



## The genera and species of the *Brueelia*-complex (Phthiraptera: Philopteridae) described by Mey (2017)

DANIEL R. GUSTAFSSON<sup>1,4</sup>, SARAH E. BUSH<sup>2</sup> & RICARDO L. PALMA<sup>3</sup>

<sup>1</sup>Guangdong Key Laboratory of Animal Conservation and Resource Utilization, Guangdong Public Laboratory of Wild Animal Conservation and Utilization, Guangdong Institute of Applied Biological Resources, 105 Xingang West Road, Haizhu District, Guangzhou, 510260, China

<sup>2</sup>School of Biological Sciences, University of Utah, 257 S. 1400 E., Salt Lake City, Utah 84112, USA

<sup>3</sup>Museum of New Zealand Te Papa Tongarewa, P.O. Box 467, Wellington, New Zealand

<sup>4</sup>Corresponding author. E-mail: [kotatsu@fripot.org](mailto:kotatsu@fripot.org)

### Abstract

Two large taxonomic revisions of chewing lice belonging to the *Brueelia*-complex were published independently in 2017: Gustafsson & Bush (August 2017) and Mey (September 2017). However, Mey (2017) was incorrectly dated “Dezember 2016” on the title page. These two publications described many of the same taxonomic units under different names and therefore, the names in Gustafsson and Bush (2017) have priority over the synonyms in Mey (2017). Here we clarify some of the resulting taxonomic confusion.

Firstly, we confirm the availability of the genera *Guimaraesiella* Eichler, 1949 and *Acronirmus* Eichler, 1953, as well as the status of *Nitzschinirmus* Mey & Barker, 2014 as a junior synonym of *Guimaraesiella*.

Nine genera were described and simultaneously placed as juniors synonyms by Mey (2017: 182). We agree with his synonymy in seven of them: *Australnirmus* Mey, 2017 under *Saepocephalum* Gustafsson & Bush, 2017; *Couanirmus* Mey, 2017 under *Couala* Gustafsson & Bush, 2017; *Estrildinirmus* Mey, 2017 under *Mirandofures* Gustafsson & Bush, 2017; *Harpactiacus* Mey, 2017 under *Harpactrox* Gustafsson & Bush, 2017; *Leiothrichinirmus* Mey, 2017 under *Resartor* Gustafsson & Bush, 2017; *Manucodiacus* Mey, 2017 under *Manucodicola* Gustafsson & Bush, 2017, and *Protonirmus* Mey, 2017 under *Ceratocista* Gustafsson & Bush, 2017. Furthermore, Mey (2017) described and placed *Pomatostomiacus* as an absolute junior synonym of *Sychraella* Gustafsson & Bush, 2017; here, we argue that *Pomatostomiacus* is actually a junior synonym of *Anarchonirmus* Gustafsson & Bush, 2017. Also, Mey (2017) described and placed *Timalinirmus* as a probable junior synonym of *Turdinirmoides* Gustafsson & Bush, 2017; here we argue that *Timalinirmus* is a valid genus. We place ten more genera from Mey (2017) as junior synonyms, as follows: *Callaenirmus* Mey, 2017 and *Philemoniellus* Mey, 2017 under *Guimaraesiella* Eichler, 1949; *Carpodaciella* Mey, 2017 under *Turdinirmoides* Gustafsson & Bush, 2017; *Cinclosomatiellum* Mey, 2017 under *Maculinirmus* Złotorzycka, 1964; *Koanirmus* Mey, 2017 and *Tesonirmus* Mey, 2017 under *Couala* Gustafsson & Bush, 2017; *Garrulaxeus* Mey, 2017 under *Priceiella* (*Camurnirmus*) Gustafsson & Bush, 2017; *Lycocoranirmus* Mey, 2017 under *Corvonirmus* Eichler, 1944; *Neosittiella* Mey, 2017 and *Plesionirmus* Mey, 2017 under *Brueelia* Kéler, 1936.

We accept *Melinirmus* Mey, 2017 as valid, and *Mohoaticus* Mey, 2017 as a valid subgenus of *Guimaraesiella* Eichler, 1949. Also, we provisionally accept *Ptilononirmus* Mey, 2017 as valid but, until a proper redescription determines its true status, we categorize *Ptilononirmus* as *genus inquirenda*.

We accept most species described by Mey (2017) as valid, except for two which we place as junior synonyms: *Callaenirmus kokakophilus* Mey, 2017 under *Brueelia callaeincola* Valim & Palma, 2015, and *Mohoaticus pterocariphagus* Mey, 2017 under *Guimaraesiella* (*Mohoaticus*) *diaprepes* (Kellogg & Chapman, 1902). We agree with Mey’s assessment that four of his new species are junior synonyms of previously described taxa. Furthermore, among the species (subspecies) described by Mey (2017) as new, we establish 31 new generic (subgeneric) combinations, and we regard 16 species as *species inquirenda*, and three as *incertae sedis*.

**Key words:** *Brueelia*-complex, Phthiraptera, chewing lice, genera, synonyms, *Acronirmus*, *Allobrueelia*, *Anarchonirmus*, *Australnirmus*, *Brueelia*, *Callaenirmus*, *Carpodaciella*, *Camurnirmus*, *Ceratocista*, *Cinclosomatiellum*, *Corvonirmus*, *Couala*, *Couanirmus*, *Estrildinirmus*, *Garrulaxeus*, *Guimaraesiella*, *Harpactiacus*, *Harpactrox*, *Koanirmus*, *Leiothrichinirmus*, *Lycocoranirmus*, *Maculinirmus*, *Manucodiacus*, *Manucodicola*, *Melinirmus*, *Mirandofures*, *Mohoaticus*, *Neosittiella*, *Nitzschinirmus*, *Olivinirmus*, *Philemoniellus*, *Plesionirmus*, *Pomatostomiacus*, *Priceiella*, *Protonirmus*, *Ptilononirmus*, *Resartor*, *Saepocephalum*, *Tesonirmus*, *Timalinirmus*, *Turdinirmoides*, *Turdinirmus*.

## Introduction

In the second half of 2017, two large taxonomic revisions of chewing lice belonging to the *Brueelia*-complex were published independently: Gustafsson & Bush (August 2017) and Mey (September 2017), but Mey (2017) was incorrectly dated “Dezember 2016” on the title page and therefore, the names in Gustafsson and Bush (2017) have priority. In total, 44 new generic names and 87 new species names were proposed and described in these two revisions, with considerable overlap of material from the same hosts which produced many synonymies. Both revisions arrived at very similar conclusions regarding many of the morphologically distinct subgroups of the *Brueelia*-complex and, in some cases, the same type species were selected for two different genus-level names.

In this paper we attempt to clarify the taxonomic confusion resulting from the nearly simultaneous publication of these two revisions. We evaluate the taxa published by Mey (2017) and offer our opinion on the validity of these taxa. We also clarify and establish the chronological order of priority of these two revisions, and address some of the nomenclatorial issues raised by Mey (2017). Several of the genera proposed by Mey (2017) were synonymized by Mey himself in an addendum (Mey 2017: 182), and we confirm most of these synonymies. Furthermore, we place most other genera described by Mey (2017) as junior synonyms, either under genera described by Gustafsson & Bush (2017) or under older genera. We regard one genus described by Mey (2017) as *genus inquirenda*. We place two species described by Mey (2017) as junior synonyms of earlier names and agree with his assessment (Mey 2017: 182) that a further four of his new species are also junior synonyms. Furthermore, we combine 31 species names with other genera in the *Brueelia*-complex and qualify 16 species as *species inquirenda*.

## Material and methods

The descriptions of all genera, subgenera and species included in both papers—Gustafsson & Bush (2017) and Mey (2017)—were critically analysed and compared. Considering that our attempts to obtain and examine relevant specimens used by Mey for his descriptions failed, our taxonomic conclusions may change after proper redescrptions of the taxa become available, or after our examination of the type material. The new genera described by Mey (2017) are discussed here in the order in which he published them, but the species are treated in alphabetical order within each genus.

For clarity, all abbreviations for genera within the *Brueelia*-complex follow those used by Gustafsson & Bush (2017). These include: *Ac.* = *Acronirmus*; *Br.* = *Brueelia*; *Cc.* = *Ceratocista*; *Cl.* = *Couala*; *Co.* = *Corvonirmus*; *Gu.* = *Guimaraesiella*; *Ha.* = *Harpactrox*; *Mn.* = *Manucodicola*; *Ol.* = *Olivinirmus*; *Pr.* = *Priceiella*; *Re.* = *Resartor*. Host genera, louse genera outside the *Brueelia*-complex, and genera described by Mey (2017) are first given in full and subsequently abbreviated by single letters. Host taxonomy follows Clements *et al.* (2018), which differs from that used by Mey (2017).

## Establishing taxonomic priority between both revisions

Article 21.2 of the *International Code of Zoological Nomenclature* (International Commission on Zoological Nomenclature 1999; hereafter the *Code* 1999) states that any date specified in a work is to be adopted as correct, unless there is evidence to the contrary. The publication date of Mey (2017) is given on the title page as “Dezember 2016”. However, on page 182 of this publication, Mey indicates that the manuscript went to print in September 2017. Thus, as Mey himself notes, Gustafsson & Bush (2017), published on 31 August 2017, has taxonomic priority over Mey (2017).

## Availability of *Guimaraesiella* Eichler, 1949

Mey (2017: 90) argues that the name *Guimaraesiella* Eichler, 1949 is not taxonomically available, suggesting that Eichler, when he described *Guimaraesiella*, had in mind a genus of the *Philopterus*-complex rather than a member of the *Brueelia*-complex. Mey (2017) supports his interpretation by observing that Eichler (1941) had previously

separated *Brueelia* and *Philopterus* into two different families, Degeeriellidae and Philopteridae, and that Eichler (1949) placed *Guimaraesiella* in Philopteridae. Presumably, this placement reflects the fact that Eichler never saw Piaget's specimens of *Docophorus subalbicans* Piaget, 1885, the type species of his new genus *Guimaraesiella*. Instead, Eichler (1949) seems to have relied on the description and illustration of Piaget (1885: 6, pl. I: fig. 8), as well as Piaget's placement of his species in *Docophorus* Nitzsch, 1818, rather than in *Nirmus* Nitzsch, 1818.

However, regardless of Eichler's intentions, generic names must follow the identity of the type species which, for *Guimaraesiella*, is *Docophorus subalbicans* Piaget, 1885, which is a junior synonym of *Docophorus papuanus* Giebel, 1874 as listed by Harrison (1916) and Hopkins & Clay (1952). Piaget (1885: 8) also suggested that these two species were probably synonymous. Unfortunately, *D. papuanus* was poorly described, not illustrated, and its type material lost (Clay & Hopkins 1955). Consequently, both Mey & Barker (2014: 82) and Gustafsson & Bush (2017: 224), accepted this long-standing synonymy as valid, to promote stability in the nomenclature of this difficult group.

Examination of type specimens of *D. subalbicans* is also problematic. The Natural History Museum, London (NHML) obtained large parts of the Piaget Collection in 1928 (Thompson 1937), which includes two slides containing three males possibly derived from the type series of *D. subalbicans*, as well as syntype material from both of the varieties ("var.  $\alpha$ " and "var.  $\beta$ ") described by Piaget (1885: 7) (Thompson 1938). However, none of these slides are marked as types, although we did not examine all 15 males that Piaget (1885) referred to in his description of *D. subalbicans*. Since we do not know whether one of the unexamined specimens is marked as the holotype, we cannot select a lectotype. If the missing slides cannot be found, a lectotype should be selected from the three male specimens mounted on two slides labelled as "B.M. 1928-325", also numbered "622", held in the NHML collection.

In summary, Mey (2017) argues that the name *Guimaraesiella* is not available because the short description by Eichler (1949) does not clearly separate it from either *Brueelia* Kéler, 1936 or *Philopterus* Nitzsch, 1818, nor from any other genus of Philopteridae. However, Article 13.1.1 of the *Code* (1999) states that, to be available, a genus needs to be accompanied by word characters "that are purported to differentiate the taxon". Although Eichler's (1949) description is suboptimal, the designation of a type species and the inclusion of several morphological characters purporting to separate *Guimaraesiella* from *Docophorus* are technically sufficient to establish the availability of *Guimaraesiella*. Comprehensive redescriptions of this genus and its type species are provided by Gustafsson & Bush (2017: 224–226, 229–232).

