THE PYRALOID PLANET

Volume 15 – December 19, 2021
A Newsletter for Pyraloidea Fans

Inside:

Editorial

This issue of the newsletter includes contributions by pyraloid enthusiasts worldwide on a broad diversity of topics, including conservation, climate change, ecology, phylogenetics, new distributions, and taxonomic identities, among others. There are two contributions that speak to the potential of climate change to affect pyraloid species: species in New Zealand that are on the precipice of extinction, and observations on a small, darkly colored, high elevation odontiine genus in the European Alps. Two phylogenies published this year are highlighted: *Ostrinia*, an economically important genus with some species that are serious pests of food crops worldwide, and a higher-level phylogeny of Pyraloidea using mitogenomes. This issue also includes an introduction to Hector Vargas a Chilean who has published on pyraloids and their biology from the southern Western Hemisphere. A new book titled "*A global comprehensive check-list of the Phycitinae,*" a contribution of about 500 pages by Guillaume H. C. Leraut, is highlighted. New in this issue is a "I**n Search Of**" section, for lepidopterists seeking pyraloid specimens or images.

Congratulations to two pyraloidologists who successfully completed their PhDs: Dr. **Qi Muji**e, Nankai University, Tianjin, China, and Dr. **Jae-Ho Ko**, Incheon National University, Incheon, Korea! Also, congratulations to **Joël Minet**, who is now retired and continues as Emeritus Professor at the Muséum National d'Histoire Naturelle, Paris, France.

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. The pyraloid community owes a great debt of gratitude to **Richard Mally**, who continues to generously update the pyraloid database.

This year was an unusual year for me. Besides being on Zoom (or other communication platforms) frequently like everyone else, I made several presentations as pre-recorded talks. I finished my two years as President of the Lepidopterists' Society and gave a Presidential Address where I spoke about my mentors and mentoring younger people (especially about interns and the NMNH pyraloid collection) and gave the keynote speech at the Latino/Hispanic Symposium at the Entomological Society of America about my career, which also included a section about how I got started in moths [some previously appeared in Solis, 2021: President's Letter. Newsletter of the Lepidopterists' Society 62 (4): 168-172] that will be on YouTube eventually.

Finally, in November I was incorporating material into the pyraloid collection when a group came by with the NMNH Entomology Collection Manager, Floyd Shockley. They turned out to be journalists and photographers from National Geographic on-line. They took the only picture I have of me working in the collection after almost 40 years, and we spoke about chrysaugines, particularly the sloth moths, because this was where I happened to be working when they came by (*A rare look inside the Smithsonian's secret storerooms* by Bill Newcott, photos by Rebecca Hale, available on-line at their site).

This was another difficult year for many due to the pandemic, so thank you to those who brought research papers to my attention throughout the year, and everyone who was able to send in items and/or images for the newsletter.

M. Alma Solis

GlobIZ News 2021

The Global Information System on Pyraloidea (GlobIZ) underwent some revisional checks this year. Since the last newsletter, the number of valid species included in the database increased by 162 (+ 55 synonyms). Altogether, there are 26,748 pyraloid names for 2,118 genera (+ 1,438 synonyms) and 16,621 species (+ 6,571 synonyms). Numerous nomenclatural changes account for the numerical changes. The updated table below provides an overview by subfamily. I very much like to thank all who contributed editing data to GlobIZ, especially Richard Mally who again spent much time in 2021 for carefully checking possible gaps in the database.

Matthias Nuss

	genera		species	
	valid	synonyms	valid	synonyms
Chrysauginae	**130**	**61**	**399**	**129**
Epipaschiinae	**95**	**68**	**727**	**172**
Galleriinae	**63**	**62**	**260**	**117**
Phycitinae	**676**	**401**	**3,501**	**1,560**
Pyralinae	**136**	**109**	**1,298**	**399**
Acentropinae	**71**	**38**	**797**	**214**
Crambinae	**177**	**124**	**2,083**	**1,098**
Erupinae	**3**	**4**	**38**	**5**
Glaphyriinae	**75**	**56**	**509**	**197**
Heliothelinae	**3**	**3**	**29**	**14**
Hoploscopinae	**2**	**4**	**46**	**2**
Lathrotelinae	**5**	**7**	**42**	**9**
Linostinae	**1**	**0**	**4**	**2**
Midilinae	**10**	**4**	**57**	**12**
Musotiminae	**23**	**8**	**208**	**26**
Odontiinae	**87**	**39**	**386**	**143**
Pyraustinae	**172**	**106**	**1,284**	**633**
Schoenobiinae	**29**	**17**	**240**	**99**
Scopariinae	**20**	**24**	**587**	**208**
Spilomelinae	**340**	**303**	**4,126**	**1,532**
	2,118	**1,438**	**16,621**	**6,571**

Some New Zealand Pyraloidea on the brink of extinction

Robert J. B. Hoare
Landcare Research, Auckland, New Zealand

For its size, New Zealand has a diverse and unusual fauna of Pyraloidea, with 250 currently recognised species in 11 subfamilies (one species is unplaced to subfamily), of which a remarkable 234 species are endemic (93.6%). The fauna is overwhelmingly dominated by Crambinae (81 species) and Scopariinae (134 species), with the majority of species occurring in the South Island, where major radiations have taken place in the alpine zone.

