

Entomologische Notiz

The case of *Eurhodia gyra acuminalba* VAN ECKE, 1924 (Lepidoptera: Saturniidae, *NEC* Eupterotidae, *NEC* Bombycidae) – How accurate and reliable are on-line taxon lists?

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During research for the recent revision of the saturniid genus *Pararhodia* COCKERELL, 1914 (published by NAUMANN 2013), we discovered a strange combination of errors, misinterpretations and unjustified interfamilial nomenclatural acts in the famous BMNH card index of Lepidoptera names of the Natural History Museum (traditional abbreviation for about a century: BMNH, recently sometimes termed NHMUK) in London, today publicly available on the internet as “The Global Lepidoptera Names Index” (abbreviated GLNI; BECCALONI et al. 2005) and copied by numerous other websites and in publications. We believe that this remarkable string of errors and the resulting nomenclatural and taxonomic confusion must be corrected before it is further perpetuated or, worse, becomes even more concatenated and inflated.

The chronological sequence of the facts and errors, differentiated by the involved families Eupterotidae, Saturniidae and Bombycidae, is as follows:

Eupterotidae: The oldest names under consideration are those of the genus *Eupterote* HÜBNER, 1820 and of its type species, *Phalaena fabia* CRAMER, 1779/1780 from southern India – FLETCHER & NYE (1982) gave “1779” as publication date, whereas BECCALONI et al. (2005), from the BMNH card index, state the date to be “1780 from wrapper”, while the entire volume was finally published 1782 –, subsequently designated by MOORE (1883: 141). This genus was assigned to different families for a long time (FLETCHER & NYE 1982, NÄSSIG & OBERPRIELER 2007, 2008) before its eventual placement in the bombycoid family Eupterotidae. For details, priority issues and other problems regarding the family names of this group, see NÄSSIG & OBERPRIELER (2007).

Eupterotidae: SWINHOE (1885) described a new species of *Eupterote*, *E. gyra*, also from southern India, which is currently treated as being conspecific with *E. fabia* (synonymy apparently after SEITZ 1922: 427). As a revision of the genus *Eupterote* (*sensu lato*) is outstanding, this proposed synonymy cannot at present be verified, and we do not deal with it here. As there was no specialist for the family Eupterotidae in the BMNH after SEITZ’s times, the entries for this family in the BMNH card index were taken directly from the data published by SEITZ, without further assessment and verification (I. J. KITCHING, J. D. HOLLOWAY, pers. comm.).

Eupterotidae: In this BMNH card index, the specific name *gyra* SWINHOE, 1885 was originally spelled correctly on the card of the species (by typewriter). However, someone later added on the card in handwriting the letter “s” to the name *gyra*, without explanation (see Fig. 3), thus effecting a name change in the index to “*gyras*”. This incorrect spelling was then, in spite of a question mark after the “s” and evidently without checking SWINHOE’s original spelling, adopted in the digital version of this index (GLNI, BECCALONI et al. 2005).

Saturniidae: ROTHSCILD & JORDAN (1905: 466) established a new genus *Eurhodia* for an endemic New-Guinean saturniid species described in the same paper, *E. gyra* ROTHSCILD & JORDAN, 1905, which is its type species by original designation. Because the generic name is a junior homonym of *Eurhodia* HAIME in D’ARCIAC & HAIME, 1853 (Echinodermata), COCKERELL in PACKARD (1914: 170) proposed the replacement name *Pararhodia* for *Eurhodia* ROTHSCILD & JORDAN, 1905 (see FLETCHER & NYE 1982: 120), also with type species *Eurhodia gyra*. Further information on the

taxonomy and nomenclature of *Pararhodia* and its species can be found in the recent revision of the genus by NAUMANN (2013). *Pararhodia gyra* is correctly entered, without any misspelling, in the Saturniidae part of the BMNH card index and also so listed by BECCALONI et al. (2005).

Saturniidae: VAN ECKE (1924) described (and illustrated) a subspecies of this species as *Eurhodia gyra acuminalba*, evidently unaware of the homonymy of the genus name and its replacement by *Pararhodia*. The holotype of this taxon is housed in the Naturalis Biodiversity Center, Leiden, formerly the Rijksmuseum van Natuurlijke Historie (Figs. 1–2).

