Phelsuma **27** (2019); 36-57

Pyraloidea of Mauritius and neighbouring islands (Lepidoptera)

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Summary: 31 species of Pyraloidea are reported from the island of Mauritius (11 species of Pyralidae and 20 species of Crambidae). In addition 9 additional species are treated that had been collected in the neighbouring islands, most had earlier also been recorded from Mauritius. 35 species and 28 genitalia preparations are illustrated on 11 plates. For 15 of these species there are new or recent hostplant records made and the larvae of seven species are illustrated.

Keywords: Lepidoptera, Pyraloidea, Crambidae, Pyralidae, Mauritius, Réunion, Madagascar, Malagasy region.

Introduction

At present only 64 species of Pyraloidea (Crambidae and Pyralidae) had been reported from the island of Mauritius. 53 of these species belong to the family of Crambidae. This is relatively few compared to the neighbouring island of La Réunion from where more than twice are many (109) species of this family are known to be found (de Prins & de Prins, 2019). Even larger is the proportion in the family of Pyralidae: 11 species are known from Mauritius while more than 3 times as many species (35) had been reported from the neighbouring island of Réunion. This large disproportion in numbers is certainly due to lack of research in Mauritius in recent years. Most of the more recent records have been added by general revisions of their genera, or from other countries and are found in rather scattered publications. The last author illustrating Pyraloidea from Mauritius was de Joannis (1932), and for some species it is even necessary to go back to Guenée (1862) or Boisduval (1833).

I would therefore like to make a short beginning to illustrate the Pyraloidea that I found during visits to Mauritius in 2016 and 2017. Some of these are well known species with a broad distribution but I believe it will be good to illustrate them at least once from this island. In a second part also some additional species will be illustrated although they were not found during these visits to in Mauritius. Most of them had been recorded in Mauritius by other authors and it may be helpful to illustrate them for future collectors.

16 of these species are reported for the first time to occur on Mauritius (7 Crambidae and 9 Pyralidae). 4 species are also identified for the first time from the neighbouring island of Réunion and one species from Madagascar. Some additional records for these species were made also on Mayotte by interested amateurs that are mentioned in the text. These were identified on their photographs and are limited to the more recognisable species of these families. New or recent faunistic data were collected for 15 of the species.

Methods

All the Lepidoptera collected in Mauritius were collected at light. Most of the mentioned species are also found on the neighbouring island of Réunion and I will add additional faunistic data also from this island. In Réunion I use to collect the larvae in the field and raise them to adult specimens. All data concerning new host plant records had been made in Réunion or are otherwise indicated.

Collection sites:

5 stations were visited in Mauritius in vi.2016 and one station in iv.2017:
- Blackriver (Vanilla House), alt. 20 m, 20°22’5”S/57°22’47”E, 06-10.vi.2016.
- Blackriver (station2), alt. 55 m, 20°21’31”S/57°24’27”E, 12.vi.2016.
- Bambous, alt. 230 m, 20°16’14”S/57°25’39”E, 11.vi.2016.
- Flic-en-Flac (Ave.Colombes & Aigrettes), alt.10 m , 20°16’57”S/ 57°22’16”E, 10-13.vi.2016.
- Mahébourg (Garden of the National History Museum), alt. 20 m, 20°24’59”S/57°42’12”E, 13.vii.2016.
- Mahébourg (Tyvabro, Rue Marianne), alt. 15 m, 21°31´6”S/57°42`16”E, 24.iv.2017.

One single species was recorded at an additional site in Souillac on 13.v.2017.

The Lepidoptera reported from Reunion were collected in La Possession, Ravine à Malheur at an altitude of 400 metres or the nearby surroundings. Geographical coordinates: 20°55’37’’S/55°21’45’’E.

A few of these species were also recorded in Madagascar or Mayotte and the localities are indicated in the text.

Genitalia preparations:
A short country code is added before the number of each genitalia preparation.
When numbers of genitalia preparation are indicated, the following prefix are used:
MRU- for specimens collected in Mauritius.
RE- for specimens collected in Réunion.

Distributional records:
For most species the distribution of these Lepidoptera are mostly limited to their regional distribution on the islands of the Western Indian Ocean. Species with a larger distribution in continental Africa or Asia are mostly shortened or limited to their ecozones as listed by de Prins & de Prins (2019) on their web-database www.afromoths.net.

Part A: Species of Pyraloidea recorded in Mauritius:

Pyralinae

Hypotia saramitoi (Guillermet, 1996) Figs. 1-2, 7.
Distribution: Réunion (TL) and new for Mauritius.
Wingspan: 21-22mm.
2 specimens were collected in Mauritius, one at each station, Blackriver (Vanilla House), 08.vi.2016 and Blackriver (stat.2) on 12.vi.2016 (Fig.01).

Hypsopygia mauritialis (Boisduval, 1833) - Figs. 3-4.
Regional distribution: Madagascar, Mauritius (TL), Réunion, Seychelles.
Wingspan: 17-18mm
One specimen was collected in Blackriver (Fig.3), 08.vi.2016 and 6 specimens in Mahébourg, 24.iv.2017 (Fig.4). Not otherwise examined.

Ocrasa nostralis (Guenée, 1854) - Figs.5-6, 8, 80.
Distribution: Brazil (TL), widespread in the Neotropical region up to southern USA, continental Africa, also recorded in Taiwan and more recently from continental Africa and Saint-Helena (Karisch, 2007).
Regionally known from Mauritius and Réunion (Bippus, 2018).
Wingspan: 22mm
One specimen was collected in Mauritius, Mahébourg, 24.iv.2017 (Fig.6).
In Réunion, La Possession, alt.400m this species was recorded on the dates: 22.ii.2013, 31.xii.2013, 16.ix.2014 (male, gen.prep.RE-1308, Fig.8), 20.x.2014, 25.xii.2014, 21.ii.2015, 10.v.2015, 01.vii.2015, 02.i.2016, 06.ii.2016, 30.viii.2016 (female, gen. prep. RE-2793, Fig.80), 24.ix,.2016, 26.xii.2016, 20.iii.2017 and 25.i.2018.
J. Armynot, Gendarme at the Gendarmerie Nationale of Saint-Louis bred this species from larvae that were hidden in a seized lot of *Cannabis sativ*a L. (Cannabaceae) in Réunion, Saint-Louis, 25.xi.2016.
Hostplant: *Cannabis sativa* L. (Cannabaceae)
Additional note: I had mentioned this species in an earlier publication on Erebidae (Bippus, 2018) but did not illustrate it. There seems to exist at present no publication with its genitalia images. The imago of this species had been earlier illustrated by Barnes & McDunnough, 1913 (as *Herculia sordalis*) from Florida and more recently by Karisch (2007) from Saint-Helena.

Chrysauginae

Parachma lequettealis Guillermet, 2011 - Figs.09-10; 81.
Distribution: Réunion (TL), Mauritius, Gabon, Nigeria, French Guyana and Peru (new records).
Wingspan: 17-25mm; females approx.24-25mm, males approx. 17-18mm
One female was collected in Bambous, 11.vi.2016. I also observed this species in Blackriver but did not collect the specimens.
There is an important difference in size between males and females. The females are much larger, measuring approx. 24-25mm of wingspan and the males only 17-18mm (Fig.09).
An unknown photographer from Mauritius had sent me his pictures of this species taken in Mahébourg already in 2013. Unfortunately we lost contact since.

Additional note: in 2012 I gave some specimens to an institute in Munich, Germany that meanwhile included their DNA at boldsystems and it was enclosed in the same cluster BOLD:AAU7990 as specimens collected in Gabon, Nigeria, French Guyana and Peru with an average distance of 0.39%: this species appears to be a recent introduction to the Mascarenes.

Phycitinae

Cadra cautella (Walker, 1863) - Figs.11-13; 82.
Distribution: a widespread pest-species of stored food products in the tropics, new records for Mayotte (B. Halliez) and Mauritius.
Wingspan: 13-15mm
This species is rather common in Réunion but also in Mauritius were I recorded several specimens in Blackriver, Flic-en-Flac and Mahébourg.
Astonishingly it had never been recorded from Mauritius, nor Mayotte where this species was also found by Benjamin Halliez in 2015.
D. Martiré (pers. comm. 2017) had raised this species also from larvae found in rice (*Oryza sativa* L.) that was purchased in a local supermarket (Réunion, vi.2016). I also found its larvae in the flowers of an ornamental plant: *Rhododendron simsii* Planch. (Ericaceae) (in Réunion, La Possession, alt.400m). I had noticed that this plant often shows some smaller holes in its flowers and also some chewing marks on the leaves next to the flowers. The larvae (Fig.12) were collected at daytime well hidden inside the flowers but I believe that they may quit their hide during the night-time to feed also on the leaves' upper surface.
2 females (Fig 11, wingspan 14,5mm, gen. prep. RE-1421, Fig.82) were bred 16 days after collection on 27.xi.2014 but I did not notice when they pupated.
Hostplant and substrates: *Rhododendron simsii* Planch (Ericacea) and stored food products, incl. rice (*Oryza sativa* L.).

Etiella zinckenella (Treitschke, 1832) - Fig.14.
Two specimen (Fig.14) in Flic-en-Flac, 10. and 11.vi.2016, not otherwise examined.

Hypargyria metalliferella Ragonot, 1888 - Figs. 15-18; 83.
Distribution: widespread in continental Africa, also recorded from India and Australia. New for Réunion and Mauritius.
Wingspan: 18-19mm.
One male was collected in Mauritius, gen. prep. Mru-144 (Figs.17-18). 2 females were also found in Réunion on 07.i.2015, gen. prep. RE-1459 (Figs.15-16; 83) and 11.ix.2018.
The proportion between ductus bursae and bursae is a little different to those illustrated by Balinsky (1991b). The ductus bursae appears to be a little longer and the bursae a little shorter. The imago and signa are identical and I believe that the proportion in this species is variable.

Morosaphycita morosalis (Saalmüller, 1880) - Figs.19-22; 79.
Distribution: Comoros (Mohéli & Mayotte), Madagascar (TL), Réunion and new for Mauritius.
Records from continental Africa and Asia on *Jatropha curcas* L. are misidentifications or doubtful.
Wingspan: 19.5-21mm
Two specimens were collected in Mauritius in Flic-en-Flac, 10.vi.2016 and Mahébourg, 13.vi.2016, gen. prep.Mru-132 (Figs.19; 79).
The aedeagus of the male genitalia (Fig.22) shows laterally a rather sclerified, triangular thorn (detail, Fig.22).
In Reunion I find this species frequently at light and also collected and bred its larvae (Fig.21) on its hostplant *Rhynchosia viscosa* (Fabaceae). Benjamin Halliez (pers. comm.) also found this species in Mayotte in x.2015.
Hostplant: *Rhynchosia viscosa* (Roth) DC (Fabaceae).
All records on *Jatropha curcas* L. are misidentifications of other Phycitinae species (see below).