New Zealand's landscapes and ecology have changed drastically since humans arrived and especially since European settlement over the last 200 years. By and large, the country's insect fauna has fared somewhat better than its devastated avifauna, and no species of Lepidoptera have been declared extinct. However, one formerly locally common geometrid moth, *Xanthorhoe bulbulata* (Guenée, 1868), has not been seen since 1991, despite intensive searching, and seems very unlikely now to be rediscovered. It has recently become clear that other species occurring in similar habitats to *X. bulbulata* are severely threatened, and several pyraloid moths are perhaps the most endangered.

The habitats of concern are short-turf areas rich in native herbs occurring in a wide range of settings from coastal dunes to intermontane basins and low alpine areas of the South Island, especially to the east and south of the Southern Alps. The turfs may be dry or seasonally wet, and often occur in mosaics of shrubland and native tussock grassland; lakesides and river flats are classic examples at the moister end of the scale, saltpans at the drier end. These habitats have become increasingly overwhelmed by exotic grasses and weeds, accidentally or deliberately introduced over many decades of land-use change relating to settlement and agriculture. Rabbits and hares (also introduced) can be abundant and damage these open areas extensively, but ironically, may in some places help to keep down exotic grasses and allow native herbs to thrive. It is possible that moderate sheep-grazing may also be beneficial in some situations, but more research is needed. Climate change has warmed New Zealand by about 1°C over the last 100 years and is a likely exacerbating factor in the ongoing degradation of these delicate turfs. The interactions are complex and are not adequately understood from the perspective of Lepidoptera conservation.

With Brian Patrick, I have been attempting to assess the status of four endemic pyraloid moths confined to these short-turf habitats; all were formerly widespread and locally common in the eastern and southern South Island. These are: *Maoricrambus oncobolus* (Meyrick, 1885) (Crambidae: Crambinae), *Pyrausta comastis* (Meyrick, 1884) (Crambidae: Pyraustinae), *Delogenes limodoxa* Meyrick, 1918 (Pyralidae: Phycitinae) and *Sporophyla oenospora* (Meyrick, 1897) (Phycitinae) (Figs 1-4). Apart from *P. comastis,* all are currently placed in monotypic endemic genera, though *Maoricrambus* is closely related to *Orocrambus* and may eventually prove to be a synonym. These species have never been reared and the life histories are unknown, so a critical component of the research was to rediscover populations in the hope that larvae could be found later, and their ecology elucidated. *Maoricrambus,* in common with its rel-

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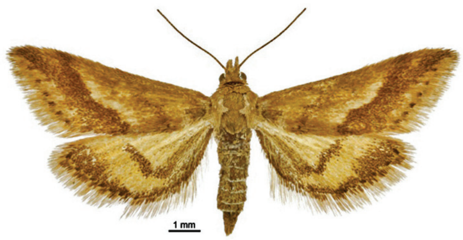

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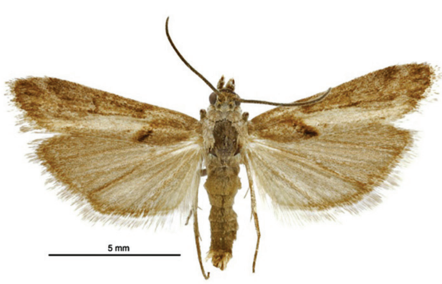

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Figs 1-4. Endangered New Zealand pyraloids: 1. *Maoricrambus oncobolus*; 2. *Pyrausta comastis*; 3. *Delogenes limodoxa*; 4. *Sporophyla oenospora*.

atives, is almost certainly a monocot-feeder, whilst the other three are strongly suspected to be associated with native herbs. All four are day-flying and were formerly rather easily observed in suitable habitat at the right season. None of the four species has ever been reported on the popular *iNaturalist* NZ recording platform.

The results of our surveys in many former sites for these species over the last two summers (2019-2021) have been deeply worrying (Fig. 5). We found no specimens at all of three of the species; only a single population of *Delogenes limodoxa* was found in a complex of dwarf shrubland and herbfield on quartz-rich dunes on the south coast near Invercargill, where 7 specimens were observed by Brian Patrick. The herb layer here is relatively diverse, so finding larvae and confirming the hostplant(s) will be a challenge. The species has also been found in the last 5 years by Roland and Renate Wöger further east near Waikawa, and by Brian Lyford in the Otago Lakes area, so is likely hanging on very locally in a number of places.

The status of the other three species appears critical. Most of the sites we visited were in protected areas, but nonetheless quite substantial changes have occurred over the last 10 to 15 years; many sites have a notably longer sward and have been much more extensively invaded by weeds and exotic grasses than before. *Sporophyla oenospora* was formerly found coastally as well as in dry inland sites, including saltpans in Central Otago, but it has not been seen anywhere since 2008. *Pyrausta comastis*, an inhabitant of wetter swards or short grass, was still relatively common in 2010 at a single site in Fiordland but has not been seen since that date. *Maoricrambus oncobolus* occurred very locally in estuarine situations, as well as on intermontane river flats, and was still common at one remote inland site in 2007; it is possible that recent surveys at known sites were too late in the season, so there is hope that this moth may still survive.

Fig. 5. Red Tarns, 1200m a.s.l., near Mt Cook Village, South Island, New Zealand (Jan 2020). *Delogenes limodoxa* and *Pyrausta comastis* were found commonly here on lakeside swards by Alfred Philpott in 1929. The habitat looks superficially promising, but weeds are present and these pyraloids seem to have disappeared.

We concluded that *S. oenospora* and *P. comastis* are on the brink of extinction, and chances to save them are rapidly diminishing, if they still exist. The decline of these moths was barely noticed until a couple of years ago when this project was initiated, due to a severe lack of recording in critical areas of the South Island and a general lack of specialist lepidopterists with the experience to search for and recognise the moths.

