13(9): art. no. 797. <https://doi.org/10.3390/insects13090797>

Liu, Y., G. Li, & J. Long. 2022. The complete mitochondrial genome of small wax moth, *Achroia grisella* (Pyralidae: Galleriinae). Mitochondrial DNA Part B: Resources. 7(5): 738-740.

Romero-Nápoles, J., & R. H. Ramírez-Cariño. 2021. *Cassia moschata* Kunth (Fabaceae) a host for *Caryedon gonagra* (F.) (Coleoptera, Bruchidae) and alternative host to *Achroia grisella* F. (Lepidoptera: Pyralidae). Boletín de la Asociación Española de Entomología. 45(1-2): 31-35. [images of *A. grisella* and its damage to *C. moschata* seeds]

Phycitinae

Akin, K. 2022. About the presence of *Slamkania pseudosordida* (Slamka, 2019) in Turkey (Lepidoptera: Pyralidae, Phycitinae). SHILAP Revista de Lepidopterologia. 50(198): 331-335.

Bryant, T., & K.G.M. Bond. 2021. *Homoeosoma nimbella* (Duponchel, 1836) (Lep: Pyralidae) new to Ireland. The Entomologist's Record and Journal of Variation. 133(3): 160-161.

Câmara, P.E.A.S., P. Convey, V.A. Ferreira, P.H.B. Togni, & J.R. Pujol-Luz. 2022. **First record of the Indian meal moth *Plodia interpunctella* (Lepidoptera: Pyralidae) at a research station in Antarctica.** Antarctic Science. 34 (5): 361-364. [Abstract: We report the first formal record of the Indian meal moth *Plodia interpunctella* from a location within the Antarctic Treaty area, with the capture of a live adult male within the Brazilian Comandante Ferraz research station on King George Island, South Shetland Islands. This species is a well-known pest of stored products and is widely recorded in synanthropic situations such as food stores globally. No other adults or immature stages have been observed on the station. While there is no suggestion that *P. interpunctella* could survive or establish in the natural environment beyond the station, this observation highlights the ever-present threat of unintended anthropogenically assisted transfer of non-Antarctic species into human facilities on the continent, with some such species proving extremely difficult to eradicate if they successfully establish within these facilities.]

Lázaro-Castellanos, N.S. Gómez-Domínguez, & J.M. Vanegas-Rico. 2022. *Laetilia coccidovora* (Comstock, 1879) preying on *Coccus pseudomagnoliarum* (Kuwana, 1914) in Mexico, first record of association prey-predator host plant (Lepidoptera: Pyraloidea). SHILAP Revista de Lepidopterologia. 50(197): 167-170. [image of a newly emerged adult of *L. coccidovora*]

Leraut, G. 2021. Les types d'Anerastiini paléarctiques du Muséum de Paris (Lepidoptera: Pyralidae). Revue Française d'Entomologie Générale. 3(5-6): 96-133.

Leraut, P. 2021. Review of the Anerastiini genera *Maliarpha* Ragonot, 1888, *Toshita-*

mia Sasaki, 2012, *Villiersoides* Marion, 1957 and *Hosomeiga* Sasaki, 2012: an old-world genera cluster (Lepidoptera: Pyralidae). *Revue Française d'Entomologie Générale*. 3(7): 162-177.

Liu, H., X. Zhang, & H. Li. 2022. Two new species of the genus *Merulempista* Roesler, 1967 from China (Lepidoptera, Pyralidae, Phycitinae). *Zootaxa*. 5150(2): 293-300.

Lovtsova, J.A., & M.V. Kochiev. 2022. New method of the preparation of male genitalia of tribe Phycitini (Lepidoptera: Pyralidae) using a slide dryer. *International Journal of Tropical Insect Science*. 42(4): 3185-3188.

Mansouri, S.M., & B. Naseri. 2022. Life history and population parameters of *Arimania komaroffi* Ragonot (Lepidoptera: Pyralidae) on different pistachio cultivars. *Journal of the Lepidopterists' Society*. 76(3): 196-202.