### Availability of *Acronirmus* Eichler, 1953

Mey (2017: 91) argues that the name *Acronirmus* Eichler, 1953 is not taxonomically available, claiming that the correct name for that genus-group is *Hirundiniella* Carriker, 1963. His argument is based on the lack of a type species designation in the original description of *Acronirmus* by Eichler (1953), as required by Article 13.3 of the *Code* (1999).

There is no doubt that *Acronirmus* Kéler, 1939 is unavailable because, although a type species is designated by monotypy (Article 68.3 of the *Code* 1999), Kéler (1939) did not include a description of the genus. As a result, Hopkins & Clay (1952: 20) regarded *Acronirmus* as a *nomen nudum*. However, Eichler (1953) published the name *Acronirmus* again, but in an independent publication; thus, Eichler, 1953 became the author and publication date for *Acronirmus*. Eichler (1953) included a description of the genus and listed a single species under it, i.e. *Acronirmus buettikeri* Eichler, 1953, which he described including the designation of a holotype, thus making the name available. In a comparative section of his paper, Eichler (1953) also indicated that he considered *Acronirmus gracilis* (Burmeister, 1838) a member of this genus. However, only *Ac. buettikeri* was described and illustrated by Eichler (1953).

Carriker (1963) also correctly regarded "*Acronirmus* Kéler, 1939" as a *nomen nudum*, but failed to notice that Eichler's (1953) publication of *Acronirmus* is independent and described the new genus *Hirundiniella* for the lice that are now placed in *Acronirmus* Eichler, 1953.

Price *et al.* (2003) considered *Ac. buettikeri* to be the type species of *Acronirmus* by monotypy. Gustafsson & Bush (2017) agreed with this assessment, but erroneously stated that the type species of *Acronirmus* was *Ac. buettikeri* by original designation. Considering that Eichler (1953) only listed a single species explicitly, described and illustrated it by referring to examined specimens, we agree with Price *et al.* (2003) in considering *Acronirmus* to

be validly described by Eichler (1953). Eichler's (1953) inclusion of *Ac. gracilis* in the short comparative section, without mentioning characters of this species, does not, in our opinion, invalidate the designation of *Ac. buettikeri* as the type species by monotypy.

### Status of *Nitzschinirmus* Mey & Barker, 2014

Molecular data indicate that the type species of *Nitzschinirmus* Mey & Barker, 2014 is firmly nested within *Guimaraesiella* (Bush *et al.* 2015, 2016). Nevertheless, Mey (2017: 91) argues that despite this placement, there “gar nicht zur Debatte stehen kann” (= “can be no debate”) that *Nitzschinirmus* is a valid genus, and lists it as such in his Appendix III. We disagree with this statement.

The type species of *Nitzschinirmus* is *Nirmus menuraelyrae* Coinde, 1859. We agree with Mey & Barker (2014) that this is a morphologically very distinct species. However, apart from the peculiar abdominal chaetotaxy and the sexually dimorphic antennae, there are very few characters that actually separate *N. menuraelyrae* from other species of *Guimaraesiella*. We find the genetic placement of this species within Clade A-1 by Bush *et al.* (2015, 2016: 741; fig. 3a; specimen 129) consistent with other morphological characters. Statistical support for the placement of *N. menuraelyrae* in this clade is high (Bush *et al.* 2015, 2016). Whatever the correct generic name for this clade is, *N. menuraelyrae* belongs within it.

Prior to 2014, the clade of lice to which *N. menuraelyrae* belongs has been given four different names: *Guimaraesiella* Eichler, 1949, *Xobugirado* Eichler, 1949, *Allobrueelia* Eichler, 1951 [described as new a second time by Eichler (1952)], and *Allonirmus* Złotorzycka 1964. Gustafsson & Bush (2017: 220–221) considered *Xobugirado*, *Allobrueelia*, and *Allonirmus* to be indistinguishable from *Guimaraesiella*. Moreover, the type species of *Guimaraesiella* was included in the phylogeny of Bush *et al.* (2015, 2016: 741; fig. 3a; specimens 175 and 176), and placed in the same clade as *N. menuraelyrae*, with high support. In conclusion, the resurrection of *Nitzschinirmus* from synonymy under *Guimaraesiella* is unjustified. Furthermore, accepting *Nitzschinirmus* as a distinct genus would mean that *Guimaraesiella*, as characterised genetically by Bush *et al.* (2015, 2016) and morphologically by Gustafsson & Bush (2017), would need to be divided into dozens of small, monotypic genera to avoid paraphyly. Virtually all of these genera would be morphologically indistinguishable from each other, which would substantially hinder future taxonomic work.

### Assessment of the genera and species described by Mey (2017)

Mey (2017) described 22 new genera for species within the *Brueelia*-complex. In his Addendum, Mey (2017) synonymized nine of these genera (Mey 2017: 182). We agree with seven out his nine generic synonymies, as follows: *Australnirmus* Mey, 2017 as a synonym of *Saepocephalum* Gustafsson & Bush, 2017; *Couanirmus* Mey, 2017 as a synonym of *Couala* Gustafsson & Bush, 2017; *Estrildinirmus* Mey, 2017 as a synonym of *Mirandofures* Gustafsson & Bush, 2017; *Harpactiacus* Mey, 2017 as a synonym of *Harpactrox* Gustafsson & Bush, 2017; *Leiothrichinirmus* Mey, 2017 as a synonym of *Resartor* Gustafsson & Bush, 2017; *Manucodiacus* Mey, 2017 as a synonym of *Manucodicola* Gustafsson & Bush, 2017; and *Protonirmus* Mey, 2017 as a synonym of *Ceratocista* Gustafsson & Bush, 2017. However, we do not agree with his synonymy of the remaining two genera, as follows: Mey (2017: 182) placed *Pomatostomiacus* in synonymy under *Sychraella* Gustafsson & Bush, 2017, but here we regard it as a junior synonym of *Anarchonirmus* Gustafsson & Bush, 2017; and Mey (2017: 182) regarded *Timalinirmus* as a probable junior synonym of *Turdinirmoides* Gustafsson & Bush, 2017, but here we regard *Timalinirmus* as a valid genus in need of redescription.

Furthermore, we believe that several other genera described by Mey (2017) are also junior synonyms. Three genera (*Garrulaxeus*, *Koanirmus* and *Tesonirmus*) are synonymous with genera described by Gustafsson & Bush (2017), two genera (*Neosittiella* and *Plesionirmus*) are inseparable from *Brueelia* Kéler, 1936, and two genera (*Cal-laenirmus* and *Philemoniellus*) are inseparable from *Guimaraesiella* Eichler, 1949. The genus *Lycocoranirmus* Mey, 2017 is likely described from a straggler, and is synonymous with *Corvonirmus*.

We also consider three other genera (*Carpodaciella* Mey, 2017, *Cinclostomatiellum* Mey, 2017 and *Mohoaticus* Mey, 2017) as junior synonyms of previously described genera, but recognizing some of these taxa as subgenera



may be warranted. In our opinion, *Mohoaticus* is a subgenus of *Guimaraesiella* based on consistent morphological differences (Gustafsson & Bush, *in prep.*). However, we regard *Carpodaciella* and *Cinclostomatiellum* as junior synonyms of *Turdinirmoides* Gustafsson & Bush, 2017 and *Maculinirmus* Zlotorzycska, 1964, respectively, until more is known about the morphological variation within these taxa. We consider the remaining two genera (*Ptilononirmus* and *Melinirmus*) as valid but in need of redescription, qualifying *Ptilononirmus* as *genus inquirenda*.

Mey (2017) described 50 new species-level taxa, but in his Addendum (Mey 2017: 182) he synonymized four of them with species described by Gustafsson & Bush (2017). As Mey (2017: 182) also synonymized several genera, eight species and one subspecies are consequently moved from genera erected by Mey (2017) to previously described genera. The additional synonymies of genera mentioned above imply that another 24 species need to be moved to previously described genera. All these new combinations are clarified here. The remaining 13 species are retained in the genera where Mey (2017) placed them. However, we consider 16 of the species described by Mey (2017) as *species inquirenda*.

The taxonomic acts proposed here are summarized in Table 1. Mey (2017) stated that the type material is deposited in the Zentralmagasin Naturwissenschaftlicher Sammlungen Halle/Saal, but at the time of writing this manuscript, the institution has not yet received the material. Furthermore, our attempts to obtain the type material from E. Mey also failed. Consequently, we did not study any of the material described by Mey (2017), and the taxonomic acts proposed here are based on Mey's descriptions, illustrations and, in some cases, the examination of closely related species (as indicated below). Many of the unresolved issues raised in this paper could be easily solved if/when the type material becomes available for study.

### ***Callaenirmus* Mey, 2017**

*Callaenirmus* Mey, 2017: 92.

**Type species:** *Callaenirmus kokakophilus* Mey, 2017: 97, figs 1, 3, 7–10, pl. II: 1–2. [= *Guimaraesiella callaeincola* (Valim & Palma, 2015)]. By original designation.

**Remarks.** Mey's (2017: figs 7–9) illustrations of the male and female genitalia of *Callaenirmus kokakophilus*, as well as the original illustrations of the only other species he included in the genus (*Callaenirmus callaeincola* (Valim & Palma, 2015), now known as *Guimaraesiella callaeincola*) are indistinguishable, and both species belong in *Guimaraesiella* sensu stricto. Thus, *Callaenirmus* Mey, 2017 is a new junior synonym of *Guimaraesiella* Eichler, 1949.

Mey (2017) compared *Callaenirmus* with *Turdinirmus* Eichler, 1951 and *Allobrueelia* Eichler, 1951. *Allobrueelia* is also a synonym of *Guimaraesiella* (see Gustafsson & Bush 2017: 216), whereas *Turdinirmus* is more distantly related (Bush *et al.* 2015, 2016; Gustafsson & Bush 2017). Among the characters purported to separate *Callaenirmus* from *Allobrueelia*, all are variable within *Guimaraesiella* and thus cannot serve as genus-level characters. Specifically, differences in head shape and other derived characters are not useful for generic separation. For example, differences in the insertion of the *anterior ventral seta 1* (*avs1*) are driven by differences in head shape and width of the marginal carina, which are widely variable characters within many genera in the *Brueelia*-complex. Mey's (2017: fig. 73) illustration of *Philemoniellus timorensis* Mey, 2017 shows a species of *Guimaraesiella* (see below) in which the *avs1* is inserted as in the illustration of *Turdinirmus merulensis eichleri* Mey, 1982.

Mey (2017) provided more illustrations for *Callaenirmus kokakophilus* than for most of his other species, hence it is possible to examine this species in more detail than the others discussed below.

### ***Callaenirmus kokakophilus* Mey, 2017**

*Guimaraesiella callaeincola* (Valim & Palma, 2015: 490, figs 4, 5, 6D, 7C,D)

*Callaenirmus kokakophilus* Mey, 2017: 97, figs 1, 3, 7–10, pl. II: figs 1–2. **New synonymy.**

**Type host:** *Callaeas wilsoni* (Bonaparte, 1850)—North Island kokako.

**Type locality:** New Zealand.

**Remarks.** Our assessment of the characters used by Mey (2017) to separate *Callaenirmus kokakophilus* Mey, 2017 from *Guimaraesiella callaeincola* (Valim & Palma, 2015) indicated that these two species cannot be differentiated and, therefore, we concluded that they are synonyms. Most of the characters given by Mey (2017) to distinguish

these two species are variable among species of *Guimaraesiella*, variable within species, or incorrect. For example, the illustrations of Valim & Palma (2015: figs 4–5) show that *Gu. callaeincola* has an antennal socket, but Mey (2017: 98) states that *Gu. callaeincola*, unlike *C. kokakophilus*, lacks a clear antennal socket (“ausgeprägte Fühlerbucht”). This statement is difficult to explain or understand, as antennal sockets are present in all species of the *Brueelia*-complex.

Similarly, Mey’s (2017) statement that the dorsal preantennal suture is absent in *C. kokakophilus* is contradicted by his statement that the shape of the dorsal anterior plate (“dorsalen Clypealsignatur”) can be used to separate this species from *Gu. callaeincola*. The dorsal anterior plate is formed by the dorsal preantennal suture (Clay 1951: 180); if there is no suture, there can be no plate. These purported differences are not illustrated; however, the extent of the dorsal preantennal suture and the shape of the dorsal anterior plate vary considerably among specimens of the same species in *Guimaraesiella*, and therefore are not useful for species delimitation.