On a more positive note, these four rare species should be considered extremely sensitive indicators of habitat change, and their rapid decline has alerted us to a need for urgent research into the ecology and management of New Zealand's threatened short-turf habitats. Other specialist moths are still locally common in these habitats; they are perhaps more adaptable, but they should not be assumed to be safe. We sincerely hope there is time to prevent these species suffering a similar fate.

This research was funded by the New Zealand Department of Conservation, and we are very grateful to Eric Edwards, Tara Murray and Samantha Gale for their help and support.

Metaxmeste (Odontiinae) in the European Alps

Matthias Nuss
Senckenberg Museum für Tierkunde, Dresden, Germany

This summer, I was hiking in the Ötztal Alps, an area famous for Ötzi, the Iceman who was killed with an arrow 5,300 years ago. Brilliant weather conditions allowed spectacular views on the glacier scenery, but note that the ice shields are rapidly shrinking, releasing bare, smoothly polished rock (Fig. 1). The alpine meadows seen in the foreground are home to two alpine odontiines, *Metaxmeste phyrgialis* and *M. schrankiana* (Figs. 2-3). Adults of both species fly during the day, close to the ground, and are usually seen sunbasking on bare ground. Schmid (2019) calls *M. phyrgialis* (Fig. 2) probably the most common alpine micro-moth species in the Alps and mentions that its larvae are polyphagous. Less common is *M. schrankiana* (Fig. 3) whose larvae are known to feed on *Vaccinium* (Ericaceae), *Geum,* and *Dryas* (Rosaceae).

Returning home, I checked published

records, for example Sinev (2019), and became fascinated with the distribution patterns of the two species, which are scattered over several boreal and mountainous regions in Eurasia and are isolated by widely extended lowlands. *M. phyrgialis* even has a counterpart in Colorado, *M. nubicola* (See MPG web site). The wing pattern of these two species looks much the same to me.

Fig. 1. Scenery of the Gaisberg (left) and Rotmoos glaciers as seen from the Mt. Hohe Mut (2,653 m).

Fig. 2. *Metaxmeste phyrgialis* in the Gaisbergtal at about 2,400 m.

Thanks to correspondence with Alma Solis, Zhaofu Yang, Jean-François Landry and Paul Opler, I was able to quickly analyse *nubicola*'s DNA-barcode against Eurasian specimens, which resulted in a sequence distance well over 2%. Whether *M. phrygialis* remains the most common alpine micro-moth over the next decades will greatly depend on how climate change proceeds. The hibernating habit of this species depends on snow cover, but the snow line will move upwards and there will be more rain during the winter.

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Sinev, S. Ju. 2019: Catalogue of the Lepidoptera of Russia. Zoological Institute, St. Petersburg. 448 S.

Fig. 3. *Metaxmeste schrankiana* below summit of Mt. Hohe Mut at about 2,600 m.

NEWS FROM.....

Zhaofu Yang

New *Ostrinia* Phylogeny

Yang, Z., D. Plotkin, J.-F. Landry, C. Storer, & A. Kawahara. 2021. Revisiting the evolution of *Ostrinia* moths with phylogenomics (Pyraloidea: Crambidae: Pyraustinae). Systematic Entomology. 46: 827-838.

The crambid moth genus *Ostrinia* contains multiple agricultural pests, and its classification. We inferred a molecular phylogeny of *Ostrinia* using a phylogenomic dataset containing 498 loci and 115, 197 nucleotide sites and examined whether traditional morphological characters corroborate our molecular results.

Our results strongly support the monophyly of one of the *Ostrinia* species groups (Fig. 1 from research paper on next page), but surprisingly do not support the monophyly of the other two. Based on the extensive morphological examination and broadly representative taxon sampling of the phylogenomic analyses, we propose a revised classification of the genus, defined by three species groups (*Ostrinia nubilalis* species group, *Ostrinia obumbratalis* species group, and *Ostrinia penitalis* species group), which differs from the traditional classification of Mutuura & Munroe (1970). Morphological and molecular evidence reveal the presence of a new North American species, *Ostrinia multispinosa* Yang sp.n., closely related to *O. obumbratalis*. Our analyses indicate that the *Ostrinia* ancestral larval host preference was for dicots, and that *O. nubilalis* (European corn borer) and *Ostrinia furnacalis* (Asian corn borer) independently evolved a preference for feeding on monocots (i.e., maize). Males of a few *Ostrinia* species have enlarged, grooved midtibiae with brush organs that are known to attract females to increase mating success during courtship, which may represent a derived condition. [abstract slightly modified].

Mujie Qi and Houhun Li

Pyraloidea Mitogenomes and phylogeny

Liu, Xiaomeng, M.Qi, H. Xu, Z.Wu, L. Hu, M. Yang, & H. Li. 2021. Nine mitochondrial genomes of the Pyraloidea and their phylogenetic implications (Lepidoptera: Pyraloidea). Insects. 12: 1039. https://doi.org/10.3390/insects12111039

We sequenced and annotated nine complete mitogenomes for Pyraloidea, and further performed various phylogenetic analyses, to improve our understanding of mitogenomic evolution and phylogeny of this superfamily (Fig. 3 from research paper on next page). TGene content and arrangement were highly conserved and are typical of Lepidoptera. Based on the hitherto most extensive mitogenomic sampling, our various resulting trees showed generally congruent topologies among pyraloid subfamilies, which are almost in accordance with previous multilocus studies, indicating the suitability of mitogenomes in inferring high-level relationships of Pyraloidea. However, nodes linking subfamilies in the “non-PS clade” were not completely resolved in terms of unstable topologies or low supports, and future investigations are needed with increased taxon sampling and molecular data.