Meert, R. 2020. *Cryptoblabe gnidiella* (Lepidoptera: Pyralidae) voor het eerst in België vastgesteld. *Phegea*. 48(3): 90-93. [Larvae of *C. gnidiella* were found in Belgian grocery stores within the calyx of imported pomegranates; feeding on pomegranates is described and illustrated]

Mkhize, N., D. Egli, S. Willows-Munro, B. Gooden, & T. Olckers. 2023. Seasonal abundance of capitulum-boring insects considered for the biological control of fireweed (*Senecio madagascariensis*), including molecular phylogenetic analyses to reveal the field host range of lepidopteran candidate agents. *Biological Control*. 177: art. no. 105119. <https://doi.org/10.1016/j.biocontrol.2022.105119>. [*Homoeosoma stenota* was found feeding on 6 *Senecio* species in the field]

Trematerra, P. 2022. Notes on the navel orangeworm, *Amyelois transitella* (Walker) (Lepidoptera Pyralidae) in Europe, a potential Union quarantine pest. *Bulletin of Insectology*. 75(2): 287-291.

Trofimova, T.A., J. Šumpich, & Y.I. Budashkin. 2022. Redescription of *Apomyelois cognata* (Staudinger, 1871) (Lepidoptera, Pyralidae, Phycitinae) with first record from the South Urals. *Nota Lepidopterologica*. 45: 1-7.

Yepishin, V. 2022. An undescribed species among Roesler's type specimens: *Ancyloysis palianytsia* sp. nov. (Lepidoptera: Pyralidae: Phycitinae) described from Afghanistan. *Zootaxa*. 5133(2): 293-300.

Zhuang, Y., Y. Yang, R. Chen, Y. Luo, & D. Chi. 2022. Scanning electron microscope observation on the structure and sensilla of the mouthparts of two species of *Dioryctria* larvae (Lepidoptera: Pyralidae). *Journal of Beijing Forestry University*. 44(8): 77-87.

Pyralinae

Leraut, P. 2021. Note de nomenclature avec établissement d'un nom nouveau (Lepidoptera: Pyralidae). *Revue Française d'Entomologie Générale*. 3(7): 160-161. [*Aferia* P. Leraut, nom.nov. (Pyralinae) is a replacement name for *Mabokiana* Boulard (Hemiptera)].

CRAMBIDAE

Acentropinae

Boyes, D., & R. Chadd. 2022. The genome sequence of the ringed china-mark, *Parapoinx stratiotata* (Linnaeus, 1758). Wellcome Open Research. [version 1, awaiting peer review].

Chen, X., W. Zhu, B. Wang, Y. Wang, & P. You. 2022. A chromosome-level genome assembly of *Paracymoriza distinctalis* (Lepidoptera: Crambidae: Acentropinae). *Archives of Insect Biochemistry and Physiology*. 110 (2), art. no. e21883.

Mariani, F., S. Fattorini, A. Di Giulio, & S. Ceschin. 2021. Development and repro-

duction of *Cataclysta lemnata*, a potential natural enemy of the invasive alien duckweed *Lemna minuta* in Italy. The European Zoological Journal. 88(1): 216-225. doi.org/10.3389/fevo.2022.919093. [images of adults egg-laying, 1st instar emerging, and larva damage]

Romero, F. 2022. Aquatic and semi-aquatic Lepidoptera in Argentina: updated list, distribution and life habits. Acta Zoológica Lilloana. 66(2): 121-148. [includes Acentropinae]

Crambinae

Bassi, G. 2021. Notes from Old World Crambinae (II). New species of *Chilo* Zincken, 1817. (Lepidoptera: Pyraloidea). SHILAP Revista de Lepidopterologia. 49(196): 747-752. [3 new species from Botswana, Nepal, Tanzania]

Landry, B., & V.O. Becker. 2021. A taxonomic review of the genus *Diptychophora* Zeller (Lepidoptera, Pyralidae sensu lato, Crambinae) in Brazil, with descriptions of three new species. Revue suisse de Zoologie. 128: 73-84.

Streltsov, A.N. 2022. A new species of the genus *Pediasia* Hübner, 1825 (Lepidoptera: Pyraloidea, Crambidae) from the Eastern Palaearctic. Acta Biologica Sibirica. 8: 101-105.

Glaphyriinae

Agassiz, D. 2022. The tribe Cybalomiini (Lepidoptera: Pyraloidea, Crambidae, Glaphyriinae) of sub-Saharan Africa. Zootaxa. 5174(2): 101-156.