Saturniidae: In the BMNH card index the names of the latter taxon were originally entered (by typewriter) and spelled correctly as “*acuminalba* ECKE. subsp. of *gyra*”, but someone later added, in handwriting and without explanation, the annotation “– *fabia* CRAM.” after the entry (see Fig. 4). This addition insinuated a perplexing synonymy between the names of two very different species belonging to two different bombycoid families, and someone else evidently later queried it by placing a big red question mark at the end of the entry on the card. This interfamilial synonymy was also never formally published in print.

Saturniidae/Eupterotidae: The incorrect yet unpublished synonymy on the card of the subspecies *acuminalba* VAN ECKE, 1924 of the saturniid species *Pararhodia gyra* (ROTHSCILD & JORDAN, 1905) was then, again without scrutiny, transferred to the digital version of the BMNH card index (GLNI, BECCALONI et al. 2005) – which in fact is a valid publication of a database! –, listing *acuminalba* as a “valid name” in subordination of the eupterotid species *Eupterote fabia* (CRAMER, 1779/1780) (with *gyra* SWINHOE, 1885, misspelled as “*gyras*”, also in subordination of *E. fabia*; Figs. 3–4). The digitisation of the card index thus formalised and published an unfortunate concatenation of errors, including the mistaken synonymy of the names of two species taxa belonging to different bombycoid families.

Saturniidae/Eupterotidae: Evidently from the GLNI (BECCALONI et al. 2005), other on-line lists of generic and specific names of Lepidoptera copied these same errors, to the extent that no website other than WIKISPECIES (2016) currently lists *acuminalba* in its correct genus and family. Examples of others that do not, include: ANIMAL DIVERSITY WEB (2016), ARCTOS (2016), BioNAMES (2016), CATALOGUE OF LIFE (2016), GLOBAL NAMES INDEX (2016), GLOBAL SPECIES (2016), iNATURALIST.ORG (2016), WIKIPEDIA (Sweden) (2016), ZIPCODEZOO (2016).

Bombycidae: ZOLOTUHN (2012), one of the few recent authors working on Eupterotidae, wrote in his list of the “*Giant Lappet Moths (Lepidoptera: Eupterotidae) of Papua Indonesia*” the following sentences:

“The status of *Eupterote acuminalba* VAN ECKE, 1924, *Nova Guinea*, Vol. 15, p. 47 (pl. 1, fig. 10), described from Dutch New Guinea, is still unclear. Being described as a saturniid moth (*Eurhodia lyda* ssp.) it was later transferred to *Eupterote* but the genus is not native to Papuan Region. The type specimen is not found yet; the original image shows a moth similar to the *Bombycidae* (*Elachyophthalma* sp. of the *cotanoides* ROTH. group).”

This statement introduced further errors to the taxonomic and nomenclatural tangle surrounding the taxon *acuminalba*:

- It raised the status of the name *acuminalba* VAN EECHE from a synonym or subspecies of *Eupterote fabia* (the erroneous listing in the GLNI) to that of a valid species in the genus *Eupterote*.
- It added a further misspelling of the name of the saturniid species *Pararhodia gyra* (ROTHSCHILD & JORDAN, 1905): *acuminalba* was not described as a subspecies of a (non-existent) species “*Eurhodia lyda*”, the original combination is *Eurhodia gyra acuminalba*. The misspelling “*lyda*” is new (not copied from the GLNI), and *lyda* is not a valid name in Saturniidae.
- It suggested that *Pararhodia acuminalba* may belong in the family Bombycidae near the genus *Elachyophthalma* C. FELDER, 1861. This assertion was based only on VAN EECHE’s original illustration of *Eurhodia gyra acuminalba*, and the statement that the type specimen of *acuminalba* is not available for verification of the identity and family assignment of the taxon is also incorrect. ZOLOTUHIN was obviously unaware that S. NAUMANN had located the specimen in the Naturalis Biodiversity Center in Leiden during research for his revision of the genus *Pararhodia* (NAUMANN 2013), see Fig. 2. The similarity (in size, colour and pattern) between females of some species of *Pararhodia* (Bombycoidea, Saturniidae), *Elachyophthalma* (of the *cotanoidea* group) (Bombycoidea, Bombycidae), *Cotana* WALKER, 1865 (Bombycoidea, Eupterotidae) and even *Euproctis* HÜBNER, 1819 (*sensu lato et classico*) (Noctuoidea, Lymantriinae) appears to represent a form of mimicry between several species of these four different families in New Guinea and perhaps some surrounding smaller islands.