Taxonomy of *Morosaphycita morosalis* (Saalmüller, 1880):
The identity of this species remained unclear for more than 100 years. It was not illustrated in the original publication by Saalmüller (1880), but a drawing was given by Ragonot (1893). His drawing is somewhat unclear and I think that an identification based on this drawing is uncertain.
Horak (1987) resolved the taxonomy of this species and transferred it to the newly described genus: *Morosaphycita* Horak, 1987. She published excellent images of the female genitalia of the holotype in the Senckenberg Museum,

Frankfurt and male genitalia from a series of specimens in the BMNH but did not show its imago as the holotype in Forschungsinstitut Senckenberg, Frankfurt could not be examined. She noted that Roesler (1983) had illustrated the female genitalia in an earlier publication that, unfortunately, is not available to me. Therefore I do not know if he also illustrated the imago in his publication.
Martiré & Rochat (2008) illustrated the imago of this species from Réunion in acceptable quality (in-situ), followed by Guillermet (2009) who illustrated a very small image of the imago but also adding genitalia drawings and wing venations, also from Réunion island. Their identifications are correct. Though I admit that these publications are not available on the internet and may be difficult to find in libraries abroad. Since 2012 there are also images of the imago of this species available in internet resources, including wikipedia.org.

Misidentifications on *Jatropha curcas* L. (Euphorbiaceae):
There was a real hype on studies on *Jatropha curcas* L. between 2003 and 2017 that seems to have led to a chain of misidentifications of this Lepidoptera as being a pest o*f Jatropha curcas*. They all seem to be misidentifications of other Phycitinae species. I could not really find out when and where it started (possibly around 2003 in studies from Egypt) but all subsequent studies naming this species from *Jatropha curcas* published or copied unverified information on the identity of the Lepidoptera involved. Some of these studies were illustrated (from India, Senegal and Madagascar), but even for these the quality of most images supplied is rather low, generally limited to unspread adult specimens or larvae. It seems that there are at least two different species of Phycitinae involved (probably three) but none of them is *Morosaphycita morosalis* (Saalmüller, 1880) or *Pempelia morosalis* as it was named in most of these studies. Another irritating factor in these studies is that many did not spell the author's name correctly, nor indicated the genus in which it had been transferred already in 1987, such as "Saalm Uller" instead of "Saalmüller", or incorrectly attributed the authorship to Fabricius (Fab.).
Only a single study from Madagascar by Raveloson (2009) not only illustrated the moth from spread specimens and in-situ, but also its head, antennae, legs, wing venation and male genitalia (photographs and line drawings). He preferred to leave the species unnamed as "*Phycitinae sp.*". I also do not recognize the species illustrated; it remains very difficult to name described species from Madagascar correctly as many have never been illustrated. The taxonomy of all other species of Phycitinae described from Madagascar between 1880 and 1907 that are housed in German museums (11 species) remains unclear. At the present rate of 100 years for a single species revision it will certainly take another 1000 years to resolve their taxonomy.

Phycita demidovi Guillermet, 2007 - Figs.25-27; 84.
Distribution: Réunion (TL) and new for Mauritius.
Wingspan: 18.5-21mm
This species showed to be the 2nd most common Phycitinae in Mauritius after *Cadra cautella*.
I collected 7 specimens in Mauritius, four in Bambous, 11.vi.2016, two in Flic-en-Flac, 10.vi.2016 and one specimen in Mahébourg, 13.vi.2016.
Two males collected from Bambous (gen. prep. Mru-130, wingspan 21mm (Fig.27)) and one female from Flic-en-Flac (gen.prep. Mru-139 Wingspan 18.5mm, Fig.84) had been dissected.
Also on Réunion (Figs.25-26) I find this species pretty often in low altitudes and it is one of the most abundant Phycitinae. I believe it may have a much larger distribution than presently known.

Pseudophycitatella leveuleuxi Guillermet, 2007 - Figs.23-24.
Distribution: Réunion (TL) and new for Mauritius.
Wingspan: 16-17mm
2 males were collected in Mauritius, Blackriver (Vanilla House) , 06.-10.vi.2016, gen.prep.Mru-105 (Fig.24).

Spatulipalpia pectinatella (de Joannis, 1915) - Figs.28-30.
Distribution: Mauritius (TL) and Réunion.
Forewing lengths: 10.5mm, Wingspan: 23mm.
Three male specimens were collected in Mauritius, Blackriver (Vanillla House) on 08. and 09.vi.2016 and Flic-en-Flac on 10.vi.2016 (Fig.30).
Hostplant: *Annona squamosa* L. (Annonaceae) (de Joannis, 1915).
Additional note: Williams & Mamet (1993) reported another species of Phycitinae from *Annona squamosa* from Mauritius: *Anonaepestis bengalella* Ragonot, 1894. All the records in their publication are a simple list, no dates or any

other details were stated and no images provided. I believe their record is a misidentification of *Spatulipalpia pectinatella* that is similar in size, colouration and pectinations of the antennae in the male but different in genitalia.

Species of Crambidae

Acentropinae

Eoophyla reunionalis (Viette, 1988) - not illustrated
I did not find this species during my stays in Mauritius but an unknown amateur photograph sent me images of it taken in Mahébourg, Mauritius in x.2013. This record therefore will need confirmation.

Parapoynx fluctuosalis (Zeller, 1852) - Figs. 31-34, 77.
Distribution: a very widespread species in continental Africa, southern Asia, southern Palearctic region to Japan, AustralasiThunbea and Pacific islands. Also recorded from Puerto Rico (de Prins & de Prins, 2019).
Regionally known from Comoros, Madagascar, Mauritius, Seychelles, recorded new in Réunion.
Wingspan: 19-21mm.
3 specimens were collected in Mauritius, Blackriver, stat.2 on 12.vi.2016. One female from Mauritius was dissected, gen. prep. Mru-136 (Fig.77).
This site of collection is situated next to an artificial water reservoir and an artificial irrigation channel.
I collected this species also in Madagascar, Andasibe, 24.xi.-03.xii.2016 were it was found to be a very common species. At least 4-5 specimens were present every evening. Near the collection site in Andasibe is situated a small lake.
One specimen was also collected in Sambava (Sava), garden of Hotel Mimi on 30.iv.2013. This collection site is also situated directly next to the Sambava river.
One single specimen (Fig.31, wingspan 20mm) was recorded in Réunion, La Possession, alt.400m on 13.iii.2014 and by Benjamin Halliez also recorded in Mayotte (Koungou, x.2015, pers. comm.).

Crambinae

Angustalius hapaliscus (Zeller, 1852) - Figs.35-36
Wingspan: 20-21mm.
A very common species in Mauritius, collected in Flic-en-Flac, Bambous (Figs.35-36) and Mahébourg, 13.vi.2016 and 24.iv.2017.

Chilo sacchariphagus (Bojer, 1856) - Fig.37
This species was another very common species in Mauritius and I recorded it in all visited sites.

Culladia achroellum (Mabille, 1900) - Fig.38
This species was found to be very common in Blackriver, 06-10.vi.2016 and in Mahébourg, 13.vi.2016 and 24.iv.2017.
Single specimens were also observed in Flic-en-Flac, 10-12.vi.2016. One female from Mahébourg, 24.iv.2017 was dissected, gen.prep.Mru-127.

Pyraustinae

Pyrausta pastrinalis (Guenée, 1862) - Figs.39-42
Distribution: Réunion (TL) and new for Mauritius.
One female (Fig.39) was collected in Mahébourg, 13.vi.2016, gen. prep. Mru-005 (Fig.42).
In Réunion I raised a male (Fig.40), gen. prep.RE-1944 (Fig.41) from larvae found on *Bidens pilosa* L. (Asteraceae) on 04.vii.2015. This plant has a large distribution and I believe that this Lepidoptera might also have a much larger distribution than presently known.
Hostplant: *Bidens pilosa* L. (Asteraceae).

Spilomelinae

Bocchoris inspersalis (Zeller, 1852) - Fig.45
One specimen in Mahébourg, 24.iv.2017. Not otherwise examined.
Occurs also on Mayotte (B.Halliez, pers.comm. 2015).

Bradina admixtalis (Walker, 1859) - Figs.43-44; 85.
Distribution: widespread in continental Africa and Australasia.
Regional distribution: Chagos, Comoros, Madagascar, Maldives, Réunion, new for Mauritius.
Wingspan: 25-27mm

3 specimens were collected in Mauritius. One male (Fig.44, gen. prep. Mru-080) and one female (Figs.43, 86. gen. prep. Mru-078) in Bambous, 11.vi.2016 and a second female in Blackriver, stat.2, 12.vi.2016.

Diaphania indica (Saunders, 1851) - Fig.46.
Regionally: Comoros, Maldives, Réunion, Madagascar, Mauritius.
One specimen in Mahébourg, 13.vi.2016. Not otherwise examined.

Filodes costivitralis Guenée, 1862 - Figs.47-48.
Distribution: widespread in Africa, regionally: Comoros, Mauritius, Madagascar and Réunion.
Two females in Mauritius, one at each station: Blackriver (Vanilla House; Fig.47), 06.-10.vi.2016 and Bambous, 11.vi.2016.
In Réunion its larvae is frequently found on *Thunbergia laevis* Nees. It appears to be an excellent defoliator of this plant that is considered in some countries as being invasive. The larvae (Fig.48) feed on the leaves' surface, often I find up to half of the leaves of a plant damaged over between 10 and 50% of their surface. I believe that this Lepidoptera might be interesting for studies as a biological control agent for countries where its hostplant causes problems.
Hostplant: *Thunbergia laevis* Nees (Acanthaceae).

Glyphodes mascarenalis de Joannis, 1906 - Fig.49
One specimen in Mahébourg, 24.iv.2017. Not otherwise examined.

Herpetogramma phaeopteralis (Guenée, 1854) - not illustrated.
One female (gen. prep. Mru-081) in Blackriver, stat.2 on 12.vi.2016.