Sexton, C. 2022. Common moth, “rare” larva: the spotted peppergrass moth, *Eustixia pupula* Hübner 1823 (Lepidoptera: Crambidae). Southern Lepidopterists’ News. 44(2): 211-212. [reared on Virginia pepperweed (*Lepidium virginicum* L.); images of adults and larvae]

Lathrotelinae

Nel, J. 2022. Découverte en France et description de *Sufetula boileauae* sp. n. espèce originaire du Honduras (Lepidoptera: Crambidae: Lathrotelinae). Revue de l’Association Roussillonnaise d’Entomologie. 31(1): 19-23. [“The holotype comes from a garden center in Haute-Garonne(France), e.l./ *Dypsis lutescens*, native to Honduras via the Netherlands.”]

Midilinae

Becker, V.O. 2022. Notes on Neotropical Midilinae, with description of one new genus and two new species (Lepidoptera: Crambidae). SHILAP Revista de Lepidopterologia. 50(198): 205-301.

Odontiinae

Šumpich, J., O. Karsholt, N. Savenkov, & H. Roweck. 2022. The genus *Tegostoma* in Armenia, with description of a new species (Crambidae, Odontiinae). Nota Lepidopterologica. 45: 269-278. doi.org/10.3897/nl.45.87795.

Pyraustinae

Chen, K., M. Guo, & D. Zhang. 2022. Two new species of *Eumorphobotys* Munroe & Mutuura, 1969 (Lepidoptera: Crambidae) from China. Zoological Systematics. 47(2): 179-182.

Gastón, J., & I. Zabalegui. 2021. Primera cita de *Sinibotys butleri* (South, 1901, in Leech & South) en la Península Ibérica (Lepidoptera: Crambidae: Pyraustinae). Heteropterus Revista de Entomología. 21(2): 205-207.

Ko, J.-H., U. Bayarsaikhan, T.-G. Lee, & Y.-S. Bae. The monotypic genus *Nephelebotys* Munroe & Muturra, 1970 (Lepidoptera: Crambidae, Pyraustinae): two new species from Laos and a newly combined species from Ko-

rea. Zootaxa. 5188(3): 264-274.

Osada, Y. 2022. Description of immature stages of the southern pink moth, *Pyrausta inornatalis* (Fernald, 1885) (Lepidoptera: Crambidae). Journal of Asia-Pacific Biodiversity. 15: 568-573.

Tanida, M., & Y. Yoshiyasu. 2022. New record of *Haritalodes annuligeralis* (Walker) (Crambidae, Pyraustinae) from Japan, collected in Ishigaki-jima Is. Japan Heterocerists' Journal. 302: 53-54.

Xiang, L., K. Chen, X. Chen, Y. Duan, & D. Zhang. 2022. A revision of the genus *Ecpyr-rhorhoe* Hübner, 1825 from China based on morphology and molecular data, with descriptions of five new species (Lepidoptera, Crambidae, Pyraustinae). ZooKeys. 1090: 1-44.

Yepishin, V. 2022. A new synonym of the Pyraloidea from the genus *Loxostege* Hübner, 1825 (Lepidoptera: Crambidae: Pyraustinae). Zootaxa. 5134(3): 448-450.

Schoenobiinae

Yoshiyasu, Y., O. Saito, & N. Hirai. 2022. A new species of *Scirpophaga* (Lepidoptera, Crambidae) from Japan, with remarks on its specific habitat. Lepidoptera Science. 73(2): 33-41.

Spilomelinae

Hayden, J., & K.M. Burnette. 2022. Rearing *Penestola bufalis* (Crambidae). Southern Lepidopterists' News. 44(3): 287-291. [feed on rotting leaves and organic matter, reared on Portulacaceae]

Karpun, N.N., E.N. Zhuravleva, E.I. Shoshina, & N.I. Kirichenko. 2022. The detection of an alien pest, the cotton leaf roller *Haritalodes decorata* (Lepidoptera: Crambidae), on the Black Sea coast of Russia. Far Eastern Entomologist. 465: 12-21. doi.org/10.25221/fee.465.3 [severe defoliation of *Hibiscus* sp.; a pest of cotton, cashew, jujube, etc.]

Lee, T.-G., U.H. Heo, & Y.-S. Bae. 2022. Status of *Patania harutai* (Inoue, 1955) in Korea, with a new species (Lepidoptera, Crambidae, Spilomelinae), and clarification of their host plants. Zootaxa. 5196(3): 407-419.

Maes, K.V.N. 2022. Studies on African Crambidae II: On the identity of *Asopia onychinalis* Guenée, 1954, its synonyms, generic placement and related species (Pyraloidea: Crambidae: Spilomelinae). Metamorphosis. 33: 85-91.