This nomenclatural and taxonomic mayhem is to be resolved as follows:

1. *Eupterote gyra* SWINHOE, 1885 (Eupterotidae; S. India) and *Pararhodia gyra* (ROTHSCHILD & JORDAN, 1905) (Saturniidae; New Guinea) are **two different species in two different genera and families** of Bombycoidea. There is no taxonomic, nomenclatural or close phylogenetic connection of any kind between them.
2. The name of neither of these two taxa was spelled with an “s” (as “*gyras*”) in their respective original descriptions; this misspelling was introduced for *Eupterote gyra* by error in the (unpublished) BMNH card index and subsequently made publicly available on the internet in the GLNI (BECCALONI et al. 2005).
3. *Eurhodia gyra acuminalba* VAN EECHE, 1924 was described as a saturniid taxon and belongs in this family. Both the illustration in the original description and the holotype confirm this family assignment, as was concluded by NAUMANN (2013) in his recent revision of *Pararhodia*, in which he recognised *P. acuminalba* as a distinct species. Its placement in Eupterotidae and in synonymy with *Eupterote fabia* (CRAMER, 1779/1780) on various internet sites is an unfortunate error caused by a mistaken synonymy or misinterpretation of the species name *gyra* entered in the BMNH card index and transferred to its digital version, “The Global Lepidoptera Names Index”.
4. The more recent tentative interpretation of *Pararhodia acuminalba* as being affiliated to the genus *Elachyophthalma* and the family Bombycidae is a misrepresentation by ZOLOTUHIN (2012), likely due to an apparent mimicry between some New-Guinean species of a number of Lepidoptera families.

These errors need to be corrected in “The Global Lepidoptera Names Index” and on all other relevant internet sites.

This case serves as a pertinent example of the dangers and consequences of blindly transcribing taxonomic and nomenclatural notes from card indices and similar unpublished notes or lists onto on-line catalogues, without scrutiny and verification by experts. It also further highlights the general inaccuracy and error load of

the various on-line species lists and the unfortunate habit of their information being copied from one another, without verification of any of it. This regrettably makes these on-line lists and catalogues highly unreliable as sources of accurate and trustworthy taxonomic information.