Hydriris ornatalis (Duponchel, 1832) - Figs.51-52.
2 specimens in Mauritius, one at each station: Mahébourg, 24.iv.2017 and in Souillac, 13.v.2017.
I found its larvae (Fig.52b) on *Ipomoea indica (*Burm.f.) Merr. (Convolvulaceae) on 22.v.2014, Réunion, Etang-Salé (Etang du Gol), alt. 10-15m. The larvae cuts and folds the edge (Fig.52a) of a leaf where it hides and feeds inside.
Pupal stage: 15-16 days.
Hostplant: *Ipomoea indica (*Burm.f.) Merr. (Convolvulaceae).

Marasmia trapezalis (Guenée, 1854) - Figs. 53-54.
1 female (Fig.53) in Mauritius, Bambous, 11.vi.2016, gen.prep.Mru-082 (Fig.54).

Palpita vitrealis (Rossi, 1794) - Fig.50.
Forewing length: 13mm
One specimen in Flic-en-Flac (Fig.50), not otherwise examined.
One specimen was also reared from larvae found on *Olea lancea* Lam. on 14.i.2016 in Réunion, alt.1100m.
Hostplant: *Olea lancea* Lam. (Oleaceae).

Piletocera reunionalis Viette, 1957 - Figs.57-59; 86.
Distribution: Réunion (TL) and new for Mauritius.
Wingspan: 12-14mm.
8 specimens were collected in Mauritius, Blackriver (Vanilla House, Figs.59), Bambous, 11.vi.2016 and Mahébourg, 24.iv.2017 (Figs.57-58).

Piletocera viperalis (Guenée, 1862) – Figs.60-62, Fig.87.
Distribution: Réunion (TL) and new for Mauritius
Wingspan: 14-17mm
Two specimens were collected in Mauritius, Blackriver (Vanilla House, Fig.62), 08.vi.2016 and Mahébourg, 24.iv.2017.
Both species of *Piletocera* described from Réunion, *Piletocera reunionalis* Viette, 1957 a*nd Piletocera viperalis* (Guenée, 1862) were found also in Mauritius.
These species can be easily confused and are variable in their colouration. There are specimens with a more greyish colouration with brownish-blackish markings and also more yellowish specimens with brownish-blackish markings. The costa of the forewings of *Piletocera reunionials* is a little more curved with the apex a little more arched than in *P. viperalis* but they remain difficult to distinct. The smaller specimens belong mostly to *P. reunionalis* (12-15mm) and larger specimens to *P. viperalis* (14-17mm).

The main difference in the male genitalia between these two species is the prolongated vinculum o*f P. viperalis*. (Fig.60).
Additional note: Both species are no true *Piletocera* Lederer, 1863 but probably need to be transferred to another genus.

Sameodes cancellalis (Zeller, 1852) - Fig.55
Regional distribution: Chagos, Comoros, Madagascar, Réunion, recorded new for Mauritius.
One specimen in Mahébourg, 24.iv.2017.
Also recorded in Mayotte (Koungou, x.2015) by Benjamin Halliez.

Spoladea recurvalis (Fabricius, 1775) - not illustrated.
One specimen in Mahébourg, 13.vi.2016.
Also recorded in Mayotte (Koungou, x.2015) by Benjamin Halliez.
Hostplant: In Réunion its larva is commonly to be found on *Achyranthes aspera* L. (Amaranthaceae).

Synclera traducalis (Zeller, 1852) - Fig.56.
One specimen in Mahébourg, 24.iv.2017 (Fig.56). Not otherwise examined.
This species was also found in Madagascar, Mahamasina (Diana), 24.-26.iv.2013 and Andasibe, 29.xi.2016.
Also recorded in Mayotte (Koungou, x.2015) by Benjamin Halliez.

Part B: Species recorded on the neighbouring islands:

Eurrhyparodes tricoloralis (Zeller, 1852)- Fig.63-64.
Wingspan:17-18mm
The larvae of this species are found frequently on *Elephantopus mollis* Kunth (Asteraceae).
It forms a silky webbing (Fig.64) along the central vein of the leaf, sticks the opposite sides together and feeds inside.
Adults of this species were raised from larvae in the following months:
2014 : I, II, IV, V, XII ; 2016 : III (Réunion, La Montagne, alt.700m and La Possession, alt.500m)
Pupal stage: approx.10 days
Hostplant: *Elephantopus mollis* Kunth (Asteraceae).

Glyphodes stolalis Guenée, 1854 - Fig.65.
Distribution: a widespread species in continental Africa, Oriental region and Australia
Regional distribution: Comoros, Madagascar, Mauritius, Réunion.
I did not find this species during my stays in Mauritius but collected one specimen in Andasibe, Madagascar on 01.xii.2016 and frequently raised this species from larvae in Réunion, where it feeds on several *Ficus* spp.. The larvae use to roll a leaf in cigar-shaped form and feeds and pupates inside. Very frequently the larvae can be found on *F. rubra* and *F. mauritiana*, and a little less frequently also on *F. reflexa*. *F. pumila* also belongs to its hostplants but as its leaves are smaller and harder they appear to be more difficult to roll and I only found 2 specimens on this plant. Martiré & Rochat (2008) also reported this species on *F. carica* (Réunion) and Mamet & Williams (1993) on *F. benghalensis* from Mauritius.
Hostplants: *Ficus mauritiana* Lam, *F. rubra* Vahl, *F. reflexa* Thnbg., *F. carica* L., *F. pumila* L., on Mauritius also recorded on *F. benghalensis* L. (Mamet & Williams, 1993).
Additional note:
Viette, 1987 described this species as *Glyphodes shafferorum* Viette, 1987 from the islands of the Malagasy subregion, basing on an error in the drawing that he stated in the original publication of Guenée. Though Viette did not clear the taxonomy of *Glyphodes stolalis* Gueneé, 1854; he did not state where it lives, if it ever existed or if it was just a phantom or fantasy species of Guénée. He also did not seem to have checked whether the other museums had any specimens available from other regions. His description was based on the error in the illustration by Guénée, 1854 and the supposition that the holotype no longer existed. Many historic drawings contain similar errors, as do some of the descriptions made by Viette (Bippus, 2017).
Glyphodes stolalis is a widespread species. Nowadays there are many images available, from all 3 continents from where it is known: Africa, southern Asia and Australia. There is no difference between my Réunion and Madagascar specimens and these images. De Prins & de Prins (2019) also illustrate on their website the holotype of another junior-synonym of *Glyphodes stolalis* that is housed in the Naturalis Biodiversity Centre, Leiden, Netherlands: *Glyphodes substolalis* Snellen, 1899. Furthermore Park *et al*. (2016) published its male genitalia from Laos.

Therefore I will simply consider *Glyphodes shafferorum* Viette, 1987 as being another junior synonym of *Glyphodes stolalis* Guénée, 1854.
In 2016 I added 16 specimens collected in Réunion (mostly ex-larvae) to the collections of Naturalis, Leiden, Netherlands.

Herpetogramma minoralis (Warren, 1892) - Figs.66-68.
Distribution: Ghana (TL), Nigeria, Madagascar, Mauritius, Réunion, Seychelles.
Wingspan : 20-21mm.
I bred this species from larvae found on an unidentified *Begonia* sp. in Réunion, 29.viii.2013. Its larva is greenish with a blackish head and turns pinky reddish at maturity (Fig.66). The plant was purchased in a local nursery and is likely to be an introduced or hybrid species.
Hostplant: *Begonia* sp. (Begoniaceae).

Mabra eryxalis (Walker, 1859) - Figs.69-70.
Distribution: widespread in Asia, records include India, Indonesia (Sumatra), Malaysia, Myanmar, Sri Lanka (de Prins & de Prins, 2019) but also reported from Australia, Bhutan, Taiwan, Thailand.
Regional distribution: Chagos and recorded new for Mayotte and Réunion.
Wingspan: 14-15mm.
This tiny Pyraustinae was first illustrated from Réunion as an unidentified species by Martiré & Rochat (2008), page 273 as "*Espèce indéterminée 4*" and could now finally be identified.
It seems to be rare and is only known from two sightings in Réunion: St. Philippe, 29.iv.2004 and St. Benoit, 28.v.2005 (pers. comm. J. Rochat & D. Martiré, 2019). V. Nicolas (comm. pers. 2018) also found this species in Mayotte in the first quarter of 2018.
Hostplant: in Asia this species is known to feed on rice (*Oryza sativa* L.) (Khan, Z.H. 2000). Rice was cultivated in Réunion during the age of slavery but was ceased in the mid 19th century.

Notarcha quaternalis (Zeller, 1852) - Fig.71.
Distribution : Widespread in continental Africa, Australia, India and Iran (de Prins & de Prins, 2019).
Regionally: Comoros, Madagascar, Mauritius and Réunion.
In Réunion I raised this species from *Sida rhombifolia* L. (Malavaceae) and from *Bidens pilosa* L. (Asteraceae), 09.vii.2015.
My record on *Bidens pilosa* is the first record on an Asteraceae for this Lepidoptera and I remember that also some *Sida rhombifolia* plants were growing nearby. Several damaged leaves were found on *Bidens pilosa* but only one of them was opened to check if there is a caterpillar inside. I can therefore not really exclude that the larvae fed on a nearby plant and only attached the pupae on *Bidens Pilosa*; this record on this plant will need reconfirmation.
Hostplant: *Bidens pilosa* L. (Asteraceae) and *Sida rhombifolia* L. (Malvaceae).

Patania balteata (Fabricius, 1798) - not illustrated
Distribution: found throughout continental Africa, southern palearctic region from the Mediterranean region to China, Japan and Papua New Guinea.
This is a rather common species in Réunion where it seem to be the main defoliator of *Searsia longipes* (Engl.) Moffett together with the Gracillariidae: *Caloptilia xanthochiria* Vári, 1961.
Its larvae forms a triangular fold of the leaf and feeds inside.
The hostplant record of Guillermet (2009) for Réunion for *Rhus cotinus* (junior synonym of *Cotinus coggygria* Scop.) must be a misidentification or was copied from the publications of other authors. This plant does not grow in Réunion and it is found in the Palaearctic region, around the Mediterranean basin to China.
Hostplant: *Searsia longipes* (Engl.) Moffett (Anacardiaceae).
Parasites: Two specimens of *Diolcogaster curticornis* (Granger, 1949) (Braconidae) were raised from its larvae on 16.viii.2015 (Identification: Pascal Rousse, France).