Maes, K.V.N. 2022. Studies on African Crambidae-a new genus and species from Africa (Pyraloidea: Crambidae: Spilomelinae). Metamorphosis. 33:64-67. [*Metasibotys guineasoudanensis* Maes]

Matsui, Y., R. Mally, S. Kohama, I. Aoki, M. Azuma, & H. Naka. 2022. Molecular phylogenetics and tribal classification of Japanese Pyraustinae and Spilomelinae (Lepidoptera: Crambidae). Insect Systematics & Evolution. doi.org/10.1163/1876312X-bja10037 [16 unplaced genera are newly assigned to tribes and transfers *Acropentias* to Lathrotelinae & *Mabra* to Pyraustinae]

Melia, T., N.G.B. Sinulingga, M.V. Maretha, R. Wijaya, R.R. Efendi, L.S.S. Oliveria, S.K. Khadan, W. De S. Tavares, M. Tarigan, & A. Duran. 2021. First report of *Tetracona (Agrotera) amathealis* (Walker, 1859) on a *Eucalyptus grandis* W. Hill x *Eucalyptus pellita* F. Muell. (Myrtaceae) hybrid in Indonesia (Lepidoptera: Crambidae, Spilomelinae). SHILAP Revista de Lepidopterologia. 49 (195): 407-412.

Musolin, D.L., N.I. Kirichenko, N.N. Karpun, E.V. Aksenenko, V.B. Golub, I.A. Kerchev, M.Y. Mandelshtam, R. Vasaitis, M.G. Volkov-itsh, E.N. Zhuravleva, & A.V. Selikhovkin. 2022. Invasive Insect Pests of Forests and Urban Trees in Russia: Origin, Pathways, Damage and Management. Forests. 13 (4), art. no. 521. doi.

org/10.3390/f13040521. [*Cydalima perspectalis*]

Singh, N., J. Ahmed, & K. Chandra. 2022. A new species of genus *Patania* Moore, 1888 from India (Lepidoptera: Crambidae: Spilomelinae). SHILAP Revista de Lepidopterologia. 50(197): 13-17.

Singh, N., R. Ranjan, J.S. Kirti, & K. Chandra. 2022. *Suhela* N. Singh, Ranjan, Kirti & Chandra, gen. n., a new genus for *Conogethes alboflavalis* Moore, 1888 (Lepidoptera: Crambidae, Spilomelinae). SHILAP Revista de Lepidopterologia. 50(197): 5-11.

Sourakov, A., J. Zhang, Q. Cong, L. Song, & N.V. Grishin. 2022. Erythrina stem borer moth in California – New taxonomic status and implications for control of this emerging pest. Journal of Applied Entomology. 146: 1225-1229. doi.org/10.1111/jen.13082 [a new western US subspecies: *T. meticulosalis occidentalis* Sourakov & Grishin, pest of coral trees or *Erythrina* spp.]

Tang, J., X. Tang, H. Lu, N. Lin, C. Cheng, B. Lyu, & J. Li. 2022. Characterization of the complete mitochondrial genome and phylogenetic analysis of *Cnaphalocrocis patnalis* (Bradley 1981) (Lepidoptera: Crambidae). Mitochondrial DNA Part B: Resources. 7(9): 1608-1610.

Sinev, S.Yu., & S.K. Korb. 2022. What species of *Mecyna subsequalis* (Herrich-Schäffer, 1854)-group occurs in highlands of Central Asia? (Lepidoptera: Crambidae: Spilomelinae). SHILAP Revista de Lepidopterologia. 50(198): 257-263. [*Mecyna salangalis* Amsel]

Geographical, Biological, & Genomic data

Chen, A., Z. Li, Y. Zheng, J. Zhan, B. Yang, & Z. Yang. 2022. Decreasing species richness with increase in elevation and posi-

tive Rapoport Effects of Crambidae (Lepidoptera) on Mount Taibai. Insects. 13: 1125. doi.org/10.3390/insects13121125. [alpha diversity of Pyraustinae and Spilomelinae decreases with altitude]

Chen, T., X. Dai, & C. Eiseman. 2022. A checklist of gymnosperm-feeding leafminers (Arthropoda, Insecta) in North America and Europe. Biodiversity Data Journal. 10: art. no. e91313.[includes Pyralidae]