Unexpectedly, *Orybina* Snellen, represented in a molecular phylogenetic investigation for the first time, was robustly placed as basal to the remaining Pyralidae taxa across our analyses, rather than nested in Pyralinae of Pyralidae as morphologically defined. This novel finding highlights the need to reevaluate *Orybina* monophyly and its phylogenetic position by incorporating additional molecular and morphological evidence. [abstract slightly modified].

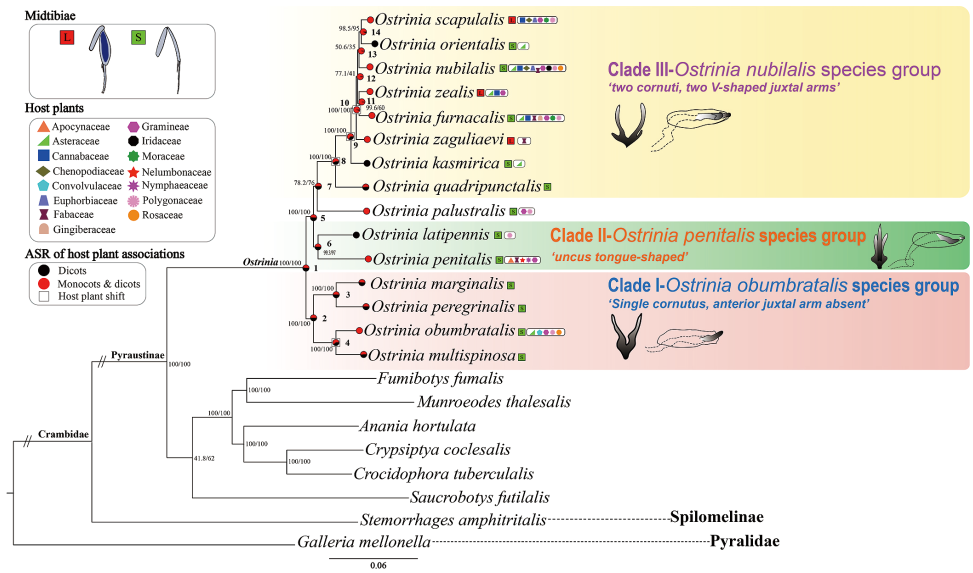

Fig. 1: Maximum likelihood tree of *Ostrinia* estimated in iq-tree using the anchored hybrid enrichment dataset. Support values are ufboot/sh-alrt.. Nodes of importance are numbered in bold. The ancestral state reconstructions (ASRs) of larval host plant associations are represented as pies on ingroup nodes. The ASRs of the male midtibiae are indicated with capital letters following tip labels as follows: (L) enlarged, (S) small.