Orphanostigma abruptalis (Walker, 1859) Figs.72-73, 76.
Distribution: widespread in continental Africa, southern Asia, Australia and Pacific regions.
Regionally found in the Comoros, Mauritius, Réunion, Seychelles.
Wingspan: approx.20mm.
The adult moths are very similar to those of *Salbia haemorrhoidalis* Guenée, 1854 (Fig.84) that is also present on both main islands of the Mascarenes: Réunion and Mauritius. The forewings only show an small difference in the incurvation

of the brownish outer line at 3/4 of the forewing. This line shows a little misalignment at 1/3 from costa in *O. abruptalis* but is more rounded in *S. haemorrhoidalis* (Fig.74).
In Réunion, La Possession, alt.400m I collected its larvae in vii.2013 on *Ocimum basilicum* L. (Lamiaceae) = basil, from which were bred two adults on 05.viii.2013.
In India recorded on *Mentha spicata* L. (as *Mentha viridis* L.) (Lamiaceae) (Abul Kareem et al, 1960).
Hostplants: *Ocimum basilicum* L.; in India on *Mentha spicata* L. (Lamiaceae).
Genitalia: the male (Fig.72) has some recognizable projections on the upper and lower inner sides of the valvae. The bursae of the female genitalia shows a small signum (fig.76, detail: increased x 3-times).
Additional note: Guillermet (2009) seems to have confused the female of this species with *Salbia haemorrhoidalis* Guenée. His illustrations for the female genitalia of *O. abruptalis* seem to correspond to a specimen of *S. haemarroidalis* in shape, and is also lacking the signum.

Salbia haemorrhoidalis Guenée, 1854 - Figs.74-75
Distribution: Neotropical, introduced as biological agent in Australia, Hawaii and Mauritius, recorded new for Réunion.
This species had been introduced to Mauritius in 1965 (Fowler *et al*., 2000) but has also reached the neighbouring island of Réunion in a natural way. In vi.2015 I collected its caterpillar (Fig.75) on *Lantana camara* L. in La Possession, alt.550m. An adult moth (Fig.74) emerged from this larva on 15.vii.2015.
Hostplant: *Lantana camara* L (Verbenaceae).

Palpita metallata (Fabricius, 1781) - Fig.78.
Distribution: widespread in continental Africa, including Comoros, new for Madagascar.
Wingspan: 35-37mm
This species is one of the most common species of Spilomelinae found in Madagascar, Andasibe, 24.xi.-03.xii.2016 but astonishingly had never been reported from this country. It is certainly just an omission former researchers as I found specimens collected in the 1960s and 1970s in the collection of Madagascar Biodiversity Centre, Antananarivo that had been duly identified.
This species is absent from the Mascarene islands.

Zebronia phenice (Cramer, 1782) - not illustrated
Distribution: throughout tropical Africa, regionally known from Comoros, Madagascar, Mauritius, Réunion (de Prins & de Prins, 2019) and Seychelles (Bippus, 2016).
The type locality of this species is giving some confusion. Cramer indicated in the original description (in French): "*Sa demeure est Suriname*", translated literally "*It belongs to Suriname*" and generally it is thought that he meant the South American country of Suriname and that the type locality was therefore erroneously reported. It seems to be unknown among European entomologists that there is also a town called Suriname in the southern part of the island of Mauritius. I believe that the holotype possibly was collected in Mauritius and was labelled by its town and not the country when received by Cramer. Cramer must have had some contacts to a Mauritian collector. In the same series of publication he described another species as having been found on this island: *Amerila vidua* (Cramer, 1780).

Acknowledgments

I would like to thank Dr. Marianne Horak, Australia for sending me several of her publications but also Mr. Dominique Martiré, Jacques Rochat, both from Réunion, Benjamin Halliez from Mayotte and V. Nicolas, France who often shared their images and collection data with me. Special thanks to D. Martiré for his permission to use his excellent images of *Mabra eryxalis* (Figs.69-70) for the illustration of this species. Furthermore I would like to thank Mr. Pascal Rousse, France for many identifications of Ichneumonidae and Braconidae and also Dr. Justin Gerlach for editing the manuscript.

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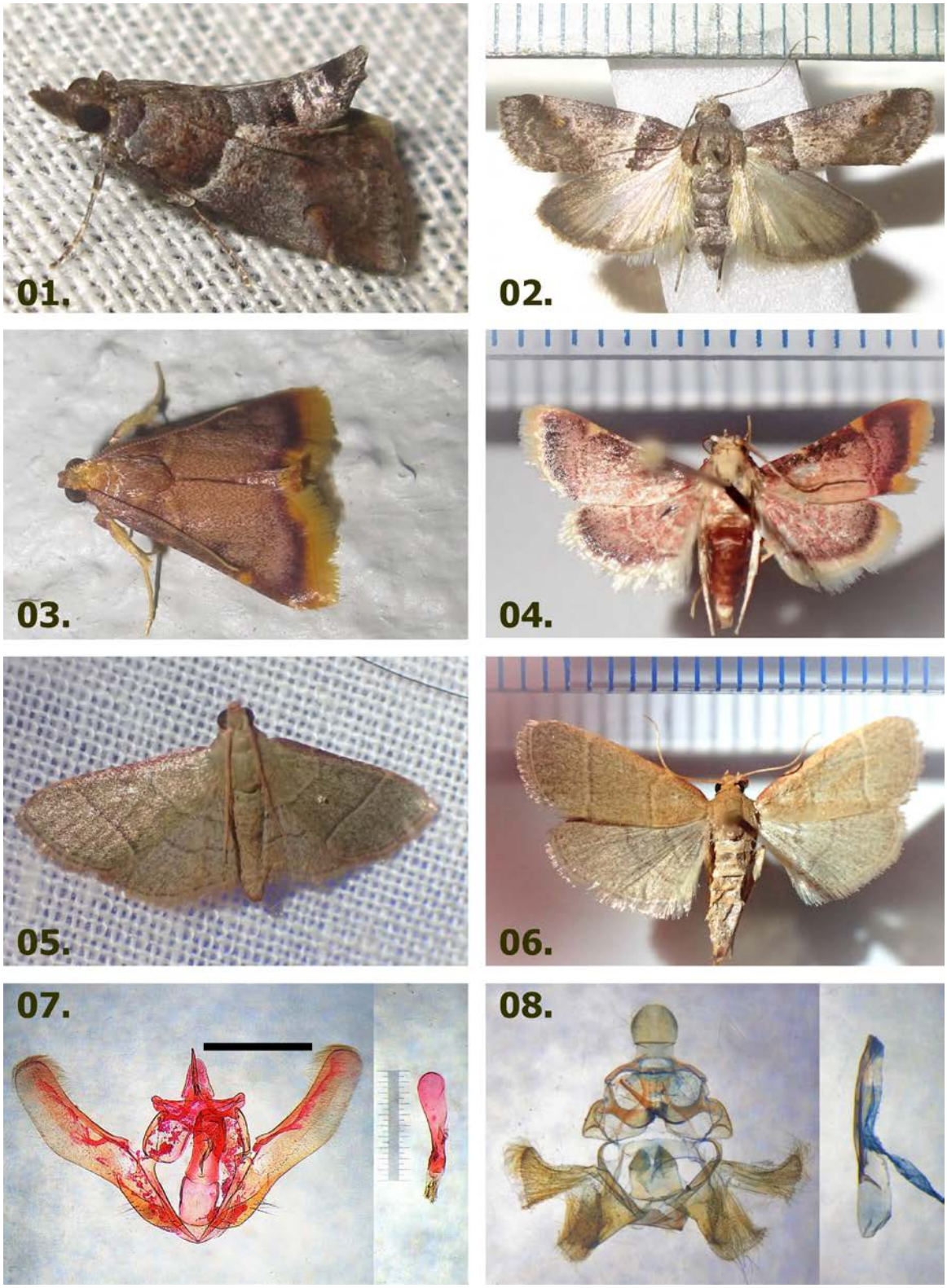

Plate 01:
Fig.01 - *Hypotia saramitoi*, Blackriver
Fig.02 - *Hypotia saramitoi*, wingspan 21mm
Fig.03 - *Hypsopygia mauritialis*, Blackriver
Fig.04 - *Hypsopygia mauritialis*, Mahébourg, ws: 17mm
Fig.05 - *Ocrasa nostralis*, Mahébourg
Fig.06 - *Ocrasa nostralis*, Réunion, ws: 22mm
Fig.07 - *Hypotia saramitoi*, male genitalia
Fig.08 - *Ocrasa nostralis*, male genitalia