Claessens, J., A.F. Aguiar, O. Karsholt, J.J. Bacallado, R. Heijungs, & B. Gravendeel. 2022. Pollination strategy of *Gennaria diphylla* (Orchidaceae) on the Canary Islands and on Madeira. Mediterranean Botany. 43, art. no. e73718. doi.org/10.5209/mbot.73718 [4 crambids listed as pollinators; a beautiful image of *Eudonia angustea*]

Cock, M.J.W. 2021. New records of butterflies and moths (Lepidoptera) from Tobago, West Indies. Living World, Journal of the Trinidad and Tobago Field Naturalists' Club. 2021: 103-109. https://tfn.org/livingworld/index.php/lwj/article/view/757

Dey, A., & P.R. Shashank. 2022. Taxonomic studies on graminaceous stem borers from north India. Indian Journal of Entomology. 84(1): 6-23. [*Chilo*, *Bissetia*, *Scirpophaga*, *Emmalocera*]

Falck, P., O. Karsholt, & F. Slamka. 2022. New data on Pyraloidea from the Canary Islands, Spain 2 (Lepidoptera: Pyralidae, Crambidae). SHILAP Revista de Lepidopterologia. 50(199):469-488.[6 new species are described; 8 species new to Canary Islands]

Garre, M.J., J. Girdley, J.J. Guerrero, R.M. Rubio, & A.S. Ortiz. 2022. An annotated checklist of the Pyralidae of the region of Murcia (Spain) with new records, distribution, and biological data (Lepidoptera, Pyraloidea, Pyralidae). Biodiversity Data Journal. 10. Art. no. e7925. doi.org/10.3897/BDJ.10.E7925

Gözüaçik, C., K. Akin, E. Seven, & M. Türkoğlu. 2022. Surveys on the Pyraloidea and Geometridae (Lepidoptera) of Mount Ararat and its surroundings. *Journal of Science and Technology*. 15(2): 515-532. [135 species of Pyraloidea in the National Park in Turkey, new records are noted, some images included]

Gumhalter, D. 2022. New data on the distribution of little-known Pyraloidea species from Croatia. *SHILAP Revista de Lepidopterologia*. 50(199): 405-415.

Jakšić, P., & A. King. 2021. New data on the distribution in Montenegro, with a review of aberrant forms. *Bulletin of Natural Sciences Research*. 11(2): 8-12. [pyraloids listed, beautiful image of *Eurrhysis pollinalis*]

Johnson, T.L., M.A. Elgar, & M.R.E. Symonds. 2022. Movement and olfactory signals: sexually dimorphic antennae and female flightlessness in moths. *Frontiers in Ecology and Evolution*. doi.org/10.3389/fevo.2022.919093 [includes pyraloids; “results reveal that elaborate antennae in males have evolved more frequently in species where females are monandrous (females mate with a single male). Further, female loss of flight ability evolved more frequently in species where males have elaborate antennae.”]

Lees, D.C., & J. Minet. 2022. Lepidoptera, butterflies and moths: systematics and diversity, pp. 1141-1172. In Goodman, S.M., ed., *The New Natural History of Madagascar*, Vol.1, Princeton University Press, Princeton, New Jersey, USA. 2296 pp. (available as an e-book)

Knyazev, S.A. 2022. Catalogue of Lepidoptera of Omsk Region (Russia). *Microlepidoptera*. Families: Eriocraniidae, Nepticulidae, Opostegidae, Adelidae, Prodoxidae, Incurvariidae, Psychidae, Tineidae, Roeslerstammiidae, Bucculatricidae, Gracillariidae, Yponomeutidae, Argyresthiidae, Plutelliidae, Acrolepiidae,

Glyphipterigidae, Ypsolophidae, Lyonetiidae, Bedelliidae, Ethmiidae, Depressariidae, Elachistidae, Parametriotidae, Scythrididae, Chimabachidae, Cryptolechiidae, Oecophoridae, Batrachedridae, Coleophoridae, Momphidae, Blastobasidae, Autostichidae, Cosmopterigidae, Gelechiidae, Pterophoridae, Epermeniidae, Choreutidae, Galacticidae, Tortricidae, Pyralidae, Crambidae. *Acta Biologica Sibirica*. 8: 17-87.