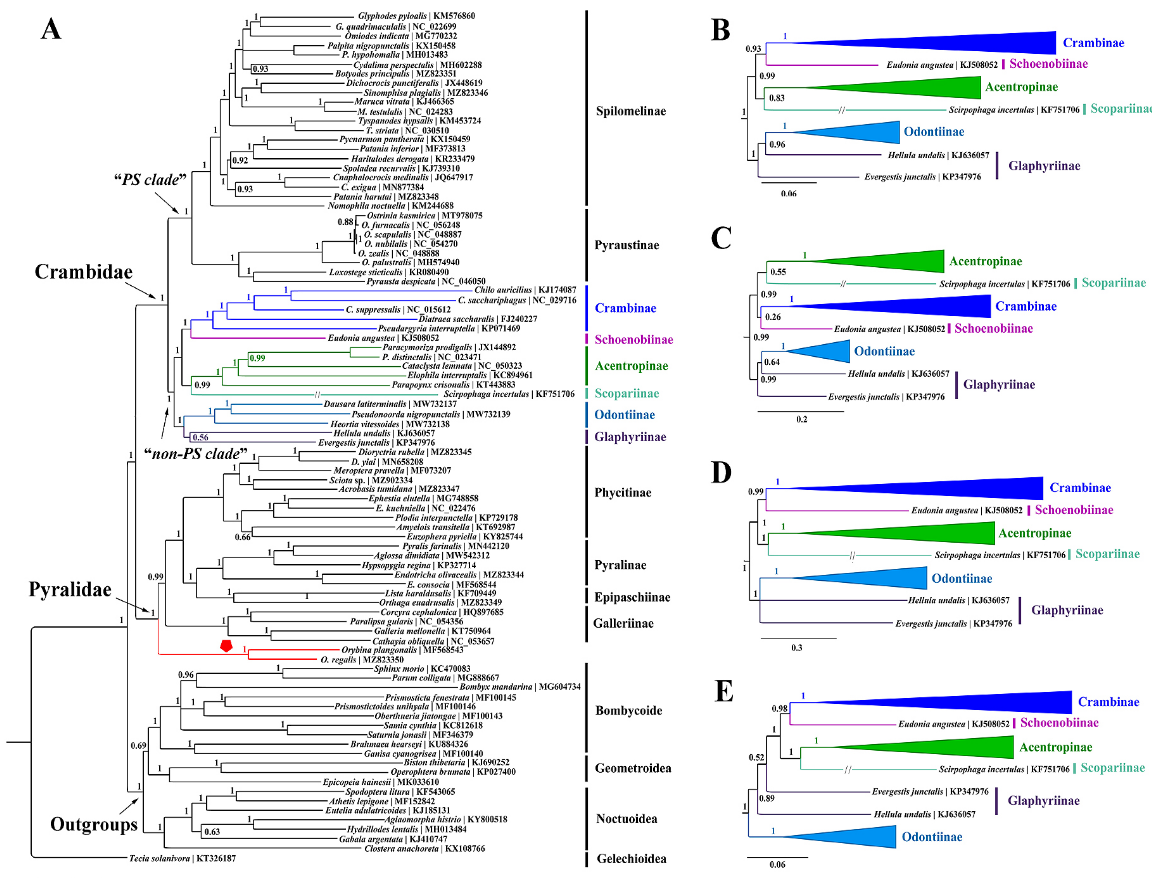

Fig. 3: Resulting trees constructed with MrBayes for five datasets. (**A**) The whole BI tree of PCG123 dataset, and position of the *Orybina* Snellen is emphasized with red clade and polygon; (**B–E**) highlight the partial BI trees ("*non-clade*") constructed using the datasets of PCG12, PCG12R, PCG123R and PCGAA, respectively.

Stephen Sutton

Pyraloid Moths of Borneo (PoB), Volume 2

Everything is ready to submit to the publisher for printing, except that the key process of loading text and images to the website and generating the QR codes to link the printed volume to the site is on hold for the moment. We are searching for a new software programmer. As of 17 March 2021, there were 798 species entries including all records for all subfamilies of the Crambidae in Borneo (or highly likely to occur) and genera of the Spilomelinae in A-Z to *Gadessa*. The rest of the Spilomelinae will comprise Vol 3.

Jean-Michel Maes

Pyraloidea in *iNaturalist*

Perhaps a way to increase knowledge about pyraloids is cooperating with *iNaturalist*, a platform where amateurs can upload observations of plants and animals. So far there are 413,539 pyraloid observations, 99 % with pictures [numbers from December 2020], representing 3,518 species. In the United States: 238,159 observations, 1,051 species; South America: 19,601 observations, 819 species; Mexico: 12,524 observations, 470 species; Nicaragua: 192 observations, 79 species; and Costa Rica: 3,049 observations, 277 species. Central and South America are not well represented, but the potential is huge. Few people take pictures of pyraloids because very few can identify small moths, even if many are beautiful species. *iNaturalist* could be used as a taxonomic platform, and perhaps if pyraloid specialists would identify species where possible, it would boost enthusiasm about pyraloids among amateurs.

Clifford Ferris

First records of *Maruca vitrata* (Fabricius, 1787) (bean pod borer) in Arizona

Two specimens of this agriculturally important pest species were collected in UV moth traps on successive nights (Fig. 1). The first from a trap placed along Harshaw Creek, SE of Patagonia, Sta. Cruz Co., Arizona [N31°30.893’, W110°42.241’] 4270’ (1302m)], 7 September 2021. The second specimen was taken in Gardner Canyon, Pima Co., Arizona [N31°43.627’, W110°41.833’] 4805’ (1465m), 8 September 2021. This moth has been reported once from Louisiana and several times from peninsular Florida, but not previously from the southwestern United States. The two specimens are presumed to be migrants from Mexico since there is no commercial bean cultivation in the two areas where the moths were collected. A strong diurnal migration of snout butterflies and yellow pierids was occurring on the two dates noted above.

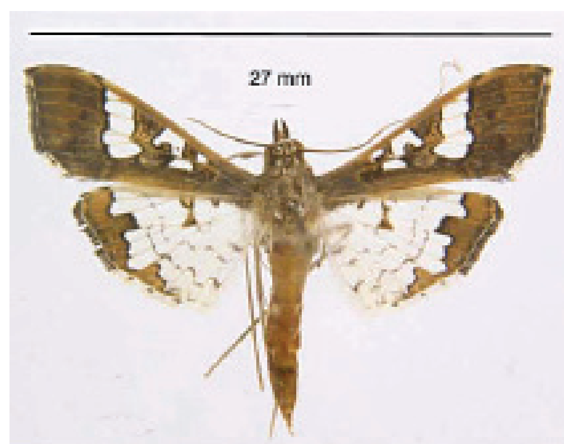

Fig. 1. *Maruca vitrata* collected in Arizona

Bob Heckford

Biology of *Pyrausta*

Heckford, R. J. & S. D. Beavan. 2021. On the biology of *Pyrausta purpuralis* (Linnaeus, 1758) and its comparison with *Pyrausta ostrinalis* (Hübner, 1793) and *Pyrausta aurata* (Scopoli, 1763) (Lepidoptera: Pyralidae). Entomologists' Gazette. 72: 85-118.

Pyrausta aurata ©S. D. Beavan & R. J. Heckford

Pyrausta ostrinalis ©S. D. Beavan & R. J. Heckford

Pyrausta purpuralis©S. D. Beavan & R. J. Heckford

Scott Miller

Ecological studies including pyraloids

Basset, Y., L. R. Jorge, P. T. Butterill, G. P. A. Lamarre, C. Dahl, R. Ctvrtecka, S. Gripenberg, O. T. Lewis, H. Barrios, J. W. Brown, S. Bunyavejchewin, B. A. Butcher, A. I. Cognato, S. J. Davies, O. Kaman, P. Klimes, M. Knížek, S. E. Miller, G. E. Morse, V. Novotny, N. Pongpattananurak, P. Pramual, D. L. J. Quicke, W. Sakchoowong, R. Umari, E. J. Vesterinen, G. D. Weiblen, S. J. Wright, and S. T. Segar. 2021. Host specificity and interaction networks of insects feeding on seeds and fruits in tropical rainforests. Oikos. 130(9):1462-1476.