Our examination of the macroseta in the male abdominal segment XI of *Gu. callaeincola* indicated that it is exaggerated in the original illustration (Valim & Palma 2015: fig. 4A), and that it should be shortened by about one third. Mey’s (2017: 98) text description suggests that *C. kokakophilus* has 6–8 macrosetae on the male abdominal segment XI, but his illustration (Mey 2017: fig. 7) shows only four macrosetae and two microsetae. Either the text or the illustration is incorrect, as they are contradictory. Also, the photograph provided by Mey (2017: 185; plate II: fig. 1) is too small to see setae. No differences in chaetotaxy were found in material from four host species (see Valim & Palma 2015: 492) held in the Museum of New Zealand. Provisionally, we consider this character to be identical between the two nominal species.

Other characters purported to separate *C. kokakophilus* from *Gu. callaeincola* are similarly based on within-species variation rather than among-species variation. There may be differences in head shape and pigmentation patterns, but based on Mey’s illustrations and photographs it is unclear whether these are real or specimen preparation artifacts. We therefore consider *C. kokakophilus* Mey, 2017 a new junior synonym of *Guimaraesiella callaeincola* (Valim & Palma, 2015).

#### ***Ptilononirmus* Mey, 2017**

*Ptilononirmus* Mey, 2017: 98. Genus inquirenda

**Type species:** *Ptilononirmus australis* Mey, 2017: 100, figs 4, 13–18, pl. II: figs 3–4. By original designation.

**Remarks.** *Ptilononirmus* Mey, 2017 appears to be a valid genus but, considering that the illustrated male genitalia are partially distorted and that no complete illustrations of either sex are provided, the true status of *Ptilononirmus* must be considered uncertain. *Ptilononirmus* appears close to *Guimaraesiella* Eichler, 1949 and all louse material we have examined from the host family Ptilonorhynchidae belongs to *Guimaraesiella*. However, none of the *Guimaraesiella* species that we have examined from the Ptilonorhynchidae has male genitalia similar to those of *Ptilononirmus australis* Mey, 2017. A redescription of the type species of this genus, with complete illustrations from undistorted individuals is needed to establish its true status.

#### ***Ptilononirmus australis* Mey, 2017**

*Ptilononirmus australis* Mey, 2017: 100, figs 4, 13–18, pl. II: figs 3–4. Species inquirenda.

**Type host:** *Scenopoeetes dentiostri* (E.P. Ramsay, 1876)—tooth-billed bowerbird.

**Type locality:** Queensland, Australia.

**Remarks.** As discussed above, under the genus *Ptilononirmus*, *P. australis* needs to be redescribed to establish its correct specific status.

#### ***Olivinirmus* Złotorzycka, 1964**

*Olivinirmus* Złotorzycka, 1964: 246.

**Type species:** *Nirmus glandarii* Denny, 1842: 51. By original designation.

**Remarks.** Mey (2017) described six new species of *Olivinirmus* and did not illustrate any completely. We have changed the generic position of *Olivinirmus borneensis*, regard two species as *species inquirenda*, and accept the remaining three species described by Mey (2017) as valid. All of these species are in urgent need of redescription

with complete illustrations, so that all the species of *Olivinirmus* can be properly identified without examining type material.

#### ***Olivinirmus agadirensis* Mey, 2017**

*Olivinirmus agadirensis* Mey, 2017: 112, fig. 35, pl. IV: figs 3–4. *Species inquirenda*

**Type host:** *Pica pica mauritanica* Malherbe, 1845—Eurasian magpie.

**Type locality:** Agadir, Morocco.

**Remarks.** *Olivinirmus agadirensis* Mey, 2017 is a member of the *Ol. glandarii* species group (*sensu* Gustafsson & Bush 2017). At present, it is not possible to clearly distinguish *Ol. agadirensis* from *Ol. glandarii* (Denny, 1842), as all characters purporting to separate them are either in the pigmentation patterns or variable within species, with the exception of the shape of the mesosome. Considering that the mesosome of *Ol. glandarii* illustrated by Gustafsson & Bush (2017: fig. 331) is more similar to that of Mey's (2017: fig. 35b) for *Ol. agadirensis* than to Mey's (2017: fig. 35a) illustration of *Ol. glandarii*, it is uncertain whether this character can separate the two species.

#### ***Olivinirmus amamiensis* Mey, 2017**

*Olivinirmus amamiensis* Mey, 2017: 112, fig. 28, pl. IV: fig. 2.

**Type host:** *Garrulus lidhi* Bonaparte, 1850—Amami jay.

**Type locality:** Amami Oshima Island, Japan.

**Remarks.** *Olivinirmus amamiensis* Mey, 2017 is known from females only, and the description includes a single illustration of the lateral tergopleurites. Thus, it cannot be placed in any of the species groups defined by Gustafsson & Bush (2017). Mey (2017: 112) compares *Ol. amamiensis* with *Ol. Glandarii* and *Ol. perisoreus*, both of which belong to the *Ol. Glandarii* species group. Although the differences between *Ol. amamiensis* and *Ol. Glandarii*, based on Mey's (2017) descriptions, seem tenuous, we examined additional material from the same host species and agree that they are two different species. The material we have studied belongs in the *Ol. Glandarii* species group.

#### ***Olivinirmus borneensis* Mey, 2017**

*Olivinirmus borneensis* Mey, 2017: 106, figs 24, 31–32, pl. III: figs 2–3.

*Guimaraesiella borneensis* (Mey, 2017). **New combination.**

**Type host:** *Platysmurus leucopterus aterrimus* (Temminck, 1824)—Bornean black magpie.

**Type locality:** Trusan, Borneo.

**Remarks.** *Olivinirmus borneensis* Mey, 2017 has male genitalia that are unlike those of all other known species of *Olivinirmus*, but are typical of many species of *Guimaraesiella*. The illustration of the tergopleurites and the habitus photograph support the placement of this species in *Guimaraesiella*. However, the lack of illustrated details of the male genitalia (Mey 2017: fig. 32, not 22 as stated in the description on page 108) make this placement somewhat tentative. Mey's (2017: fig. 24) illustration of the lateral tergopleurites depicts an *accessory postspiracular seta* (*aps*) on segment V, which is standard in most species of *Guimaraesiella* (see Gustafsson & Bush 2017: table 10). This species needs to be thoroughly redescribed, so that its correct generic position can be established. We therefore tentatively place *Ol. borneensis* in *Guimaraesiella* **new combination**, making this taxon the first *Guimaraesiella* known to parasitize corvid hosts.

#### ***Olivinirmus cittaphilus* Mey, 2017**

*Olivinirmus cittaphilus* Mey, 2017: 110, figs 27, 34, pl. IV: fig. 1.

**Type host:** *Dendrocitta cinerascens* Sharpe, 1879—Bornean treepie.

**Type locality:** Kina Balu, North Bornea.

**Remarks.** *Olivinirmus cittaphilus* Mey, 2017 is a member of the *Ol. meinertzhageni* species group (*sensu* Gustafsson & Bush 2017). Mey (2017) compared his new species with *Ol. meinertzhageni*, and the characters given appear to separate these two species well.

### ***Olivinirmus crypsirini* Mey, 2017**

*Olivinirmus crypsirini* Mey, 2017: 108, figs 19, 25, 29, 33, pl. III: figs 4–5. *Species inquirenda*.

**Type host:** *Crypsirina temia* (Daudin, 1800)—racquet-tailed treepie.

**Type locality:** Cuc Phuong National Park, c. 100 km SSW Hanoi, Vietnam.

**Remarks.** *Olivinirmus crypsirini* Mey, 2017 is a member of the *Ol. meinertzhageni* species group (*sensu* Gustafsson & Bush 2017). Mey (2017) did not provide any comparison between his new species and *Ol. meinertzhageni* (Ansari, 1956a), and the only obvious difference between them that we can find is the shape of the proximal mesosome. The type material needs to be reexamined and redescribed to establish whether these two species can be separated. We consider *Ol. crypsirini* to be a *species inquirenda* until such a study has been made.

### ***Olivinirmus taivanensis* Mey, 2017**

*Olivinirmus taivanensis* Mey, 2017: 110, fig. 26, pl. III: fig. 6. *Species incertae sedis*.

**Type host:** *Urocissa caerulea* Gould, 1863—Taiwan blue magpie.

**Type locality:** Taiwan.

**Remarks.** *Olivinirmus taivanensis* Mey, 2017 is known from females only. As the only detailed illustration of this species is of the tergopleural incassations, it cannot presently be placed in any of the species groups erected by Gustafsson & Bush (2017). We studied additional *Olivinirmus* material from *Urocissa caerulea*, which we placed in the *Ol. glandarii* species group. However, we cannot establish whether these two sets of specimens are conspecific without a direct comparison.

### ***Corvonirmus* Eichler, 1944**

*Corvonirmus* Eichler, 1944: 80.

*Lycocoranirmus* Mey, 2017: 137. **New synonymy.**

**Type species:** *Nirmus uncinus* Burmeister, 1838: 430. By original designation.

**Remarks.** Mey (2017) placed 27 species in *Corvonirmus*, including all species placed in *Hecatrishula* by Gustafsson & Bush (2017), but these two genera can be separated by the characters listed by Gustafsson & Bush (2017). Among those 27 species of *Corvonirmus*, five were described by Mey (2017) as new, with four from Australia and one from China. They appear to be valid species and with the exception of *Co. orientalis* Mey, 2017 we have examined additional material of the Australian species, confirming our appraisal. However, the diagnoses, text descriptions and figures given by Mey (2017) are not, in themselves, sufficient to clearly separate the four species from Australian hosts.

Furthermore, we regard Mey's new genus *Lycocoranirmus* as congeneric with *Corvonirmus*, and presumably based on straggling lice. We discuss *Lycocoranirmus* in more detail below.

### ***Corvonirmus barkeri* Mey, 2017**

*Corvonirmus barkeri* Mey, 2017: 118, figs 38, 42, pl. V: figs 2–3.

**Type host:** *Corvus coronoides perplexus* Mathews, 1912—Australian raven.

**Type locality:** Chudalup State Forest, Western Australia, Australia.

**Remarks.** From our examination of specimens from the type host of *Co. barkeri*, we confirmed this species as a valid taxon. However, examination and redescription of the type material is necessary to verify this, because the original description is not sufficient.

### ***Corvonirmus hamatofasciatus* (Piaget, 1890)**

*Docophorus hamatofasciatus* Piaget, 1890: 225.

*Philopterus hamatofasciatus* Piaget, 1888 [sic]; Harrison 1916: 96.

*Brüelia hamatofasciata* (Piaget, 1890); Hopkins & Clay 1952: 56.

*Brueelia hamatofasciata* (Piaget, 1890); Ansari 1956a: 402.

**Type host:** *Penelopides manillae* (Boddaerts, 1783)—Luzon hornbill.



**Type locality:** None given in the original description.

**Remarks.** Mey (2017: 116) regards *Co. hamatofasciatus* as a *species inquirenda* within *Corvonirmus*, and questions whether Ansari (1956a) examined the same specimen as Piaget (1890) did for his original description. Piaget (1890) examined only one female specimen of *Co. hamatofasciatus*, which is now in the collection of the Museum of Natural History, London (Thompson 1938). That specimen, the holotype, examined by both Ansari (1956a) and Gustafsson & Bush (2017: 418, but listed as “Lectotype”) is a *Corvonirmus*, and can also be identified as such in the illustrations provided by Ansari (1956a). The differences between the illustrations of Piaget (1890) and Ansari (1956a) can be attributed to the fact that these authors were not detailed illustrators. In our opinion, *Co. hamatofasciatus* is not a *species inquirenda*.

#### ***Corvonirmus orientalis* Mey, 2017**

*Corvonirmus orientalis* Mey, 2017: 121, fig. 46–48, pl. VI: figs 2–3.

**Type host:** *Corvus corone orientalis* Eversmann, 1841—carrion crow.

**Type locality:** Chingan, China.

**Remarks.** We have not examined material from the type host of *Co. orientalis*, but Mey’s (2017) description is sufficiently illustrated to distinguish it from morphologically close species. The closest species to *Co. orientalis* is *Co. uncinus* but, as Mey (2017) indicates, these two species differ in the degree of tergopleurite reduction, in head shape, and in the mesosome, which seems much smaller in *Co. orientalis* than in *Co. uncinus*. Therefore, we regard *Co. orientalis* as a valid species.