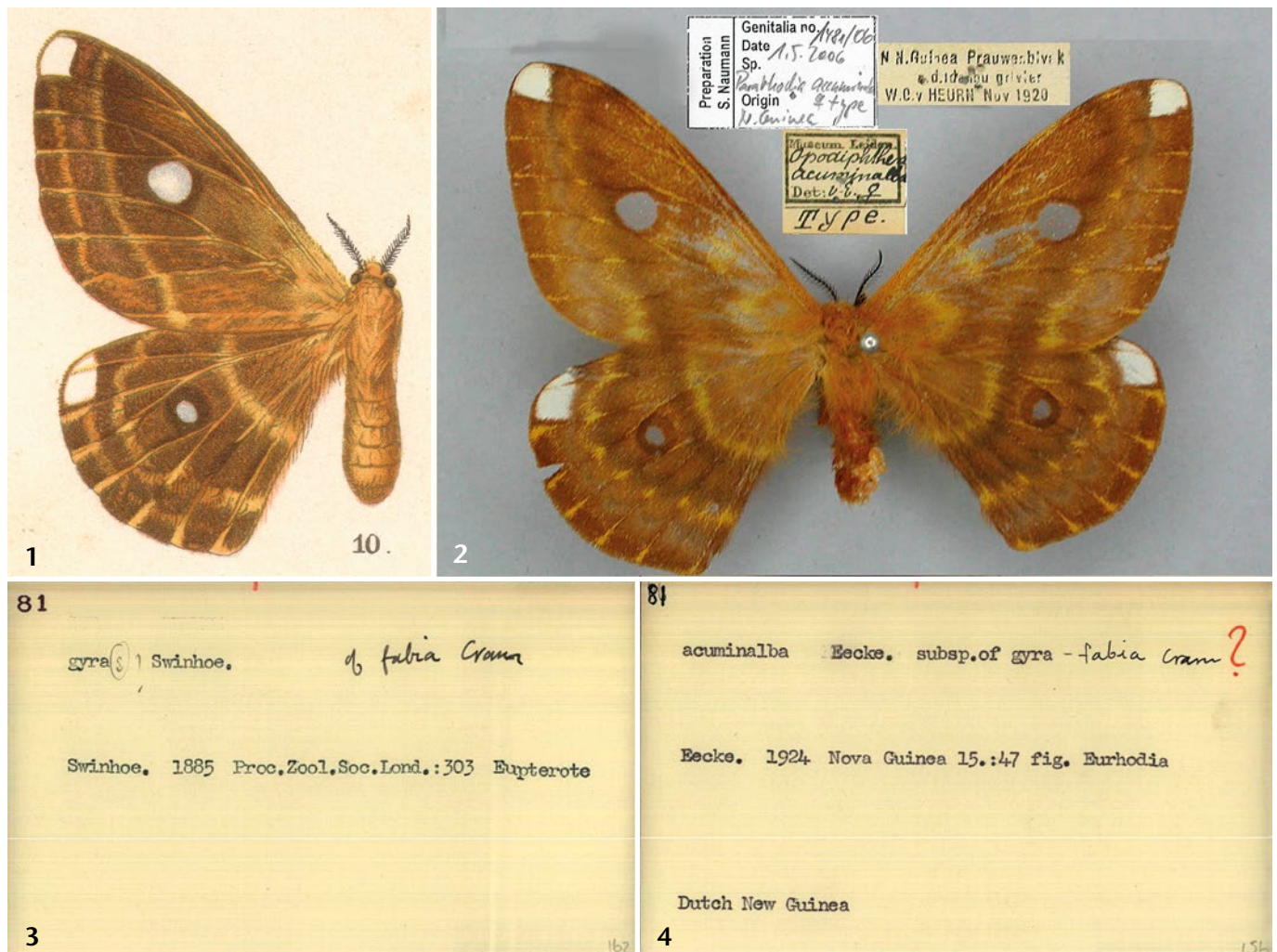
A similar example, regarding the Catalogue of Life and the generic names *Drepanojana* in Eupterotidae, was pointed out by NÄSSIG & OBERPRIELER (2008: 55, 56, 64); over six years later the Asian species “*Drepanojana*” *ciheronia* BRYK, 1944 continues to be incorrectly listed in the African genus *Drepanojana* AURIVILLIUS in the Catalogue of Life and several other on-line species lists, while it has in the meanwhile been identified as a generic homonymy in the GLNI.

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Figs. 1–2: Holotype female of *Eurhodia gyra acuminalba* VAN EECKE, 1924. **Fig. 1:** Scan of the colour painting accompanying the original description. **Fig. 2:** Photo of specimen taken in 2006 in the Naturalis Biodiversity Center, Leiden, by S. NAUMANN. (Note: the combination "*Opodiphthera acuminalba*" on the type label was not published; VAN EECKE evidently regarded *acuminalba* as a species of *Opodiphthera* when he labelled the holotype but then described it as a subspecies of *Eurhodia gyra*.) — **Figs. 3–4:** Scanned cards of the BMNH card catalogue as published by BECCALONI et al. (2005) in the Web. **Fig. 3:** Card of the entry "*gyra* SWINHOE", with (handwritten) introduced misspelling \neq "*gyras*" and synonymy to [*Eupterote*] *fabia* CRAMER. **Fig. 4:** Card of the entry "*Eurhodia gyra acuminalba* VAN EECKE", with introduced wrong synonymy to "*fabia* CRAMER" in incorrect genus *Eupterote* and incorrect family Eupterotidae.

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