This meta-analysis includes Pyralidae, but not Crambidae because they were not common enough in fruits and seeds to make the threshold for analysis. [modified abstract following]. Host specificity was greater among seed eaters than pulp-eaters and for insects feeding on dry fruits as opposed to insects feeding on fleshy fruits. Plant species richness within plant families did not influence insect host specificity. Some subnetworks were extremely specialized, such as those including Tortricidae and Bruchinae in Panama. Plant phylogenetic distance, plant basal area and plant traits (fruit length, number of seeds per fruit) had important effects on several network statistics in regressions weighted by sampling effort. Our study emphasizes the duality between seed dispersal and seed predation networks in the tropics, as key plant species differ, and host specificity tends to be low in the former and higher in the latter. This underlines the need to study both types of networks for sound practices of forest regeneration and conservation.

Volf, M., J. E. Laitila, J. Kim, L. Sam, K. Sam, B. Isua, M. Sisol, C. W. Wardhaugh, F. Vejmelka, S. E. Miller, G. D. Weiblen, J.-P. Salminen, V. Novotny, and S. T. Segar. 2020. Compound specific trends of chemical defences in *Ficus* along an elevational gradient reflect a complex selective landscape. Journal of Chemical Ecology. 46(4):442-452.

This study included species of *Glyphodes*, *Talanga*, and a scopariine. [modified abstract follows] Elevational gradients affect the production of plant secondary metabolites through changes in both biotic and abiotic conditions. We analyzed the correlation of alkaloids and polyphenols with elevation in a community of nine *Ficus* species along a continuously forested elevational gradient in Papua New Guinea. Insect community structure was affected mainly by alkaloid concentration and diversity. Although our results show an elevational increase in several groups of metabolites, the drivers behind these trends likely differ. Flavonoids may provide figs with protection against abiotic stressors. In contrast, alkaloids affect insect herbivores and may provide protection against mammalian herbivores and pathogens.

Seifert, C. L., L. R. Jorge, M. Volf, D. L. Wagner, G. P. A. Lamarre, S. E. Miller, E. Gonzalez-Akre, K. J. Anderson-Teixeira, and V. Novotný. 2021. Seasonality affects specialization of a temperate forest herbivore community. Oikos. 130(9):1450-1461.

This study did not include any Pyraloidea species, but it shows what you can do with larvae if you have a good DNA barcode library.

Alma Solis

Various pyraloids

Diatraea postlineella was previously only known from the type described by Schaus from Guatemala. This species came to my attention when I taught a two-week course on various aspects of Pyraloidea in El Salvador in 2012. With additional material many years later, I was able to study morphological variation, including the female for the first time (Solis et al., 2021). My collaborators provided the new host plant data, and a COI barcode identity for the first time. This species had been misidentified as *D. grandiosella* by Guatemalan researchers.

Jenny Phillips and I came upon *Cryptocosma*, a group with morphologically interesting adult moths (i.e., reduced mouthparts and a cataclystiform wing pattern), in the USNM collection while working on the Acentropinae of the Guanacaste Conservation Area (Costa Rica). We synonymized *Guyanymphula* with *Cryptocosma*, and transferred the genus from Acentropinae to Glaphyrinae (Solis & Phillips, 2021).

Unusually, and because of the pandemic, I collaborated with an intern, Jacob Bethin, via Zoom. He discovered aquatic Lepidoptera in a collection of the River Weed plant family at his university. He photographed the specimens, and we discussed aquatic acentropine larvae and pupae (see pupal image to the right) every Friday this summer! I encouraged him to write a paper on the unusual morphological structures (Bethin et al., 2021). He has applied for an NSF grant to work on these amazing pyraloids.

I was involved in a multi-authored paper, a “minimalist revision,” about braconids that are parasitoids of Costa Rican pyraloid larvae (Sharkey et al., 2021). This paper caused quite a stir because the first author included many new species diagnosed and based only on COI bins. I made/confirmed identifications, including of various invasive species in the United States. *Cydalima perspectalis*, the box tree moth, was finally found in the United States, and there were new county records in Texas of the cactus moth, *Cactoblastis cactorum*, as it spreads westward.

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Solis, M. A., & E. Phillips. 2021. Hidden Jewel: *Cryptocosma* Lederer (Lepidoptera: Pyraloidea: Crambidae), its transfer to the Glaphyriinae, and the synonymy of *Guyanymphula* Heppner. Proceedings of the Entomological Society of Washington. 123(1): 217-229. doi.org/10.4289/0013-8797.123.1.217

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

IN SEARCH OF….

***_Syllepte incomptalis_ Hübner from Surinam**
Richard Mally, Matthias Nuss, & Alma Solis

Syllepte is probably the most troublesome dustbin genus in Spilomelinae, with 204 species worldwide largely varying in forewing length, wing pattern elements, and genitalia characters. Munroe (1995) indicated that almost all New World species were misplaced, with the exception of the type species, *S. incomptalis* Hübner, 1819–1823, described from Surinam, and *S. nitidalis* (Dognin, 1905) described from Ecuador (Figs. 1-2). Therefore, it is labor-intensive to properly place a single species, and even more challenging to understand what a true *Syllepte* looks like, since the original specimens of Hübner's descriptions were lost in a fire in Vienna during the 1848 revolution. In the original description, the species is figured in colour (pl. 50, figs. 285–286) (Fig. 1) and the written description, despite mentioning similar taxa, is limited to the wing pattern which is straw yellow with a reddish hue. Looking at these few facts, the identity of *S. incomptalis* remains dubious.