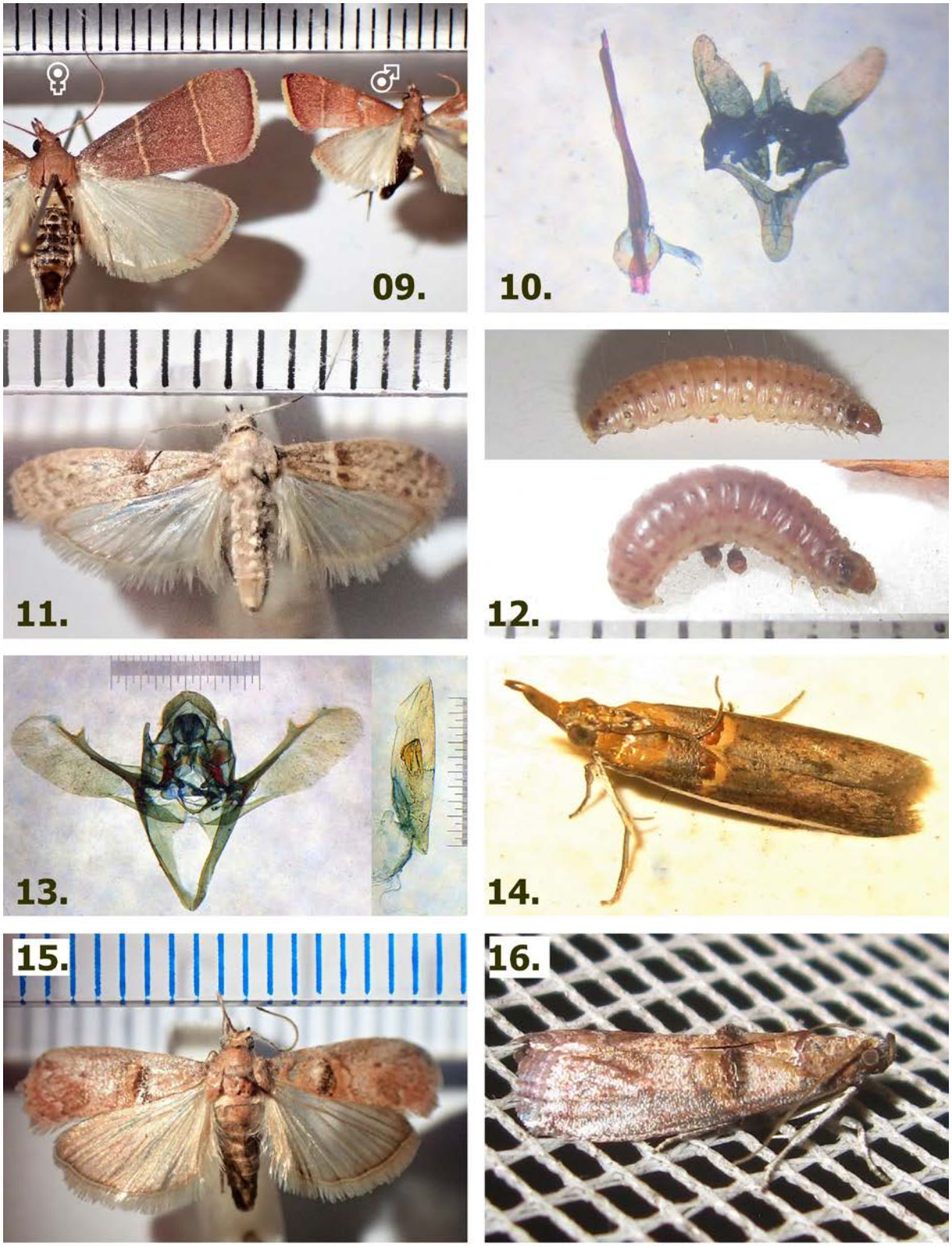

Plate 02:

Fig.09 - *Parachma lequettealis*, left: female, right: male
Fig.10 - *Parachma lequettealis*, male genitalia
Fig.11 - *Cadra cautella*, e.l. *Rhododendron simsii*
Fig.12 - *Cadra cautella*, larvae from *Rhododendron simsii*
Fig.13 - *Cadra cautella*, male genitalia
Fig.14 - *Etiella zinckenella*, Flic-en-Flac
Fig.15 - *Hypargyria metalliferella*, female, ws: 18mm
Fig.16 - *Hypargyria metalliferella*, female

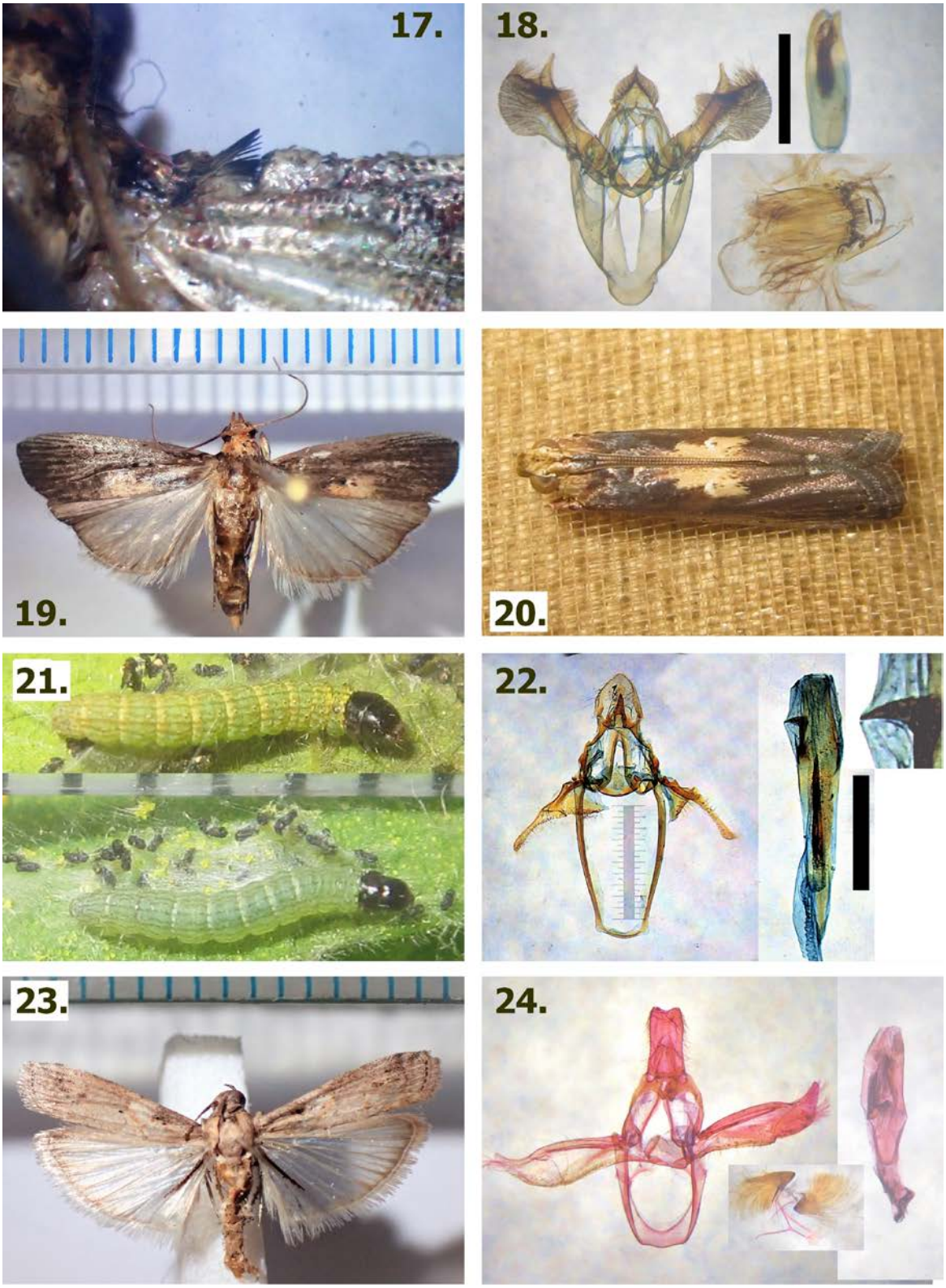

Plate 03:
Fig.17 - *Hypargyria metalliferella*, male, forewing
Fig.18 - *Hypargyria metalliferella*, male genitalia
Fig.19 - *Morosaphycita morosalis,* female, ws: 19.5mm
Fig.20 - *Morosaphycita morosalis*, e.l. *Rh. viscosa*
Fig.21 - *Morosaphycita morosalis*, larvae on *Rh.viscosa*
Fig.22 - *Morosaphycita morosalis*, male genitalia
Fig.23 - *Pseudophycitatella leveuleux*i, Blackriver
Fig.24 - *Pseudophycitatella leveuleuxi*, male genitalia, culcita reduced in size

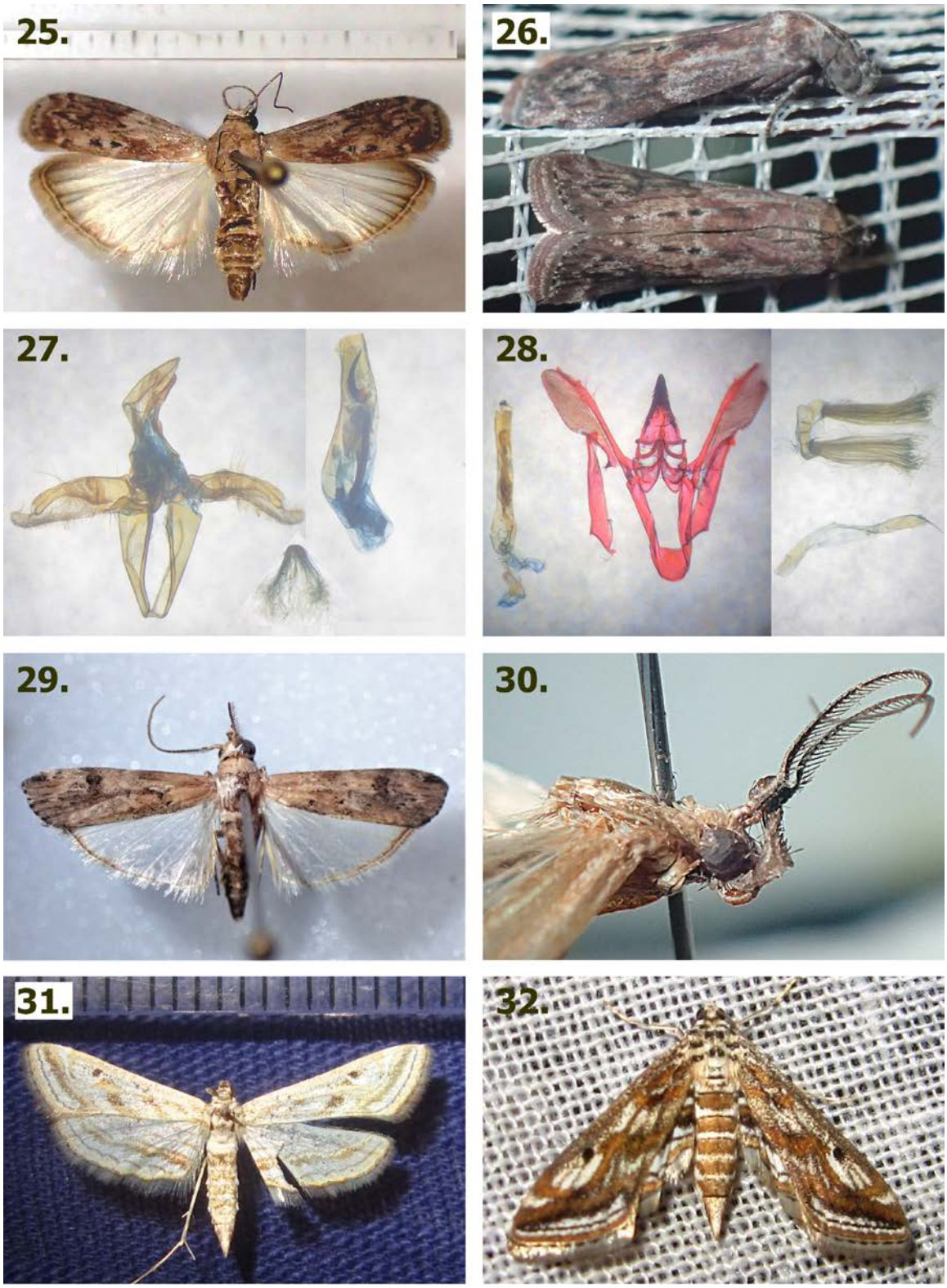

Plate 04:

Fig.25 - *Phycita demidovi*, wingspan 21mm
Fig.26 - *Phycita demidovi*, Réunion
Fig.27 - *Phycita demidovi*, ♂ genitalia, culcita 50%.
Fig.28 - *Spatulipalpia pectinatella*, male genitalia
Fig.29 - *Spatulipalpia pectinatella*, Bambous, ws: 23 mm
Fig.30 - *Spatulipalpia pectinatella*, Bambous
Fig.31 - *Parapoynx fluctuosalis*, Réunion, ws: 20 mm
Fig.32 - *Parapoynx fluctuosalis*, Mauritius

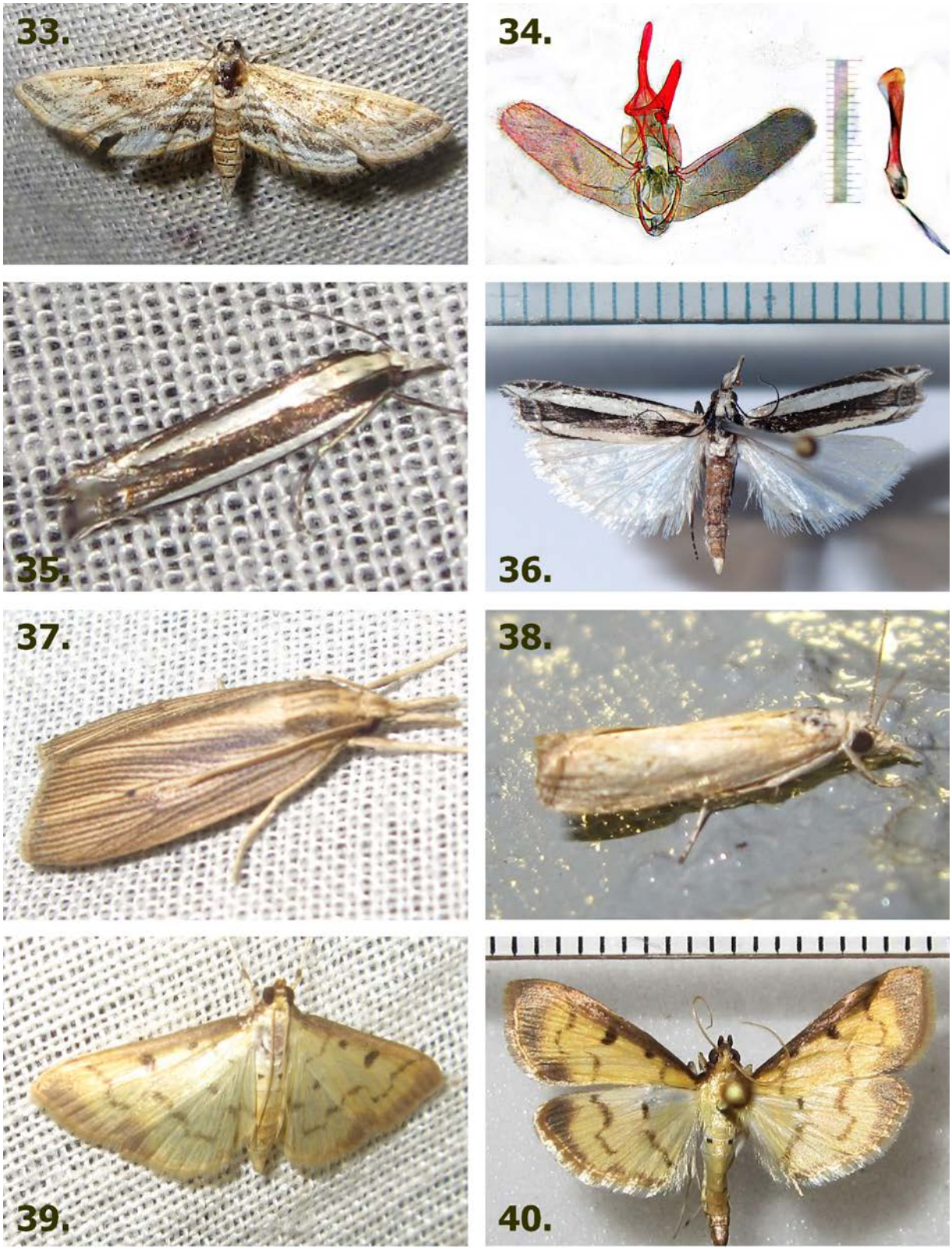

Plate 05:

Fig.33 - *Parapoynx fluctuosalis*, Mauritius
Fig.34 - *Parapoynx fluctuosalis*, male genitalia
Fig.35 - *Angustalius hapaliscus*, Bambous
Fig.36 - *Angustalius hapaliscus*, Bambous, ws: 19mm
Fig.37 - *Chilo sacchariphagus*, Bambous
Fig.38 - *Culladia achroellum*, Blackriver
Fig.39 - *Pyrausta pastrinalis*, female, Mahébourg
Fig.40 - *Pyrausta pastrinalis*, male, e.l. *Bidens pilosa*

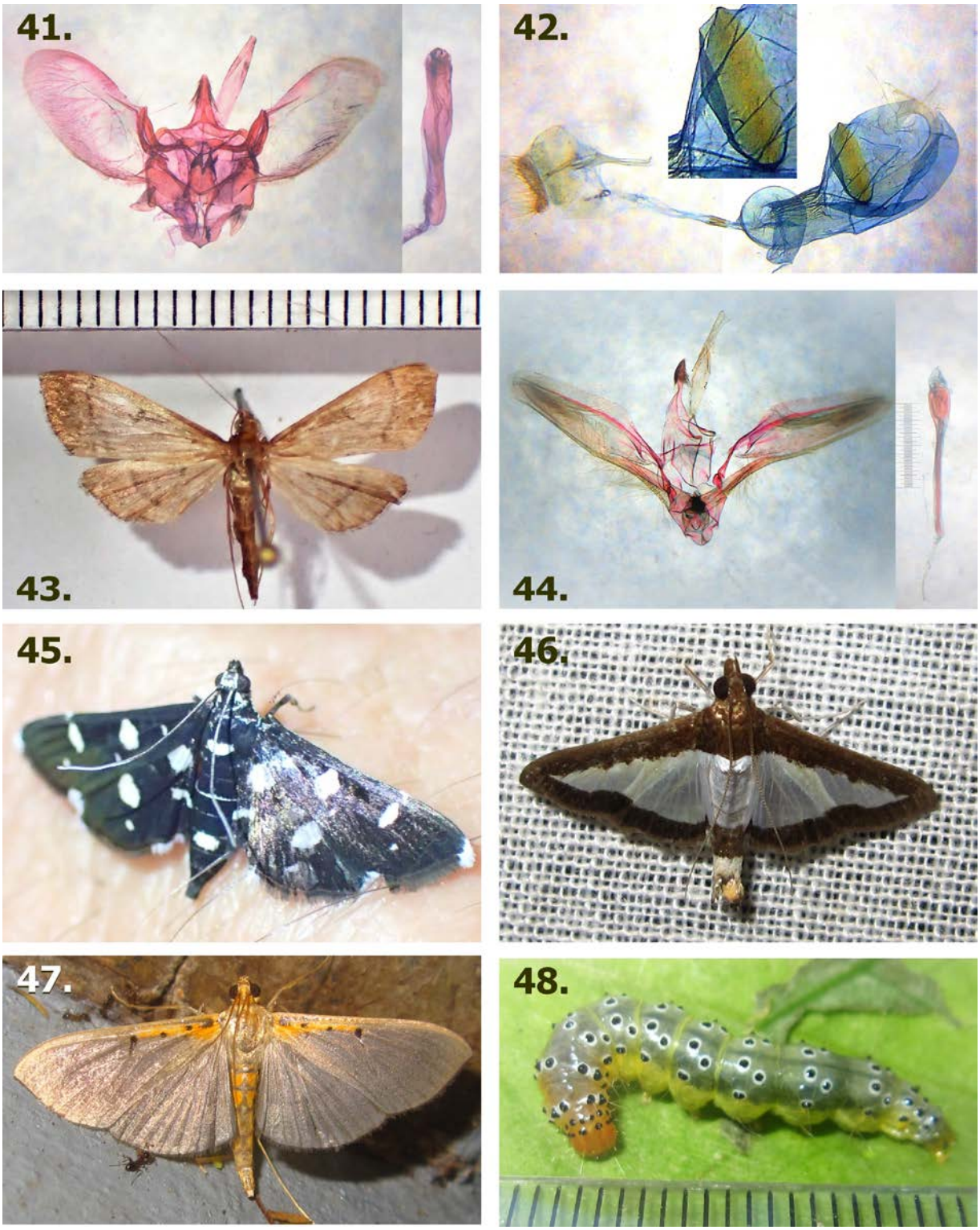

Plate 06:

Fig.41 - *Pyrausta pastrinalis*, ♂ genitalia, e.l. *B. pilosa*
Fig.42 - *Pyrausta pastrinalis*, female genitalia
Fig.43 - *Bradina admixtalis*, Bambous, female
Fig.44 - *Bradina admixtalis*, male genitalia
Fig.45 - *Bocchoris inspersalis*, Mahébourg
Fig.46 - *Diaphana indica*, Mahébourg
Fig.47 - *Filodes costivitralis*, Blackriver
Fig.48 - *Filodes costivitralis*, larvae from *Th. laevis*