#### ***Corvonirmus orruaticus* Mey, 2017**

*Corvonirmus orruaticus* Mey, 2017: 116, figs 30, 37, pl. IV: figs 5–6, pl. V: fig. 1.

**Type host:** *Corvus orru ceciliae* Mathews, 1912—Torresian crow.

**Type locality:** Marandoo, Western Australia, Australia.

**Remarks.** The female subgenital plates of *Co. orruaticus* Mey, 2017 and *Co. pleuropelios* Mey, 2017 (plate IV: fig. 6 and plate VI: fig. 1, respectively) seem to differ and, although tenuously separated from the other two new species of Australian *Corvonirmus* described by Mey (2017), we accept *Co. orruaticus* as a valid species. We studied additional specimens from the type host of *Co. orruaticus* and can confirm that it is a distinct species. However, a thorough redescription and more illustrations are needed to properly characterize this species.

#### ***Corvonirmus pleuropelios* Mey, 2017**

*Corvonirmus pleuropelios* Mey, 2017: 120, fig. 40, pl. V: fig. 6, pl. VI: fig. 1.

**Type host:** *Corvus mellori* Mathews, 1912—little raven.

**Type locality:** Toganmain, Groongal New South Wales, Australia.

**Remarks.** The female subgenital plates of *Co. pleuropelios* Mey, 2017 and *Co. orruaticus* Mey, 2017 (plate VI: fig. 1 and plate IV: fig. 6, respectively) seem to differ and, although tenuously separated from the other two new species of Australian *Corvonirmus* described by Mey (2017), we accept *Co. pleuropelios* as a valid species. We have examined additional specimens from the type host of *Co. pleuropelios* and can confirm that it is a distinct species. However, a thorough redescription and more illustrations are needed to properly characterize this species.

#### ***Corvonirmus wakuiacus* Mey, 2017**

*Corvonirmus wakuiacus* Mey, 2017: 120, figs 39, 43–44, pl. V: figs 4–5. *Species inquirenda*.

**Type host:** *Corvus bennetti* North, 1901—little crow.

**Type locality:** Yeelirrie, Western Australia, Australia.

**Remarks.** This species is separated from other congeners by a single character: the reduction of the distal female subgenital plate. However, as shown by Mey (2017: 119, fig. 44a–f), this is a highly variable character, which is not clearly illustrated for any of the other three Australian species described by Mey (2017). Furthermore, comparing the

photographs of *Co. pleuropelios* (Mey 2017: pl. VI: fig. 1) and that of *Co. wakuiacus* (Mey 2017: pl. V: fig. 5), it is impossible to ascertain whether the shape of the female subgenital plates of these species are significantly different. Mey (2017: 118) mentioned that one female *Co. orruaticus* has the subgenital plate reduced as in *Co. wakuiacus*, but this is not illustrated. Although we examined additional specimens from the type host, which appear to be conspecific with *Co. wakuiacus*, we consider *Co. wakuiacus* insufficiently diagnosed and regard it as *species inquirenda*.

### Genera and species of the *Brueelia*-complex from hosts of the genus *Coua* Schinz, 1821

Mey (2017: 123, 125, 127) described three new genera in the *Brueelia*-complex from hosts in the cuckoo-genus *Coua* and, in his Addendum (page 182), he regarded *Couanirmus* as an absolute synonym of *Couala* Gustafsson & Bush, 2017. Here, we consider that all three genera described by Mey from *Coua* hosts are junior synonyms of *Couala*.

The genus *Couala* is morphologically variable (Gustafsson & Bush 2017) and a case could be made for separating groups of species into other genera or subgenera. Thus, if proper descriptions and illustrations become available, *Couanirmus* and *Tesonirmus* could be resurrected on either level. However, the type species of *Koanirmus* is so similar to the type species of *Couala* that *Koanirmus* should become a junior synonym (see details below), even if *Couala* were split into smaller groups. At present, the division of this group into more than one genus would be premature.

#### *Couanirmus* Mey, 2017

*Couanirmus* Mey, 2017: 123.

**Type species:** *Nirmus angulatus* Piaget, 1880: 134. By original designation.

**Remarks.** *Couanirmus* is based on *Nirmus angulatus*. We consider this species a member of *Couala* (Gustafsson & Bush 2017: 311), and thus we agree with Mey (2017: 182) that *Couanirmus* is an absolute junior synonym of *Couala* Gustafsson & Bush, 2017.

#### *Koanirmus* Mey, 2017

*Koanirmus* Mey, 2017: 125.

**Type species:** *Koanirmus koaphilus* Mey, 2017: 127, fig. 53, pl. VI: fig. 6 [= *Couala koaphila* (Mey, 2017)]. By original designation.

**Remarks.** Mey's (2017: fig. 53, pl. VI: fig. 6) illustrations of *Koanirmus koaphilus* are a partial view of the postantennal head and a photograph of the female holotype, which are very similar to those of *Couala dodekopter* Gustafsson & Bush, 2017, the type species of *Couala*. Therefore, we regard *Koanirmus* Mey, 2017 as a junior synonym of *Couala* **new synonymy**.

#### *Koanirmus koaphilus* Mey, 2017

*Koanirmus koaphilus* Mey, 2017: 127, fig. 53, pl. VI: fig. 6.

*Couala koaphila* (Mey, 2017). **New combination.**

**Type host:** *Coua caerulea* (Linnaeus, 1766)—blue coua.

**Type locality:** Madagascar.

**Remarks.** We place the only species described in *Koanirmus* as a valid species of *Couala*. However, a proper re-description of the single female holotype of *Cl. koaphilus* or its comparison against *Cl. dodekopter*, is needed to establish whether or not these two species are separable.

#### *Tesonirmus* Mey, 2017

*Tesonirmus* Mey, 2017: 127.

**Type species:** *Tesonirmus teso* Mey, 2017: 128, fig. 54, pl. VII: fig. 1 [= *Couala teso* (Mey, 2017)]. By original designation.

**Remarks.** Mey's (2017) illustrations of *Tesonirmus teso* are a partial view of the postantennal head and a photograph of the female holotype, and both are very similar to Piaget's (1885) original drawing of *Nirmus goniocotes* Piaget, 1885. It is unclear how these two species could be separated, as no comparison between them is provided by Mey (2017). Having examined the syntypes of both *N. goniocotes* and *N. goniodes*, we considered these species synonymous—with *Nirmus goniodes* as the senior name—and both of them placed in the genus *Couala* (see Gustafsson & Bush 2017: 308). Therefore, given that we regard the type species of *Tesonirmus* as belonging to *Couala*, *Tesonirmus* becomes a junior synonym of *Couala*, **new synonymy**.

***Tesonirmus teso* Mey, 2017**

*Tesonirmus teso* Mey, 2017: 128, fig. 54, pl. VII: fig. 1.

*Couala teso* (Mey, 2017). **New Combination.**

**Type host:** *Coua serriana* Pucheran, 1845—red-breasted coua.

**Type locality:** Sianaka Forest, Madagascar.

**Remarks.** *Couala teso* may be a different species from *Couala goniodes*. However, a proper redescription of the single female holotype of *Cl. teso* or its comparison against *Cl. goniodes* is needed to establish whether or not these two species are separable. Mey (2017: 128) listed a single female of *Tesonirmos teso* as "(M. 5530)" but in the next paragraph he wrote "Holotypus ♂ (M. 5530)". Considering that the specimen in the photograph (Mey 2017: pl. VII: fig. 1) is clearly a female, and labelled as such, there can be no doubt that the mention of a "Holotypus ♂" is a *lapsus*.

***Harpactiacus* Mey, 2017**

*Harpactiacus* Mey, 2017: 130.

**Type species:** *Harpactiacus dickinsoni* Mey, 2017: 131, figs 55, 57–58, pl. VII: figs 2–3 [= *Harpactrox dickinsoni* (Mey, 2017)]. By original designation.

**Remarks.** Mey (2017: 182) regarded *Harpactiacus* Mey, 2017 as a "? synonym of *Harpactrox* Gustafsson & Bush, 2017". We agree and confirm that synonymy.

***Harpactiacus dickinsoni* Mey, 2017**

*Harpactiacus dickinsoni* Mey, 2017: 131, figs 55, 57–58, pl. VII: figs 2–3.

*Harpactrox dickinsoni* (Mey, 2017). **New combination, species inquirenda.**

**Type host:** *Harpactes diardii sumatranus* Blasius, 1896—Diard's trogon.

**Type locality:** Malacca, Malaysia.

**Remarks.** The lack of complete illustrations and the brief description of *H. dickinsoni* make it difficult to separate this species from *Harpactrox geminodus* Gustafsson & Bush, 2017. We tentatively accept *H. dickinsoni* as a valid species, but consider it a *species inquirenda* until it has been redescribed and fully illustrated, so that diagnostic characters that separate this species from *Ha. geminodus* can be identified.

***Harpactiacus mindanensis* Mey, 2017**

*Harpactrox loeiensis* Gustafsson & Bush, 2017: 155, figs 246–252.

*Harpactiacus mindanensis* Mey, 2017: 132, fig. 60, pl. VII: figs 5–6.

**Type host:** *Harpactes ardens ardens* (Temminck, 1826)—Philippine trogon.

**Type locality:** Zamboanga, Mindanao, The Philippines.

**Remarks.** We tentatively regard *Harpactiacus mindanensis* Mey, 2017 as a junior synonym of *Harpactrox loeiensis* Gustafsson & Bush, 2017, as indicated by Mey (2017: 182).

***Harpactiacus rotundicephalicus* Mey, 2017**

*Harpactiacus rotundicephalicus* Mey, 2017: 132, figs 56, 59, pl. VII: fig. 4.

*Harpactrox rotundicephalicus* (Mey, 2017). **New combination.**

**Type host:** *Apalharpactes reinwardtii* (Temminck, 1822)—Javan trogon.

**Type locality:** Tjibumboa Res. Soekaboemi [= Sukabumi?], Java

**Remarks.** We accept this species is as valid, transferring it to the genus *Harpactrox*.

#### ***Australnirmus* Mey, 2017**

*Australnirmus* Mey, 2017: 133, fig. 61.

**Type species:** *Australnirmus corcoraciphilus* Mey, 2017: 134, fig. 61, pl. VIII: figs 1–3 [= *Saepocephalum stephenfryi* Gustafsson & Bush, 2017]. By original designation.

**Remarks.** As stated by Mey (2017: 182), we agree in that *Australnirmus* Mey, 2017 is a junior synonym of *Saepocephalum* Gustafsson & Bush, 2017.

#### ***Australnirmus corcoraciphilus* Mey, 2017**

*Saepocephalum stephenfryi* Gustafsson & Bush, 2017: 151, Figs 238–245.

*Australnirmus corcoraciphilus* Mey, 2017: 134, fig. 61, pl. VIII: figs 1–3.

**Type host:** *Corcorax melanoramphos melanoramphos* (Vieillot, 1817)—white-winged chough.

**Type locality:** Bathurst, New South Wales, Australia.

**Remarks.** We agree with Mey (2017: 182) that *Australnirmus corcoraciphilus* Mey, 2017 is an absolute junior synonym of *Saepocephalum stephenfryi* Gustafsson & Bush, 2017.

#### ***Pomatostomiacus* Mey, 2017**

*Pomatostomiacus* Mey, 2017: 134.

**Type species:** *Pomatostomiacus johnstonei* Mey, 2017: 135, fig. 62, pl. VIII: figs 4–6 [= *Anarchonirmus johnstonei* (Mey, 2017)]. By original designation.

**Remarks.** Contrary to Mey (2017: 182), we do not regard *Pomatostomiacus* Mey, 2017 as a synonym of *Sychraella* Gustafsson & Bush, 2017. In our opinion, *Pomatostomiacus* is a junior synonym of *Anarchonirmus* Gustafsson & Bush, 2017 **new synonymy**, based on the following characters: (1) the male genitalia of *Pomatostomiacus johnstonei* (Mey 2017: fig. 62) are very similar to those of *Anarchonirmus albovittatus* Gustafsson & Bush, 2017—the type species of *Anarchonirmus*—in having elongated rugose nodi on each side of the mesosome, but these nodi are limited to the distal end of the mesosome in *Sychraella*; (2) the male scape of *P. johnstonei* is described as “unusually large”, which also agrees with *Anarchonirmus* rather than with *Sychraella*, although the scape is enlarged in males of both genera; (3) the sclerotization of the tergopleurites of *P. johnstonei* is almost identical to that of *A. albovittatus*, but not as in *Sychraella*; (4) the sternites of both *Anarchonirmus* and *Sychraella* have concave lateral margins, as in *Pomatostomiacus*, but only in *Anarchonirmus* is the antero-lateral corner of the sternites thickened as described for *P. johnstonei*; (5) the photos of *P. johnstonei* in Mey (2017, pl. 8, figs 4–5) show pigmentation patterns, general morphology and sclerotization of abdominal plates which agree with those of *Anarchonirmus*, not of *Sychraella*.