When looking carefully at Hübner's plates, it becomes evident that the specimens he illustrated are in correct proportion to each other, which helps to estimate the size of *S. incomptalis*. In Hübner (1819–1823) Plate 50, next to S. *incomptalis*, is an illustration of *Melanis lycea* (figs. 283–284), which has a forewing length of about 22 mm (compare at https://www.butterfliesofamerica.com/L/melanis_lycea_types.htm). With *S. incomptalis* being less than half the size of *M. lycea,* its forewing length can be estimated to be 10 mm. This is also consistent with the comparable size of *Anomis erosa* (pl. 50, figs. 287–

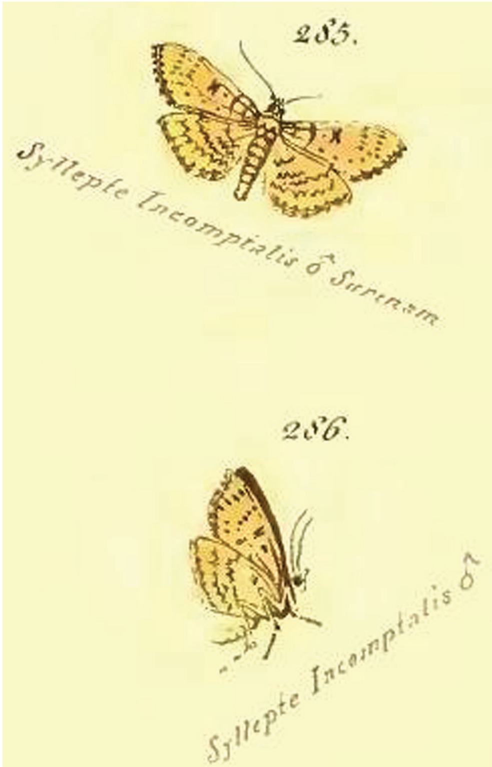

Fig. 1. Hübner's (1819-1823) plate 50 with the two illustrations of a male *Syllepte incomptalis* (see also Pyraloid Planet, v.13, p. 16)

Fig. 2. *S. nitidalis* (Dognin) syntype, USNM.

Fig. 3. *S. nitidalis* (Dognin), syntype, posterior abdominal segments, USNM.

Fig. 4. *S. nitidalis* (Dognin) male genitalia, syntype, USNM.

288), with a forewing length of 12–13 mm (Powell & Opler 2009). The image and supposed size of the wing length are very similar to *S. nitidalis* (See adult and genitalia syntype images, Figs. 2-4) with the strong possibility that *S. incomptalis* is the same or closely related to *S. nitidalis* (Figs. 3-4).

The USNM has material of *S. nitidalis* from Mexico, Guatemala, Costa Rica, Ecuador, Peru, Venezuela, and Cuba, and several undescribed, closely related species from Ecuador, Bolivia, Peru, Costa Rica, and Dominica. We would like to ask any pyraloid enthusiast to carefully check her/his Neotropical material for possible *Syllepte incomptalis* or *nitidalis* from Surinam or any other country in the Guiana Shield of South America. We would be very happy to borrow those specimens for study.

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*Pyralinae and Australian Chrysauginae immature stages

James Hayden

I started to score a morphological matrix of Pyralidae earlier this year. It started from a dichotomous key to pyraloid family-level taxa that I have been working on. The key emphasizes external characters to aid sorting specimens in the collection. I encountered problems with some genera with unusual combinations of characters, so I realized that scoring a whole matrix for Pyralidae was necessary, incorporating as much morphological evidence as possible. I started it during the pandemic lockdown when my resources were limited to the collection where I work. I showed results of the analysis at The Lepidopterists' Society meeting on August 20th. The results are very preliminary, but interesting.

Some of the problematic genera still do not fit in any of the five current subfamilies. Pyralinae especially is poorly defined, which is not news (Solis and Mitter 1992, Solis and Shaffer 1999). Even if more complete results is the same as the status quo, it would be useful to publish a matrix-based key to pyralid taxa for the benefit of non-specialists.

I would like to examine more immature stages, so I am interested in borrowing or exchanging larvae or pupae. Of the following, the larval hosts of some have been published, or perhaps the larvae have been collected but not reported, as the moths are not uncommon: *Sindris*, *Episindris* and related genera (African), *Sacada*, *Datanoides* (African and Asian), *Propachys*, *Orybina*, or *Trebania* (Asian), *Centropseustis astrapora* (see Meyrick 1890), and any of the Australian "chrysaugines" (*Anemosa, Hednotodes, Polyterpnes*).

Please write to me if you would like to collaborate at Florida Department of Agriculture and Consumer Services, Division of Plant Industry, 1911 SW 34th Street, Gainesville, Florida, 32608, USA, or email at: james.hayden@fdacs.gov.