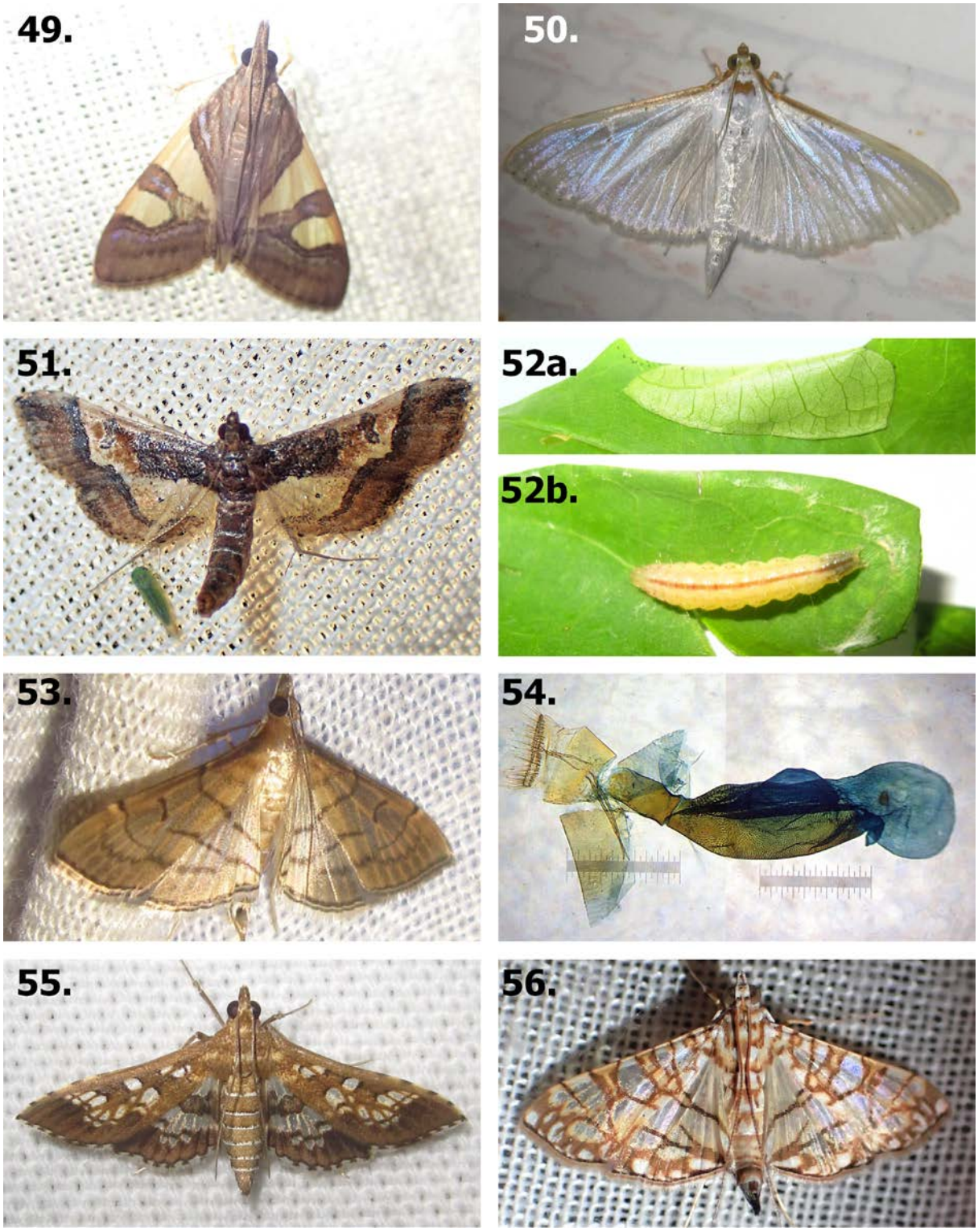

Plate 07:

Fig.49 - *Glyphodes mascarenalis.*, Mahébourg
Fig.50 - *Palpita vitrealis*, Flic-en-Flac
Fig.51 - *Hydriris ornitalis*, Mahébourg
Fig.52 - *Hydriris ornitalis*, larvae on *Ipomoea indica*
Fig.53 - *Marasmia trapezalis*, Bambous
Fig.54 - *Marasmia trapezalis*, ♀ genitalia, Bambous
Fig.55 - *Sameodes cancellalis*
Fig.56 - *Synclera traducalis*

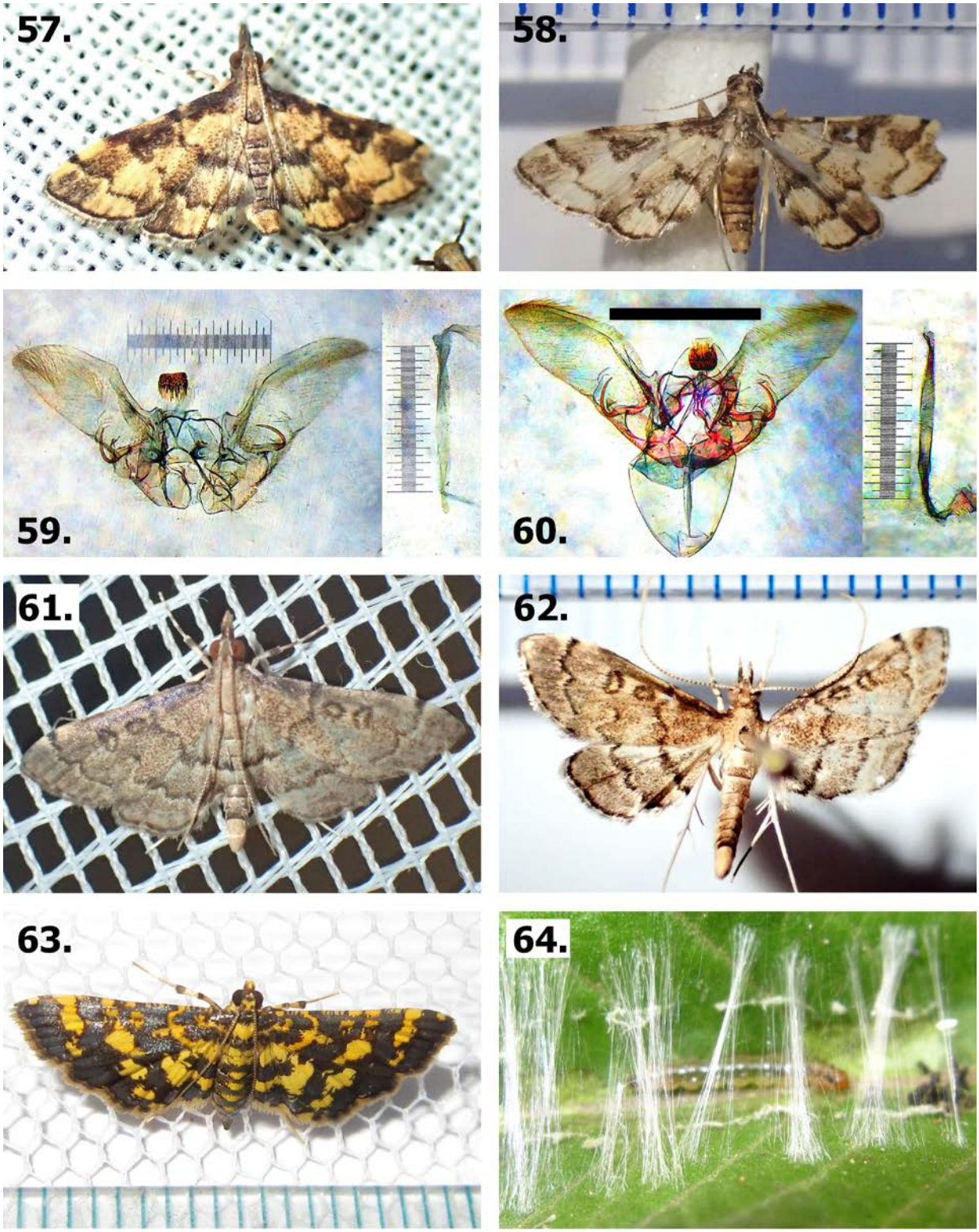

Plate 08:
Fig.57 - *Piletocera reunionalis*, Mahébourg
Fig.58 - *Piletocera reunionalis*, Mahébourg
Fig.59 - *Piletocera reunionalis*, male genitalia
Fig.60 - *Piletocera viperalis*, male genitalia, Blackriver
Fig.61 - *Piletocera viperalis*, Réunion
Fig.62 - *Piletocera viperalis*, Réunion
Fig.63 - *Eurrhyparodes tricoloralis*, e.l. *E. mollis*
Fig.64 - *Eurrhyparodes tricoloralis*, larvae o*n E. mollis*