#### ***Pomatostomiacus johnstonei* Mey, 2017**

*Pomatostomiacus johnstonei* Mey, 2017: 135, fig. 62, pl. VIII: figs 4–6.

*Anarchonirmus johnstonei* (Mey, 2017) **new combination.**

**Type host:** *Pomatostomus superciliosus ashbyi* Mathews, 1911—white-browed babbler.

**Type locality:** Kojonup, Western Australia, Australia.

**Remarks.** We regard the only species described in *Pomatostomiacus* as a valid species of *Anarchonirmus*.

#### ***Cinclosomatiellum* Mey, 2017**

*Cinclosomatiellum* Mey, 2017: 136.

**Type species:** *Cinclosomatiellum novaehollandiae* Mey, 2017: 137, fig. 63, pl. IX: figs 1–2 [= *Maculinirmus novae-hollandiae* (Mey, 2017)]. By original designation.



**Remarks.** We have examined specimens from the type host species of *Cinclosomatiellum novaehollandiae*, which are indistinguishable from the photographs published by Mey (2017: pl. IX: figs 1–2). Part of our material was included in the phylogeny of Bush *et al.* (2015, 2016: 746; fig. 3f; specimens 19 and 20), where they were nested within the genus *Maculinirmus* Złotorzycka, 1964. Excluding the photographs, the only illustration of *C. novaehollandiae* is of the male genitalia, which are of the type usually found in other species of *Maculinirmus*. In our opinion, these two genera cannot be separated morphologically and, therefore, we consider *Cinclosomatiellum* a junior synonym of *Maculinirmus* **new synonymy**. However, when more species of this genus have been described and the patterns of variation among the species are better known, *Cinclosomatiellum* may become a valid phenotypically diagnosable subgenus within *Maculinirmus*.

***Cinclosomatiellum novaehollandiae* Mey, 2017**

*Maculinirmus* sp. Bush *et al.* 2016: fig. 3.

*Maculinirmus* sp. Gustafsson & Bush 2017: 127.

*Cinclosomatiellum novaehollandiae* Mey, 2017: 137, fig. 63, pl. IX: figs 1–2.

*Maculinirmus novaehollandiae* (Mey, 2017). **New combination**

**Type host:** *Cinclosoma punctatum punctatum* (Shaw, 1794)—Spotted quail-thrush.

**Type locality:** 4 miles NE Wallangarra, South Queensland, Australia.

**Remarks.** *Maculinirmus novaehollandiae* is easily distinguished from all other species of *Maculinirmus* by its dark pigmentation and other minor morphological characters.

***Lycocoranirmus* Mey, 2017**

*Lycocoranirmus* Mey, 2017: 137.

**Type species:** *Lycocoranirmus giloloensis* Mey, 2017: 138, figs 64–67, pl. IX: figs 3–4 (= *Corvonirmus giloloensis* (Mey, 2017)). By original designation.

**Remarks.** The lack of complete illustrations and the fact that both the genus and the species are based on a single female and a few nymphs makes it very difficult to know whether *Lycocoranirmus* Mey, 2017 is a valid taxon. We have not seen any louse similar to *Lycocoranirmus giloloensis* Mey, 2017 despite having examined several hundred louse specimens from nearly all species of birds-of-paradise, but we have not examined any specimens from *Lycocorax pyrrhopterus* (Bonaparte, 1850).

Nevertheless, the photographs of the holotype female and the male nymph (Mey 2017: pl. IX: figs 3–4) clearly show that they belong to the *Corvonirmus* group usually found on Australasian corvids. The only character that seems to differ between *Lycocoranirmus* and *Corvonirmus* is the shape of the female subgenital plate, which Mey (2017: 137, figs 66–67) describes as consisting of only an unmodified sternal plate VII in *Lycocoranirmus*. Mey's (2017) photograph shows that this area is partially obscured by gut content, making it difficult to establish whether the subgenital plate differs from that shown in Mey's (2017: 119) figures 44e–f, with the distal section often very narrow, but translucent in this particular specimen. In our experience, this subgenital plate shape is identical to that described for most species of Australasian *Corvonirmus*, and therefore we do not regard the shape of the subgenital plate of the holotype of *Lycocoranirmus* as diagnostic. We also argue that even if the shape of the female subgenital plate were different in *Lycocoranirmus*, it would not be sufficient to justify Mey's description of this taxon as a valid genus. Furthermore, we believe that the type series of *Lycocoranirmus giloloensis* are likely stragglers or contaminants from a corvid host species. Therefore, we regard *Lycocoranirmus* as a junior synonym of *Corvonirmus* **new synonymy**.

***Lycocoranirmus giloloensis* Mey, 2017**

*Lycocoranirmus giloloensis* Mey, 2017: 138, figs 64–67, pl. IX: figs 3–4.

*Corvonirmus giloloensis* (Mey, 2017). **New combination, species inquirenda.**

**Type host:** *Lycocorax pyrrhopterus pyrrhopterus* (Bonaparte, 1850)—paradise-crow.

**Type locality:** Halmahera, North Maluku, Indonesia.

**Remarks.** We consider *Corvonirmus giloloensis* a *species inquirenda* because the partial nature of the illustrations,

the lack of adult males, and the likelihood that the type specimens are stragglers or contaminants from a corvid host and therefore we cannot exclude the possibility that *Co. giloloensis* may be a junior synonym of an already named species of *Corvonirmus*.

### ***Manucodiacus* Mey, 2017**

*Manucodiacus* Mey, 2017: 138.

**Type species:** *Manucodiacus asymmetricus asymmetricus* Mey, 2017: 140, pl. IX: figs 5–6. [= *Manucodicola asymmetrica asymmetrica* (Mey, 2017)]. By original designation.

**Remarks.** We agree with Mey (2012: 182) that *Manucodiacus* Mey, 2017 is an absolute junior synonym of *Manucodicola* Gustafsson & Bush, 2017.

Despite the fact that Mey (2017: 140) examined several male specimens for his description of the type species of *Manucodiacus*, no illustration of the genitalia is provided, and only a simplistic description of the genitalia is provided in the text, indicating that this species is without endomer structures [= mesosome] visible between straight rod-like parameres, and the basal plate with right angles, longer than the parameres. This is in great contrast with the description of *Manucodicola* by Gustafsson & Bush (2017: 270), in which the mesosome is the only part of the male genitalia that could be described in detail, as the parameres were distorted.

Mey (2017: pl. IX: fig. 5) provides a photograph of the male holotype of *M. asymmetricus asymmetricus*. Although little detail can be seen in this photo, the mesosome and parameres appear completely missing, and the straight rod-like structures look like lateral thickenings of the basal apodeme. No structure corresponding to a right-angled basal plate can be seen in the photograph at all. Thus, we consider Mey's (2017: 139) description of the male genitalia for this genus to be erroneous, as the males he examined evidently lack most of their genitalic elements.

The absence of detailed illustrations prevents us from determining whether any of the three subspecies of *M. asymmetricus* described by Mey (2017) is synonymous with either of the two species of *Manucodicola* described by Gustafsson & Bush (2017).

### ***Manucodiacus asymmetricus asymmetricus* Mey, 2017**

*Manucodiacus asymmetricus asymmetricus* Mey, 2017: 140, pl. IX: figs 5–6.

*Manucodicola asymmetrica asymmetrica* (Mey, 2017). **New combination**, *species subspecies inquirenda*.

**Type host:** *Manucodia jobiensis* Salvadori, 1876—Jobi manucode.

**Type locality:** Haubtlager Malu, East Sepik, Papua New Guinea.

**Remarks.** As the shape of the tergopleurites is variable within this genus, it is not a reliable diagnostic character for separating species. Notably, both *Manucodiacus asymmetricus asymmetricus* and *Manucodicola acantharx* Gustafsson & Bush, 2017 have three sternal plates anterior to the subgenital plate in both sexes. Therefore, it is possible that *M. a. asymmetricus* is a junior synonym of *Mn. acantharx*. However, we have not examined the type material and therefore this putative synonymy cannot be confirmed and we must regard this taxon as a *species subspecies inquirenda*.

### ***Manucodiacus asymmetricus papuanus* Mey, 2017**

*Manucodiacus asymmetricus papuanus* Mey, 2017: 140, pl. X: figs 1–2.

*Manucodicola asymmetrica papuana* (Mey, 2017). **New combination**, *species subspecies inquirenda*.

**Type host:** *Manucodia chalybaeus* (Forster, 1871)—Crinkle-collared manucode.

**Type locality:** “Hinterland des Sattelberges bei Finschhafen”, Papua New Guinea.

**Remarks.** Considering that both *Manucodiacus asymmetricus papuanus* and *Manucodicola semiramisae* Gustafsson & Bush, 2017 have two sternal plates anterior to the subgenital plate, it is possible that *M. a. papuanus* is a junior synonym of *Mn. semiramisae*. However, the absence of other illustrations of *M. a. papuanus* makes it difficult to confirm such synonymy; therefore, we consider this taxon a *species subspecies inquirenda*.

***Manucodiacus asymmetricus phonygammicolus* Mey, 2017**

*Manucodiacus asymmetricus phonygammicolus* Mey, 2017: 141, pl. X: fig. 3.

*Manucodicola asymmetrica phonygammicola*. **New combination**, *species subspecies inquirenda*.

**Type host:** *Phonygammus keraudrenii purpurviollaceus* Meyer, 1885—trumpet manucode.

**Type locality:** Southern New Guinea.

**Remarks.** We agree with Mey (2017: 182) that *Manucodiacus asymmetricus phonygammicolus* may be a junior synonym of *Manucodicola semiramisae* Gustafsson & Bush, 2017. The number of sternal plates anterior to the subgenital plate is not given, but appears to be two in the photograph of the holotype (Mey 2017: pl. X: fig. 3), as in *Mn. semiramisae*. However, only a photograph of the single known headless female specimen of *M. a. phonygammicolus* is provided, and therefore we cannot be absolutely certain of the synonymy at present, and we prefer to regard this taxon as *species subspecies inquirenda*.

We strongly oppose describing new taxa from a single female specimen without head (Mey 2017: pl. X: fig. 3) because characters of the head and male genitalia are diagnostically the most important in this taxonomic complex.

***Melinirmus* Mey, 2017**

*Melinirmus* Mey, 2017: 141.

**Type species:** *Melinirmus christidisi* Mey, 2017: 142, fig. 69, pl. X: figs 4–6. By original designation.

**Remarks.** *Melinirmus* Mey, 2017 is a valid genus, which is widely distributed on Australian honeyeaters, as shown by our examination of louse material from several Australian hosts.

***Melinirmus christidisi* Mey, 2017**

*Melinirmus christidisi* Mey, 2017: 142, fig. 69, pl. X: figs 4–6.

**Type host:** *Phylidonyris novaehollandiae novaehollandiae* (Latham, 1790)—New Holland honeyeater.

**Type locality:** Little Desert National Park, Victoria, Australia.

**Remarks.** We recognise this species as valid, but a more detailed redescription is needed to identify it without examining type material.

***Melinirmus mallee* Mey, 2017**

*Melinirmus mallee* Mey, 2017: 143, pl. XI: fig. 1.

**Type host:** *Gavicalis virescens sonorus* (Gould, 1841)—singing honeyeater.

**Type locality:** Little Desert National Park, Victoria, Australia.

**Remarks.** Although this species is based on females only, we recognise it as valid, but a more detailed description is needed, especially of the male, to identify it without examining type material.

***Plesionirmus* Mey, 2017**

*Plesionirmus* Mey, 2017: 144.

**Type species:** *Plesionirmus schoddei* Mey, 2017: 145, fig. 70, pl. XI: figs 2–4. By original designation.

**Remarks.** The partial illustration of the male genitalia (Mey 2017: fig. 70) and the male and female photographs of *Plesionirmus* (Mey 2017: pl. XI: figs 2–3) clearly show that this genus is a junior synonym of *Brueelia* sensu stricto, **new synonymy**. However, Mey (2017: 144) made no attempt to separate these two genera in his description.