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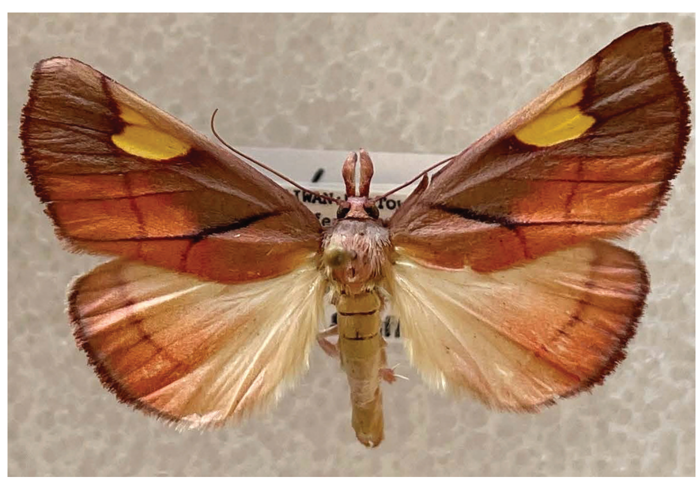


Orybina flavipaga Walker, Taiwan

***Image of live sloth moth**
Akito Kawahara

An image of a live sloth moth is needed for a Lepidoptera book I am working on wit Jim Miller.

About Pyraloidologists...

Dr. Héctor Vargas

I am an Associate Professor at Universidad de Tarapacá, Arica, in the northernmost part of Chile (Fig. 1).

Fig. 1

I am very interested in the systematics and natural history of local Lepidoptera associated with native plants of the extremely arid environments of the Atacama Desert and Andes of northern Chile (See Vargas, p. 17 & p. 19 in Publications below). Although this geographic area harbors low plant diversity, some representatives of Lepidoptera occur here, among them a few members of Pyraloidea. For instance, just a few minutes ago, I wrote labels for and pinned a gray Phycitinae moth (Fig. 2), which I collected last month as a larva on inflorescences of the wonderful shrub Miconia acuminata (Asteraceae) (Fig. 3) near the small village of Socoroma at about 3400 m elevation in the Andes.

Fig. 2

Fig. 3

Because many families of moths in northern Chile have been poorly studied, the only certainty I have for now, regarding the above-mentioned specimen, is that it will represent a very interesting puzzle before reaching an accurate taxonomic identification. I will begin to study it shortly, and soon thereafter will surely contact pyraloid experts to request their always kind help to identify this phycitine.

FROM THE WEB...

iCollections: British and Irish Pyraloidea (Moths) Collection https://data.nhm.ac.uk/dataset/british-and-irish-pyraloidea-moths-collection

Finally.........

New Book

The Revue Française d'Entomologie Générale (Autun, France) in 2021 issued the first systematic and synonymic list at a global level for the Phycitinae: Spécies général des Phycitinae (Lep. Pyraloidea, Pyralidae), A global comprehensive check-list of the Phycitinae. Suppl. to Fasc. 2 (5-6), p. 1-474.

The present work records 5,905 taxa in the tribes Anerastiini, Cryptoblabini, Cabniini and Phycitini with some taxonomic changes. It includes 641 genera, 3452 species, 123 new taxonomic combinations, 3 new genera (*Ptocheia*, gen. nov., *Lugubraphycita*, gen. nov., *Pylagonia*, gen. nov.), as well as 7 new subgenera. Genitalia images of 65 particularly interesting genera are provided, as well as a full bibliography. An executive summary and an abstract are given in English, German, Spanish, Italian, Russian, and Chinese. An update is already planned to include comments received from readers, as well as minor corrections, and a new Russian translation. I hope this book brings attention to the Phycitinae at a global level.

Guillaume H. C. Leraut

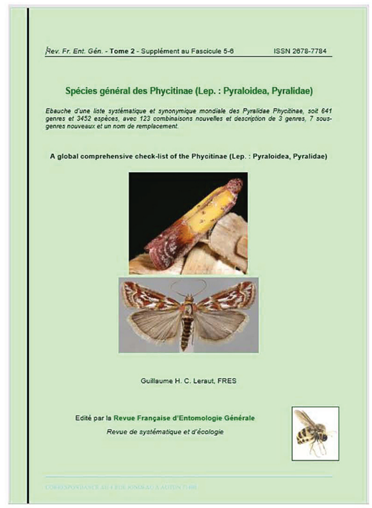
Carnasia ulmiarrosorella (Clemens)

A PARAITRE – JANVIER 2021

Spécies général des Phycitinae (Lepidoptera : Pyraloidea, Pyralidae)

A global comprehensive checklist of the Pyralidae Phycitinae

Par Guillaume Leraut



Première liste systématique et synonymique des Phycitinae à l'échelon mondial, le présent ouvrage recense **5 905 taxa** dans les tribus Anerastiini, Cryptoblabini, Cabniini et Phycitini. Des modifications taxonomiques sont réalisées. Les **illustrations des genitalia** de 65 genres représentatifs sont proposées, ainsi qu'une riche **bibliographie** sélective. - Format 17,5 x 25,5 • 474 pages.

Synthèse et résumés en Anglais, Allemand, Espagnol, Italien, Russe et Chinois.

First systematic and synonymic checklist at a global level for the Phycitinae, the present work records **5 905 taxa** in the tribes Anerastiini, Cryptoblabini, Cabniini et Phycitini. Some taxonomic modifications have been conducted. **Genitalia pictures** for 65 genera of particular interest are given, as well as rich elements of **bibliography**. - Format 17,5 x 25,5 • 474 pages.

Executive summary and abstract in English, German, Spanish, Italian, Russian and Chinese.

Disponible auprès de la Revue Française d'Entomologie Générale au prix de **75 € franco** (+ frais de port hors France), sur **https://www.revue-rfeg-entomologie.fr/** ou à l'adresse suivante :

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A "smattering" of publications

PYRALIDAE

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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.

If you have any suggestions, comments, and, more importantly, additions for next year's edition, please send to me ASAP, or during the year. The next deadline will be October/November 2022.

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