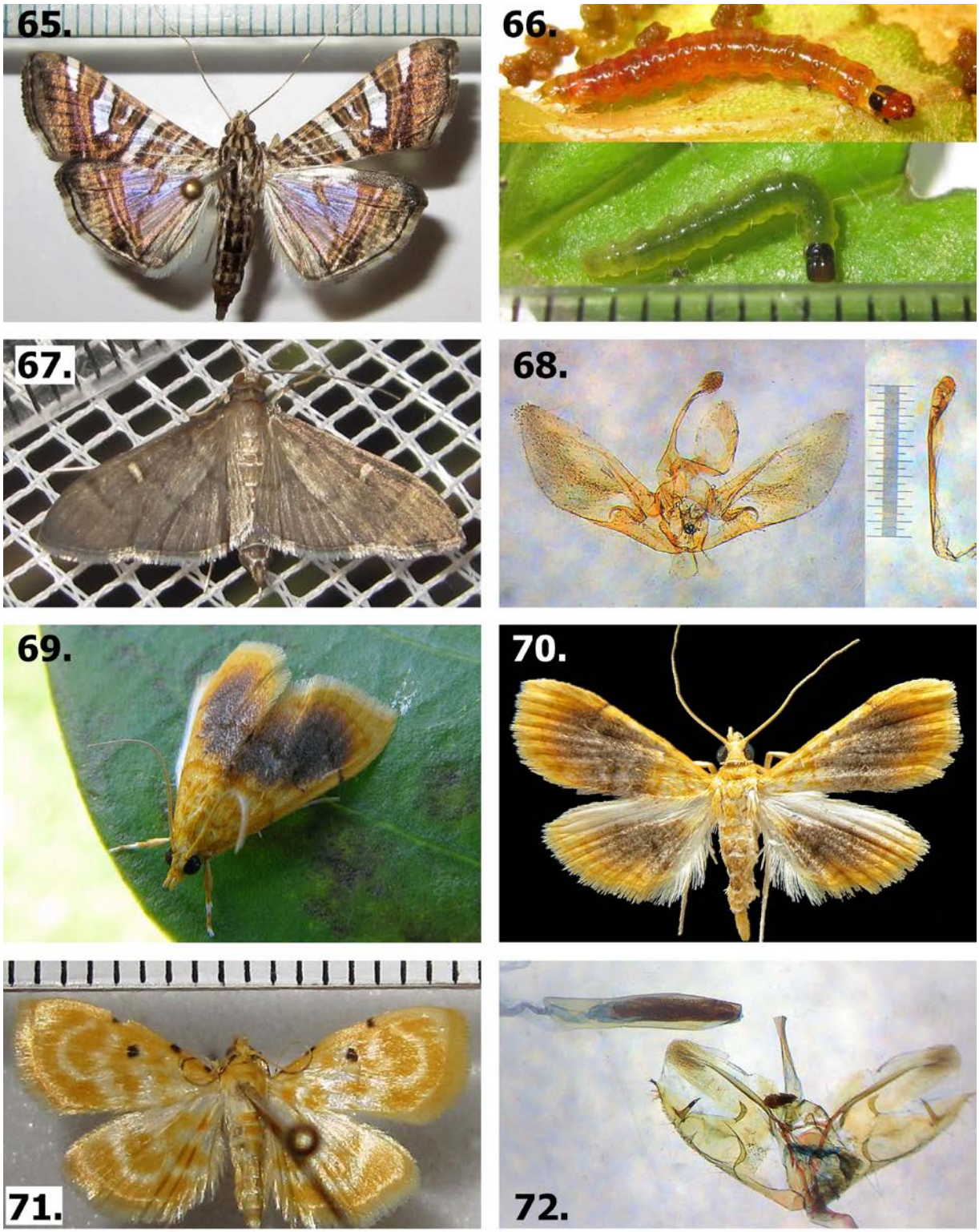

Plate 09:
Fig.65 - *Glyphodes stolalis*, Réunion
Fig.66 - *Herpetogramma minoralis*, larvae
Fig.67 - *Herpetogramma minoralis*, e.l. *Begonia* sp.
Fig.68 - *Herpetogramma minoralis*, male genitalia,
Fig.69 - *Mabra eryxalis* (photo: D. Martiré)
Fig.70 - *Mabra eryxalis* (photo: D. Martiré)
Fig.71 - *Notarcha quarternalis*, e.l. *Bidens pilosa*
Fig.72 - *Orphanostigma abruptalis*, Réunion, ♂ genitalia

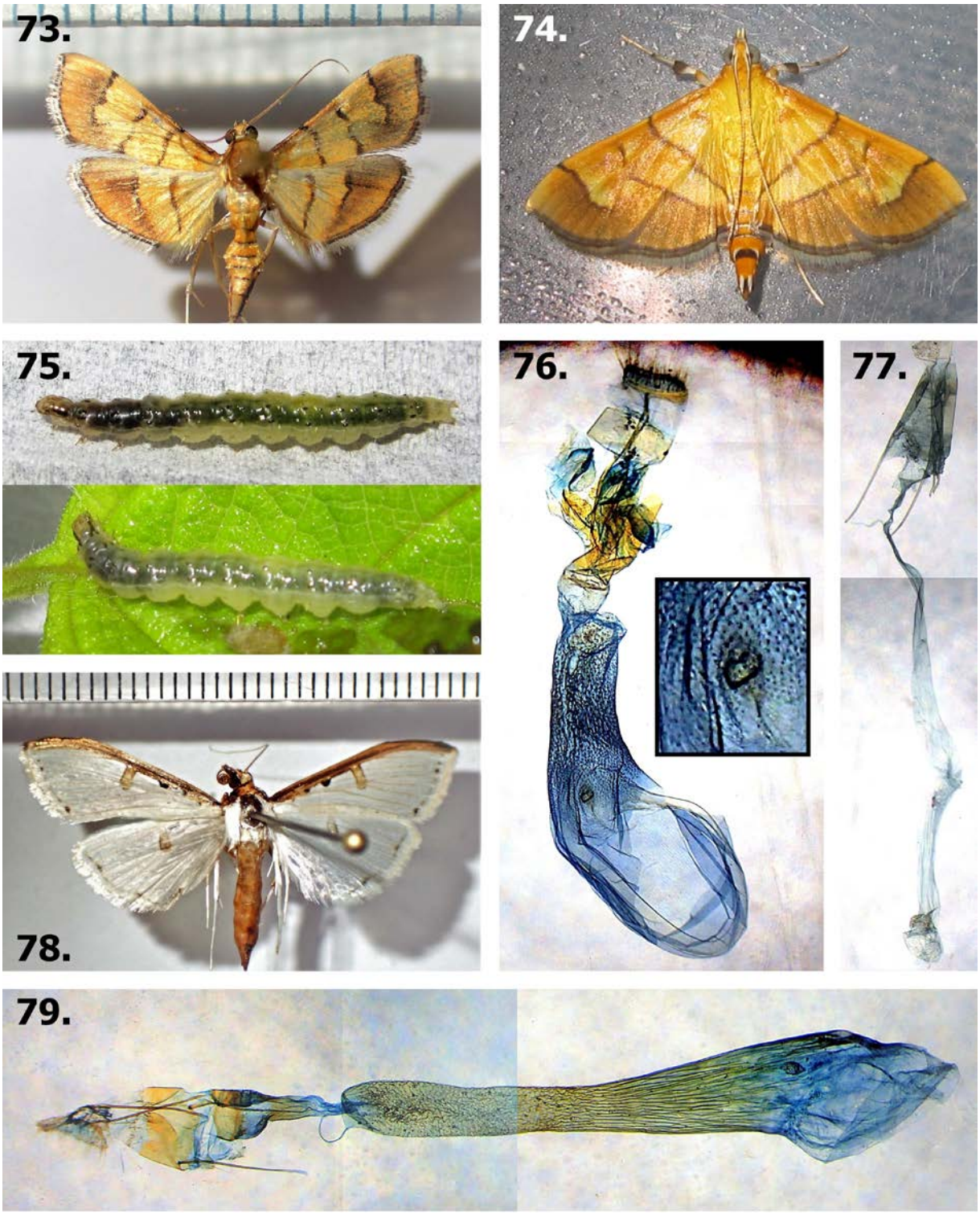

Plate 10:

Fig.73 - *Orphanostigma abruptalis*, Réunion
Fig.74 - *Salbia haemorrhoidalis*, Réunion, e.l. *L. camara*
Fig.75 - *Salbia haemorrhoidalis*, larvae on *L. camara*
Fig.76 - *Orphanostigma abruptalis*, Réunion, ♀ genitalia (signum x3).
Fig.77 - *Parapoynx fluctuosalis*, female genitalia
Fig.78 - *Palpita metallata*, male, Madagascar
Fig.79 - *Morosaophycita morosalis*, female genitalia (same specimen as Fig.19)

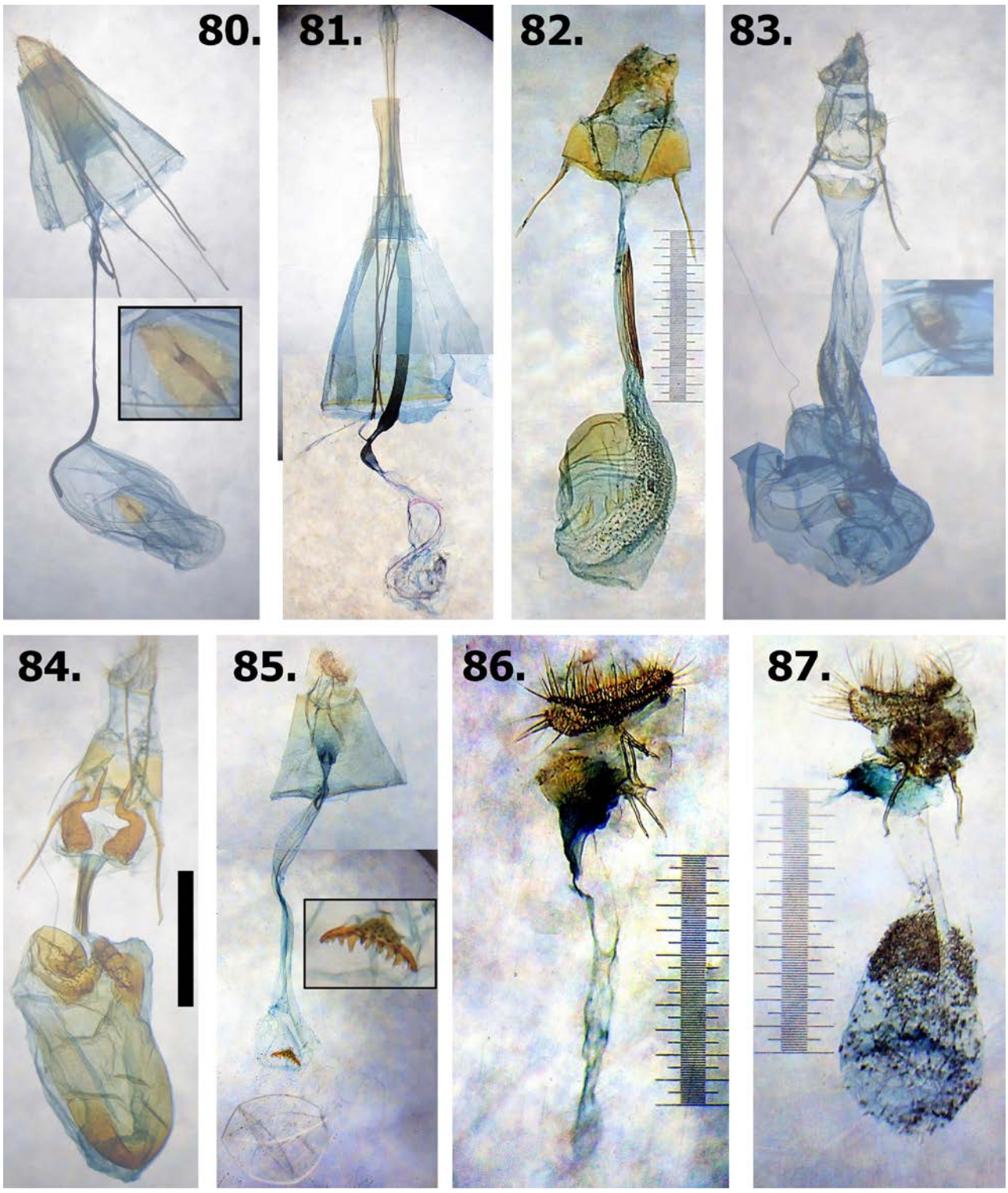

Plate 11: Female genitalia
Fig.80 - *Ocrasa nostralis*, female genitalia
Fig.81 - *Parachma lequettealis*, female genitalia
Fig.82 - *Cadra cautella*, female genitalia , e.l. *Rh. simsii*
Fig.83 - *Hypargyria metalliferella*, female genitalia
Fig.84 - *Phycita demidovi*, female genitalia
Fig.85 - *Bradina admixtalis*, female genitalia, (signum x3)
Fig.86 - *Piletocera reunionalis*, female genitalia
Fig.87 - *Piletocera viperalis*, female genitalia