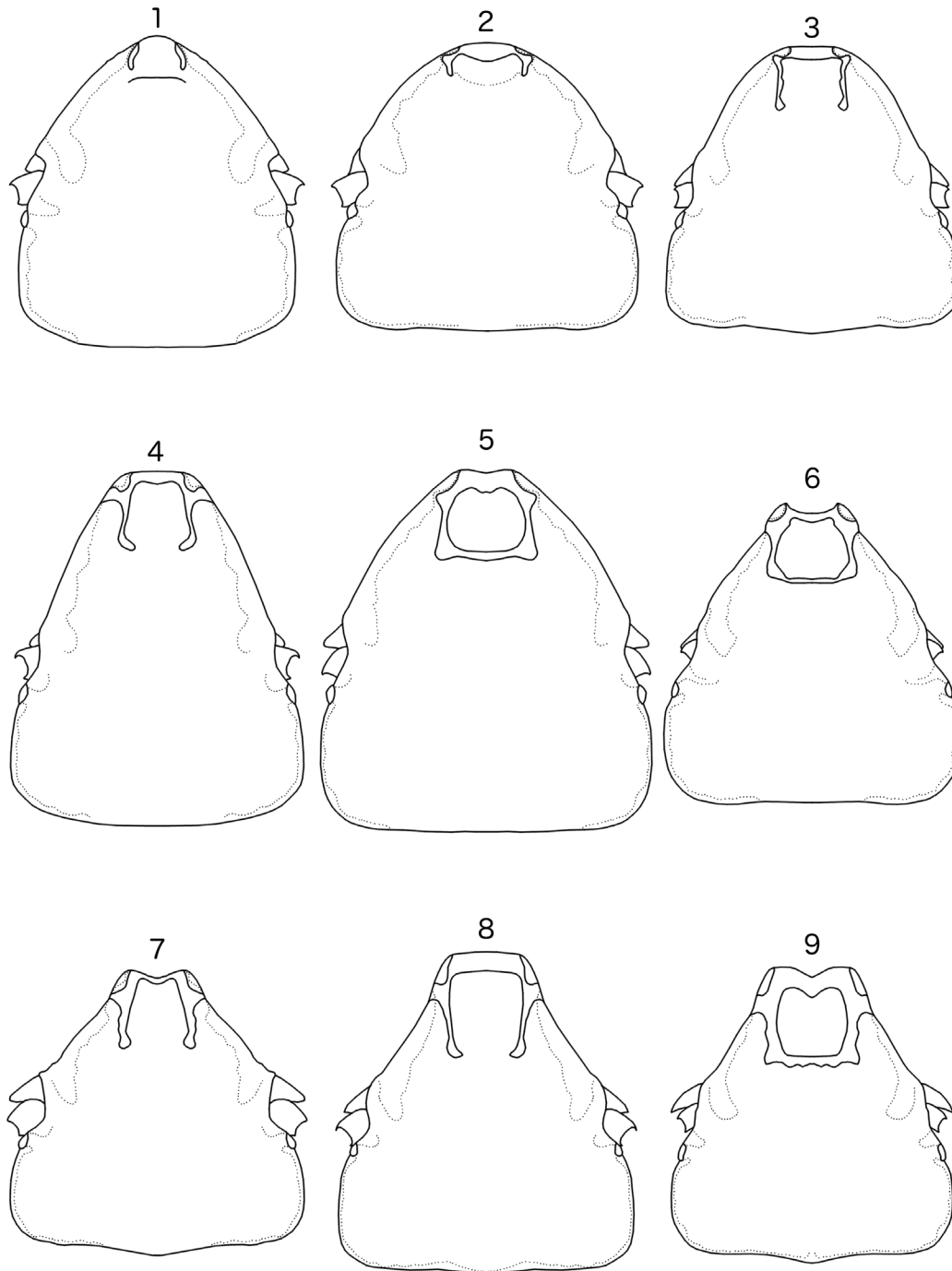
***Plesionirmus schoddei* Mey, 2017**

*Plesionirmus schoddei* Mey, 2017: 144, fig. 70, pl. XI: figs 2–4.

*Brueelia schoddei* (Mey, 2017). **New combination**, *species inquirenda*.

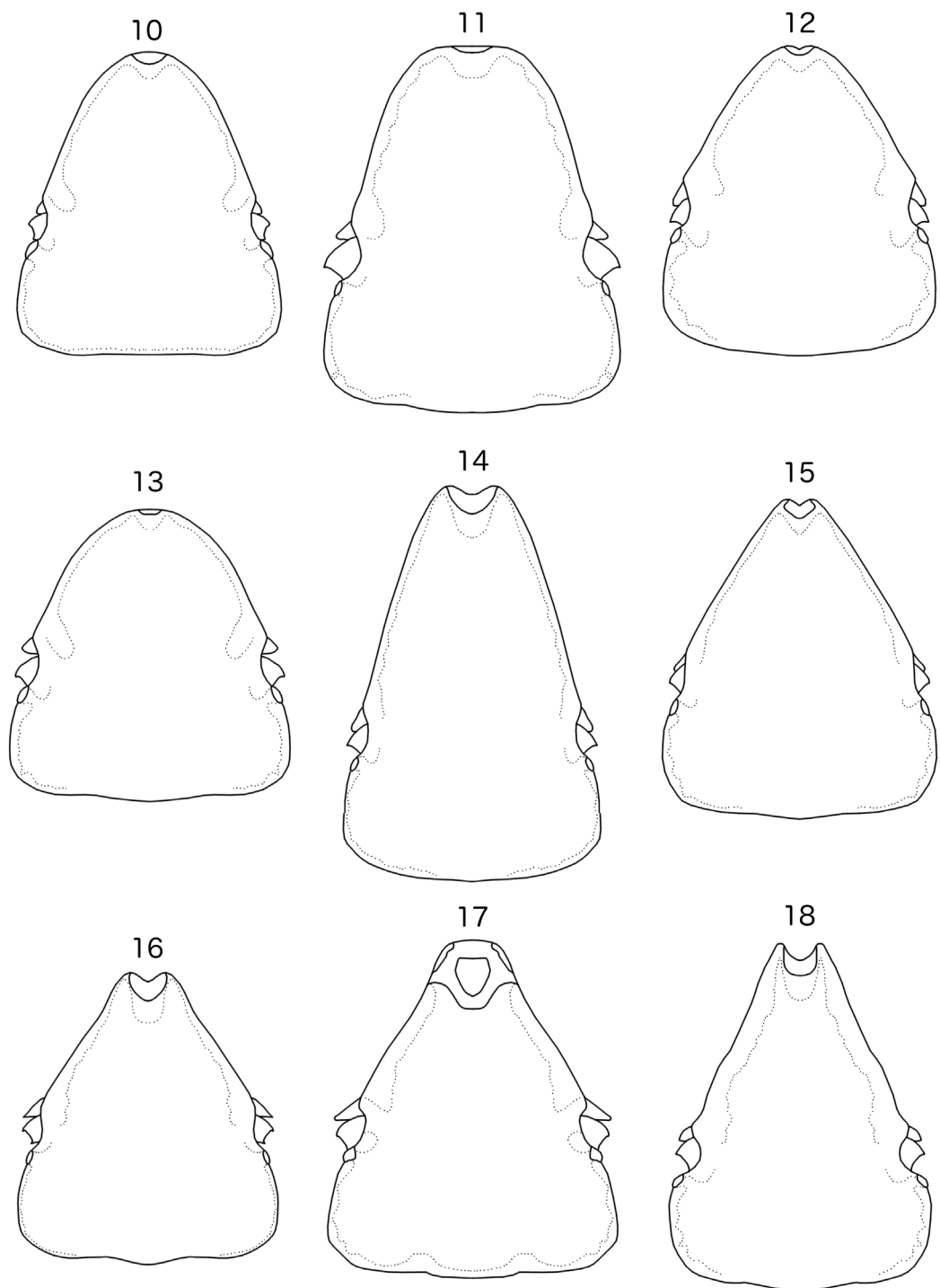
**Type host:** *Manorina melanocephala* (Latham, 1801)—Noisy miner.

**Type locality:** Dresden, Germany (captive host).



**FIGURES 1–9.** Dorsal outlines of heads and marginal carinae of selected species of *Guimaraesiella* Eichler, 1949 showing variation within the genus (setae and distal antennal segments not included, and drawings not to same scale). **1**, *Guimaraesiella cicchinoi* (Valim & Weckstein, 2011) ex *Trogon viridis* Linnaeus, 1766 (redrawn from Valim & Weckstein 2011). **2**, *Guimaraesiella* sp. ex *Coracina caledonica seiuncta* Mayr & Ripley, 1941. **3**, *Guimaraesiella* sp. ex *Telophorus nigrifrons sandgroundi* (Bangs, 1831). **4**, *Guimaraesiella sexmaculata* (Piaget, 1880) ex *Dicrurus remifer* (Temminck, 1832). **5**, *Guimaraesiella* sp. ex *Tchagra senegalus cucullatus* (Temminck, 1840). **6**, *Guimaraesiella saltatora* (Carriker, 1956) ex *Saltator atriceps* (Lesson, 1832) (redrawn from Cicchino 1983). **7**, *Guimaraesiella* sp. ex *Alcippe morrisonia* Swinhoe, 1863. **8**, *Guimaraesiella papuana* (Giebel, 1879) ex *Paradisaea minor* Shaw, 1809 (redrawn from Gustafsson & Bush 2017). **9**, *Guimaraesiella pandolura* Gustafsson & Bush, 2017 ex *Pericrocotus flammeus semiruber* Whistler & Kinnear, 1933 (redrawn from Gustafsson & Bush 2017).





**FIGURES 10–18.** Dorsal outlines of head and marginal carinae of selected species of *Brueelia* Kéler, 1936 showing variation within the genus (setae and distal antennal segments not included, and drawings not to same scale). **10**, *Brueelia brachythorax* (Giebel, 1874) ex *Bombycilla garrulus* (Linnaeus, 1758) (redrawn from Gustafsson & Bush, 2017). **11**, *Brueelia minor* Lunkaschu, 1970 ex *Lanius minor* Gmelin, 1788. **12**, *Brueelia* sp. ex *Ploceus bicolor amaurocephalus* (Cabanis, 1881). **13**, *Brueelia* sp. ex *Cyanocitta stelleri frontalis* (Ridgway, 1873). **14**, *Brueelia* sp. ex *Sylvia subcaerulea subcaerulea* (Vieillot, 1817). **15**, *Brueelia regulicida* Gustafsson *et al.*, 2018 ex *Regulus calendula grinellii* Palmer, 1897 (redrawn from Gustafsson *et al.* 2018a). **16**, *Brueelia* sp. ex *Megalurus cruralis* Vigors & Horsfield, 1827. **17**, *Brueelia phasmasoma* Gustafsson & Bush, 2017 ex *Coereba flaveola luteola* (Cabanis, 1850) (redrawn from Gustafsson & Bush 2017). **18**, *Brueelia oxyrhyncha* Gustafsson *et al.*, 2018, ex *Sitta nagaensis nagaensis* Godwin-Austin, 1874 (redrawn from Gustafsson *et al.* 2018a).

**Remarks.** The male genitalia of *Plesionirmus schoddei* are erroneously illustrated, with the mesosome artificially fused to the basal plate proximally. The shape of the proximal mesosome is often useful for determining relationships among species of *Brueelia*. The omission of this character makes it difficult to ascertain whether *P. schoddei* is a species of a hitherto unknown group within *Brueelia* from honeyeaters or a straggler/contaminant.

The photographs of *P. schoddei* (Mey 2017: pl. XI: figs 2–4) show the finger-like extension of the median margin of the ventral carinae (part of Mey’s “clypeopulvinus”). This character is usually found in species of *Brueelia* from bulbuls (family Pycnonotidae) (see Gustafsson & Bush 2017: 53). Considering that the type specimens of *P. schoddei* were collected from a captive bird, the type host species may be in error and it is likely that the natural host of *P. schoddei* is a bulbul. No *Brueelia* sensu stricto has been found in any documented samples from wild-caught honeyeaters (family Meliphagidae), and species of the *Brueelia* sensu stricto are generally very rare in Australia. However, Mey (2017: 145) mentions an additional female specimen of “*Plesionirmus* sp.” taken from *Manorina melanocephala* in South Australia. No bulbuls are native to Australia, but the red-whiskered bulbul, *Pycnonotus jocosus* (Linnaeus, 1758), has been introduced to South Australia (Paton 1985). Therefore, despite being from two separate collection events, we cannot rule out that all specimens of *Plesionirmus* examined by Mey are stragglers.