Mally, R., R.M. Turner, R.E. Blake, G. Fenn-Moltu, C. Bertelsmeier, E.G. Brockerhoff, R.J.B. Hoare, H.F. Nahrung, A. Roques, D.S. Pureswaran, T. Yamanaka, & A.M. Liebhold. 2022. Moths and butterflies on alien shores: Global biogeography of non-native Lepidoptera. *Journal of Biogeography*. 49(8): 1455-1468. doi.org/10.1111/jbi.14393 [illustrates Pyraloidea are successful invaders]

Nosirova, Z., & L. Xalmirzayeva. 2022. Some representatives of Pyraloidea [sic] superfamily occurring in Uzbekistan region. *IOP Conference Series: Earth and Environmental Science*. 1068 (1), art. no. 012041. doi.org/10.1088/1755-1315/1068/1/012041 [larval damage is described]

Osada, Y., & H. Yoshitake. 2022. Moths collected in March 2021 from Yonajuni-jima Island, the Ryukyus, Japan. *Japan Heterocerists' Journal*. 302: 64-67. [includes Pyraloidea]

Plant, C. W. 2021. Swings and roundabouts? Losses and gains within the moth fauna of Hertfordshire. *Transactions of the Hertfordshire Natural History Society*. 53(1): 15-29. [“Moth recording ...is achieved through the efforts of a large number of amateur ‘citizen scientists’ whose activities are loosely coordinated via the Herts Moth Group, by myself as the formally appointed County Moth Recorder.” Includes a few pyraloids in the topics of lost species, species not known prior

to 2007, and rediscoveries of species present historically, but lately absent, and immigrant species]

Rao, B.S.K., & C. Sivaperuman. 2022. New records of pyraloid moths (Lepidoptera: Pyraloidea: Crambidae) from India. *Zoosystematica Rossica*. 31(1): 20-26.

Richers, K. 2022. The moths of The Cullowhee, North Carolina, Meeting. *Southern Lepidopterists' News*. 44(3): 305-316. [species names on page 307, images on page 314; collected during the Lepidopterists' Society Meeting, June 2022]

Shin, B., S.-W Choi, & S.-S. Kim. 2022. Fourteen new records of Crambidae (Lepidoptera) from South Korea. *Zootaxa*. 5159(4): 513-534.

Sinev, S.Y.U., & S.K.A. Korb. 2022. Preliminary list of the Pyraloid moths (Lepidoptera: Pyraloidea) of Kyrgyzstan. *Zootaxa*. 5138(2): 101-136.

Singh, A.P., A. Chandra, K. De, V.P. Uniyal, & R. Joshi. 2022. Faunistic account on the Heterocera of Tirthan Valley, Great Himalaya National Park Conservation Area: a preliminary checklist (Insecta: Lepidoptera.) *SHILAP Revista de lepidopterologia*. 50(199): 497-524. [includes Pyraloidea]

Sondhi, S., Y. Sondhi, T. Karmakar, & K. Kunte. 2021. Moth diversity (Lepidoptera) of Shendurney and Ponmudi in Agasthyamalai Biosphere Reserve, Kerala, India: an update. *Tropical Lepidoptera Research*. 31(3): 166-178. [includes Crambidae].

Ustjuzhanin, P., A.A. Teymurov, V.V. Anikin, A. Yu Matov, A.E. Naydenov, A.N. Streltsov, & R.V. Yakovlev. 2022. Materials on the Lepidoptera fauna of the Dagestan Republic (Northeastern Caucasus, Russia): autumn aspect. *SHILAP Revista de Lepidopterologia*. 50(198):213-228. [Pyraloidea, including 3 new

crambids to Russia, 9 new to eastern Caucasus]

Wu, Y., X. Liu, Y. Zhang, H. Fang, J. Lu, & J. Wang. 2022. Characterization of four mitochondrial genomes of Crambidae (Lepidoptera, Pyraloidea) and phylogenetic implications. *Archives of Insect Biochemistry and Physiology*, art. no. e21914. doi.org/10.1002/arch.21914 [*Loxostege turbidalis*, *Loxostege aeruginalis*, *Pyrausta despicata*, and *Crambus perlellus*]

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Pyraloid Enthusiasts

Please refer or forward the details to me about anyone who wishes to be put on the Pyraloid Planet distribution list. Please welcome Jacob Bethin, Mark Sterling, and Jan Šumpich who are newly added to this list.

If you have any corrections, suggestions, comments on this issue, let me know as soon as possible. More importantly, send ad-

ditions for next year's edition anytime during the year. The next deadline will be October/November 2023.

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Having fun blacklighting for pyraloid moths at the Annual Meeting of the Lepidopterists' Society, Cullowhee, North Carolina. (Brian Scholtens, center)