We consider this species a *species inquirenda* until a more thorough description of the type specimens is published.

### ***Philemoniellus* Mey, 2017**

*Philemoniellus* Mey, 2017: 145.

**Type species:** *Philemoniella timorensis* Mey, 2017: 146, figs 71, 73, pl. XI: figs 5–6 [= *Guimaraesiella timorensis* (Mey, 2017)]. By original designation.

**Remarks.** The three species of *Philemoniellus* described by Mey (2017) are all very similar to those from related hosts included in the phylogeny of Bush *et al.* (2015, 2016: 741; fig. 3a; clade containing specimens 127 and 169), which formed a sister group to the type species of *Guimaraesiella*. Furthermore, we have found no significant morphological differences between *Guimaraesiella* and *Philemoniellus*, and species of the genus *Guimaraesiella* are very common on honeyeaters (unpublished data).

Mey (2017: 146) made no attempt to differentiate *Philemoniellus* from *Guimaraesiella*, he only compared it with *Melinirmus* and *Plesionirmus* [= *Brueelia* sensu stricto]. As shown by Gustafsson & Bush (2017: 342, Appendix I), several genera of the *Brueelia*-complex have wide host distributions, with some genera and species occurring on hosts from different families. The exact host range of *Guimaraesiella* is not known, but we have examined *Guimaraesiella* species from virtually all host families that occur in the Australasian and Indomalayan realms, as well as many host families that occur beyond these regions. It is therefore not sufficient to compare a potential new genus with genera from the same host family only. Therefore, the discovery of lice belonging to the *Brueelia*-complex from a previously unsampled host family, or lice that differs from all other known species from the same host family, must not be taken as an indication that the louse species is a new genus.

In our opinion, *Philemoniellus* Mey, 2017 is a junior synonym of *Guimaraesiella* Eichler, 1949 **new synonymy**. This genus-level group has been given seven separate names: *Guimaraesiella* Eichler, 1949, *Xobugirado*, Eichler, 1949, *Allobrueelia* Eichler, 1951, *Allonirmus* Złotorzycka, 1964, *Nitzschinirmus* Mey & Barker, 2014, *Callaenirmus* Mey, 2017 and *Philemoniellus* Mey, 2017. We hope that the diagnoses, descriptions, delimitations and cautionary notes given here and in the revision by Gustafsson & Bush (2017: 215–221, 227, figs 361–369) will prevent the erection of any further unnecessary junior synonyms of *Guimaraesiella*. Admittedly, this genus contains many species that are considerably diverse in head shape, structure of the preantennal area and pigmentation patterns, but these characters are variable, even between closely related species, showing a great degree of convergence (Figs 1–9).

### ***Philemoniellus pentlandiensis* Mey, 2017**

*Philemoniellus pentlandiensis* Mey, 2017: 147, fig. 72, pl. XII: figs 1–2.

*Guimaraesiella pentlandiensis* (Mey, 2017). **New combination, species inquirenda.**

**Type host:** *Philemon corniculatus corniculatus* (Latham, 1790)—Noisy friarbird.

**Type locality:** Pentland, Queensland, Australia.

**Remarks.** Mey (2017: 147) does not give any non-genitalic characters to separate *P. pentlandiensis* from *P. timorensis*. As the male genitalia of *P. timorensis* are distorted and partially described, there are no characters that could differentiate these two species. We have examined specimens of *Guimaraesiella* from different species of *Philemon* spp., which are extremely similar and with male genitalia like those depicted for *Philemoniellus pentlandiensis* (Mey 2017; fig. 72). In our opinion, *P. pentlandiensis* is likely a junior synonym of *P. timorensis*. However, until a proper redescription of *P. pentlandiensis* becomes available, we regard it as a *species inquirenda*.

***Philemoniellus samoensis* Mey, 2017**

*Philemoniellus samoensis* Mey, 2017: 148, pl. XII: fig. 3.

*Guimaraesiella samoensis* (Mey, 2017). **New combination**, *species inquirenda*.

**Type host:** *Gymnomyza samoensis* (Hombron & Jacquinot, 1841)—mao.

**Type locality:** Samoa.

**Remarks.** The small sample and lack of males, plus an unusual and potentially artifactual chaetotaxy described by Mey (2017: 148) do not allow a proper identification of this species. More specimens, especially males, are needed for a detailed redescription of this taxon. Therefore, this species must remain as *species inquirenda*.

***Philemoniellus timorensis* Mey, 2017**

*Philemoniellus timorensis* Mey, 2017: 146, figs 71, 73, pl. XI: figs 5–6.

*Guimaraesiella timorensis* (Mey, 2017). **New combination**.

**Type host:** *Philemon buceroides buceroides* (Swainson, 1837)—helmeted friarbird.

**Type locality:** “Timorlaut”, Timor.

**Remarks.** The male genitalia of this species are partially illustrated (Mey 2017: fig. 71), lacking parameres and with a mesosome different from anything we have studied in the *Brueelia*-complex. The male photograph of *P. timorensis* (Mey 2017: pl. XI: fig. 5) shows that the mesosome is folded anteriorly. We have seen male genitalia folded in a similar manner in many specimens of *Guimaraesiella* and, in our opinion, we believe that the genitalia of the type species of *Philemoniellus* is erroneously illustrated. The only other illustration given by Mey (2017: fig. 73) is of the dorsal side of the preantennal head, which shows a typical *Guimaraesiella*. Although we recognise *P. timorensis* as a valid species, we have no doubt that its correct generic placement is in *Guimaraesiella*.

***Neosittiella* Mey, 2017**

*Neosittiella* Mey, 2017: 149.

**Type species** *Neosittiella longiabdominalis* Mey, 2017: 151, fig. 76, pl. XII: figs 4–5. [= *Brueelia longiabdominalis* (Mey, 2017)]. By original designation.

**Remarks.** Mey (2017: 149) considered *Neosittiella* close to *Brueelia*, distinguishing them by four characters, but in our opinion none of these characters separates these genera.

Mey (2017: 149) describes the anterior third of the preantennal area as rounded in *Brueelia*, but pointed in *Neosittiella*. This character is not illustrated for *Neosittiella*, other than in the photographs (Mey 2017: pl. XII: figs 4–5), which show a typical *Brueelia* head shape, especially among species from Old World warblers, sparrows and finches. *Brueelia* species vary greatly in head shape, as shown in Figs 10–18. Therefore, differences in head shape do not separate *Neosittiella* from *Brueelia*.

Mey (2017: 149) wrote that the “Clypeopulvinus” does not exist in *Brueelia*, but is present in *Neosittiella*. This character is not clearly defined in this section and we have not been able to find this term in the literature. In the description of *Plesionirmus* [= *Brueelia*] (Mey, 2017: 144), the clypeopulvinus is described as (translated from German) “a pair of skin-like flaps between the Ocularis (*vsms* 2) and frons”, but this character is not illustrated for any species and its meaning is unclear. Furthermore, no paired structures can be seen in either of the photographs of *N. longiabdominalis* (Mey 2017: pl. XII: figs 4–5). Both *Melinirmus* and *Plesionirmus* are described as having “skin-like flaps”, and in both these genera there are thumb-like projections into the clypeo-labral suture from the ventral carinae. These projections are normally associated with the pulvinus, and can also be found within *Brueelia* (e.g. *Br. pseudognatha* Gustafsson & Bush, 2017, fig. 65).

Mey (2017: 149) wrote that the abdominal segments of *Neosittiella* are “unusually long”, but the photographs (Mey 2017: pl. XII: figs 4–5) show the abdominal segments that are typical for species of *Brueelia* from buntings, sparrows, and warblers. The shape of the abdomen varies markedly in *Brueelia*, and may be in part associated with the size of the inter-barb space of the host’s feathers.

The abdominal segments IV–VII of *Neosittiella* species have only one mesoseta on each side, whereas according to Mey (2017), there are always two mesosetae on each side in *Brueelia* species. However, the type species of *Brueelia*, *Br. brachythorax* Kéler, 1936, does not have two mesosetae on each side of abdominal segments IV–VII, as can be seen in the illustrations of this species in Gustafsson & Bush (2017: figs 42–43). Apart from sternal setae, all sets of setae are variable among *Brueelia* species, and details of abdominal chaetotaxy often give valuable clues to the relationships of species within this genus. Some variations in abdominal chaetotaxy were given in table 3 of Gustafsson & Bush (2017: 37), but males often differ in some features, even between closely related species.

The male genitalia as illustrated by Mey (2017: fig. 76) are typical for *Brueelia*, and there is not a single character in the photographs showing that *Neosittiella* is anything but a junior synonym of *Brueelia* **new synonymy**.

### ***Neosittiella longiabdominalis* Mey, 2017**

*Neosittiella longiabdominalis* Mey, 2017: 151, fig. 76, pl. XII: figs 4–5.

*Brueelia longiabdominalis* (Mey, 2017). **New combination.**

**Type host:** *Daphoenositta chrysoptera pileata* (Gould, 1838)—Varied sittella.

**Type locality:** Bang Bang Waterhole, Flinders River, North Queensland, Australia.

**Other hosts.** *Daphoenositta chrysoptera leucoptera* (Gould, 1840) and *Daphoenositta chrysoptera* (Latham, 1802) ssp. (Mey 2017: 151).

**Remarks.** Eichler (1949) described *Guimaraesiella longiabdominalis*, a species which was temporarily transferred to *Brueelia* by Hopkins & Clay (1952) when they synonymised *Guimaraesiella* under *Brueelia*. However, Gustafsson & Bush (2017: 224) moved *Br. longiabdominalis* back to *Guimaraesiella*, placing it as a junior synonym of *Guimaraesiella papuana*. Therefore, following Article 59.2 of the Code (1999), no replacement name is needed for *Br. longiabdominalis* (Mey, 2017), but the combination “*Brueelia longiabdominalis*” now refers to two different taxa in the literature: one to a species from a New Guinean bird-of-paradise (= *Guimaraesiella longiabdominalis*) and another to a louse from an Australia sittella (= *Brueelia longiabdominalis*). Also, it should be noted that the genus *Brueelia* sensu stricto is exceedingly rare in Australia, with some species introduced with European hosts [e.g. *Brueelia nebulosa* (Burmeister, 1838), see Green & Palma 1991]. Considering that *Daphoenositta chrysoptera* and all other species of the family Neosittidae are endemic to Australasia, and that the material examined by Mey (2017: 151) includes many specimens from five different collecting events, *Brueelia longiabdominalis* may be the result of a successful host-switch from an unknown European host onto *Daphoenositta chrysoptera*.

### ***Estrildinirmus* Mey, 2017**

*Estrildinirmus* Mey, 2017: 151.

**Type species:** *Estrildinirmus papuasicus* Mey, 2017: 153, figs 77, 79, pl. XII: fig. 6, pl. XIII: fig. 1 [= *Mirandofures kamena* Gustafsson & Bush, 2017: 68]. By original designation.

**Remarks.** We agree with Mey (2017: 182) in regarding *Estrildinirmus* Mey, 2017 as a junior synonym of *Mirandofures* Gustafsson & Bush, 2017.

Mey (2017: 152) correctly excluded *Brueelia munia* Ansari, 1955a from *Estrildinirmus*. In the revision by Gustafsson & Bush (2017), this species was erroneously included in *Mirandofures*. Upon re-examination of the original description, we agree with Mey’s placement of *Br. munia* in *Brueelia* sensu stricto. Whether or not the *Br. munia* specimens examined by Gustafsson & Bush (2017) are stragglers on the type host, as Mey (2017) suggests, cannot be confirmed.

### ***Estrildinirmus australis* Mey, 2017**

*Estrildinirmus australis* Mey, 2017: 154, pl. XIII: figs 3–4.

*Mirandofures australis* (Mey, 2017). **New combination, species inquirenda.**

**Type host:** *Stagonopleura bella bella* (Latham, 1801)—beautiful firetail.



**Type locality:** Gippsland, Victoria, Australia.

**Remarks.** The brief text description and the photographs of the male and female given by Mey (2017) are not sufficient to identify *Estrildinirmus australis* with certainty. Until a proper redescription becomes available, we regard this taxon as *species inquirenda*.

***Estrildinirmus papuasicus* Mey, 2017**

*Mirandofures kamena* Gustafsson & Bush, 2017: 68, Figs 90–97.

*Estrildinirmus papuasicus* Mey, 2017: 153, figs 77, 79, pl. XII: fig. 6, pl. XIII: fig. 1.

**Type host:** *Erythrura trichroa sigillifer* (De Vis, 1897)—blue-faced parrotfinch.

**Type locality:** Rongo, Eastern Highlands, Papua New Guinea.

**Remarks.** We agree with Mey (2017: 182) in that *Estrildinirmus papuasicus* Mey, 2017 is a junior synonym of *Mirandofures kamena* Gustafsson & Bush, 2017.

***Estrildinirmus rongoensis* Mey, 2017**

*Estrildinirmus rongoensis* Mey, 2017: 154, fig. 78, pl. XIII: fig. 2.

*Mirandofures rongoensis* (Mey, 2017). **New combination.**

**Type host:** *Lonchura spectabilis wahgiensis* Mayr & Gilliard, 1952—hooded manakin.

**Type locality:** Rongo, Eastern Highlands, Papua New Guinea.

**Remarks.** The illustration of the male of genitalia (Mey 2017: fig. 78) and the photograph of the holotype male show that this is a valid species.

***Protonirmus* Mey, 2017**

*Protonirmus* Mey, 2017: 158.

**Type species:** *Brueelia antennata* Ansari, 1956: 139 [= *Ceratocista antennata* (Ansari, 1956: 139)]. By original designation.

**Remarks.** We agree with Mey (2017: 182) that *Protonirmus* is a junior synonym of *Ceratocista* Gustafsson & Bush, 2017. However, we disagree with Mey (2017: 160) in placing the species *Brueelia effronte* Ansari, 1956b in *Protonirmus* as, in our opinion, this species belongs in *Resartor* Gustafsson & Bush, 2017.

Mey (2017: 158) stated that the species of *Protonirmus* have asymmetrical preantennal areas, but the specimens we have examined (including the holotype of *Cc. antennata*) do not have asymmetrical preantennal areas. However, virtually all species of the *Brueelia*-complex in which the dorsal preantennal suture does not reach the *ads*, a large enough series of specimens will include at least some individuals with variation in the extent of this suture on either side of the head. The shape of the dorsal anterior plate is also usually slightly asymmetrical, even in species that have a more extensive suture reaching the *ads*. However, these individual differences have no taxonomic significance. The asymmetry mentioned by Mey (2017: 158) cannot be seen in the photographs of his specimens of *Cc. antennata* (see Mey 2017: pl. XIII: figs 5–6) and it is not illustrated elsewhere. Therefore, we cannot confirm whether Mey's specimens are substantially different from those we have examined.

***Garrulaxeus* Mey, 2017**

*Garrulaxeus* Mey, 2017: 160.

**Type species:** *Garrulaxeus babaxiphilus* Mey, 2017: 162, figs 82–83, pl. XIV: figs 2–3 [= *Priceiella* (*Camurnirmus*) *babaxiphilus* (Mey, 2017)]. By original designation.

**Remarks.** We regard *Garrulaxeus* Mey, 2017 as a junior synonym of *Priceiella* (*Camurnirmus*) Gustafsson & Bush, 2017 **new synonymy**, because the type species of *Garrulaxeus* belongs in the subgenus *Camurnirmus* Gustafsson & Bush, 2017 (see below). However, not all the species described and/or included by Mey (2017) in *Garrulaxeus* belong in *Priceiella* Gustafsson & Bush, 2017, as one of them belongs in *Brueelia*. Furthermore, Mey's (2017) minimal illustrations prevent the placement of some of his new species into any subgenus of *Priceiella*.

Mey (2017: 161) included *Brueelia avinus* Ansari, 1956b in *Garrulaxeus*, but expressed some doubt whether this inclusion was correct. As discussed by Gustafsson & Bush (2017: 219), *Brueelia avinus* belongs to a subgenus of *Guimaraesiella*, which was described as *Cicchinella* by Gustafsson *et al.* (2019) and includes species found only on babblers.

#### ***Garrulaxeus babaxiphilus* Mey, 2017**

*Garrulaxeus babaxiphilus* Mey, 2017: 162, figs 82–83, pl. XIV: figs 2–3.

*Priceiella* (*Camurnirmus*) *babaxiphila* (Mey, 2017). **New combination.**

**Type host:** *Ianthocincla waddelli jomo* (Vaurie, 1955)—giant babax.

**Type locality:** Zetang, Tibet, China.

**Remarks.** Although we did not study any material of this species, we transfer *Garrulaxeus babaxiphilus* to *Priceiella* (*Camurnirmus*) Gustafsson & Bush, 2017 based on the shape of the male genitalia illustrated by Mey (2017: fig. 83). However, we believe that this species needs a redescription to be clearly identified without examining type material.

#### ***Garrulaxeus ecki* Mey, 2017**

*Garrulaxeus ecki* Mey, 2017: 164, fig. 87, pl. XV: figs 5–6.

*Priceiella* (*Camurnirmus*) *ecki* (Mey, 2017). **New combination**, *species inquirenda*

**Type host:** *Ianthocincla treacheri treacheri* (Sharpe, 1879)—chestnut-hooded laughingthrush.

**Type locality:** Mount Kina Balu, NW Borneo.

**Remarks.** We transfer *Garrulaxeus ecki* to *Priceiella* (*Camurnirmus*) based on the shape of the male genitalia illustrated by Mey (2017: fig. 87). However, the text description and illustrations of *P. ecki* do not give sufficient details to establish whether this species is separable from either *Priceiella* (*Camurnirmus*) *paulbrowni* Gustafsson & Bush, 2017 or *Pr.* (*Camurnirmus*) *hwameicola* Gustafsson & Bush, 2017. Therefore, we regard *Garrulaxeus ecki* as *species inquirenda*.

#### ***Garrulaxeus formosus* Mey, 2017**

*Garrulaxeus formosus* Mey, 2017: 163, fig. 86, pl. XV: figs 3–4.

*Priceiella* (*Thescelovora*) *formosa* (Mey, 2017). **New combination.**

**Type host:** *Ianthocincla poecilorhyncha* (Gould, 1863)—rusty laughingthrush.

**Type locality:** Taiwan.

**Remarks.** We transfer *Garrulaxeus formosus* to *Priceiella* (*Thescelovora*) based on the shape of the male genitalia illustrated by Mey (2017: fig. 86). The length of the parameres would separate this species from all species of *Thescelovora* previously known or described by Mey (2017). However, as most other morphological details are unknown, *Garrulaxeus formosus* is in need of a proper redescription.

#### ***Garrulaxeus parvus* Mey, 2017**

*Garrulaxeus parvus* Mey, 2017: 164, fig. 88, pl. XVI: fig. 1.

*Brueelia parva* (Mey, 2017). **New combination.**

**Type host:** *Turdoides gularis* (Blyth, 1855)—white-throated babbler.

**Type locality:** Thityapante, 50 km S of Magwe, Myanmar.

**Remarks.** Both illustrations of this species given by Mey (2017) show severely distorted male genitalia; this fact, together with a very brief text description and diagnosis, makes it difficult to place *G. parvus* in any genus. However, the photograph of the male holotype shows that this species would belong in a group with *Brueelia pengya* (Ansari, 1947), within *Brueelia* *sensu stricto*; hence we tentatively place it in that group. This group is also known by the name *Painjunirmus* Ansari, 1947, and Gustafsson & Bush (2017: 37) regarded it as “atypical” considering that the morphological differences between *Painjunirmus* and *Brueelia* *sensu stricto* may be enough to warrant the recognition of *Painjunirmus* as a subgenus. In an upcoming publication, Gustafsson & Bush (*in prep.*) analyse this group in more detail including the comments made by Mey (2017: 155–156).

### ***Garrulaxeus sichuanensis* Mey, 2017**

*Garrulaxeus sichuanensis* Mey, 2017: 163, fig. 85, pl. XV: figs 1–2.

*Priceiella* (*Camurnirmus*) *sichuanensis* (Mey, 2017). **New combination.**

**Type host:** *Ianthocincla berthemyi* (Oustalet, 1876)—buffy laughingthrush.

**Type locality:** Kuantun, Fukien, China.

**Remarks.** We tentatively include *Garrulaxeus sichuanensis* Mey, 2017 in *Priceiella* (*Camurnirmus*), due to the similarity between the male genitalia of this species (Mey 2017: fig. 85) and those of *Pr.* (*Camurnirmus*) *rhinocichlae* (Eichler, 1957: figs 88–89), despite the fact that only part of the mesosome of *G. sichuanensis* is illustrated. The shape of the parameres also suggests that *G. sichuanensis* should be included in *Camurnirmus*, and close to *Pr.* (*Camurnirmus*) *rhinocichlae*. However, *G. sichuanensis* needs to be thoroughly redescribed and illustrated to confirm our subgeneric placement.

### ***Garrulaxeus sikkimensis* Mey, 2017**

*Garrulaxeus sikkimensis* Mey, 2017: 165, pl. XVI: fig. 2.

*Priceiella sikkimensis* (Mey, 2017). **New combination, incertae sedis.**

**Type host:** *Pomatorhinus superciliaris superciliaris* (Blyth, 1842)—slender-billed scimitar-babbler.

**Type locality:** Dib La, Trashiyangsi Valley, East Bhutan.

**Remarks.** The only illustration of *Garrulaxeus sikkimensis* Mey, 2017 is a photograph of the female holotype, which does not give enough details to place this species in either *Priceiella* or *Guimaraesiella*. The shapes of the subgenital plate and the tergopleurites suggest that *G. sikkimensis* should be placed in *Priceiella*, and the head shape would place *G. sikkimensis* close to the other species of *Priceiella* on scimitar-babblers, such as *Pr.* (*Thescelovora*) *austini* Gustafsson *et al.*, 2018b, *Pr.* (*Thescelovora*) *chanthaburiana* Gustafsson *et al.*, 2018b and *Pr.* (*Thescelovora*) *macrocephala* Gustafsson *et al.*, 2018b. However, *G. sikkimensis*, in particular the unknown male, needs a thorough redescription before its relationships can be confirmed. Therefore, we regard it as *incertae sedis* within *Priceiella*.

### ***Garrulaxeus taivanus* Mey, 2017**

*Garrulaxeus taivanus* Mey, 2017: 165, pl. XVI: fig. 3.

*Priceiella taivana* (Mey, 2017). **New combination, incertae sedis**

**Type host:** *Megapomatorhinus erythrocnemis* (Gould, 1863)—black-necklaced scimitar-babbler.

**Type locality:** Kodensho, Central Taiwan.

**Remarks.** The only illustration of *Garrulaxeus taivanus* Mey, 2017 is a photograph of the female holotype, which does not give enough details to place this species in either *Priceiella* or *Guimaraesiella*. The shapes of the subgenital plate and of the tergopleurites both suggest that *G. taivanus* is close to *G. sikkimensis* (see remarks under this species, above) and other species of *Priceiella* from scimitar-babblers, but the head shape of *G. taivanus* is unlike that of other *Priceiella* from scimitar-babblers. *Garrulaxeus taivanus*, especially the unknown male, needs to be redescribed to confirm its subgeneric placement. We tentatively consider *G. taivanus* to be *incertae sedis* within *Priceiella*.

### ***Garrulaxeus tibetanus* Mey, 2017**

*Garrulaxeus tibetanus* Mey, 2017: 162, fig. 84, pl. XIV: figs 4–6.

*Priceiella* (*Camurnirmus*) *tibetana* (Mey, 2017). **New combination.**

**Type host:** *Ianthocincla lanceolata lanceolata* (Verreaux, 1871)—Chinese babax.

**Type locality:** Baiyn [?], Sichuan Sheng, China.

**Remarks.** We transfer *Garrulaxeus tibetanus* Mey, 2017 to *Priceiella* (*Camurnirmus*) based on the shape of the male genitalia (Mey 2017: fig. 84), and regard it as morphologically closest to *Pr.* (*Camurnirmus*) *paulbrowni* Gustafsson & Bush, 2017. These two species can be separated by the head shape and the width of the marginal carina.

### ***Leiothrichinirmus* Mey, 2017**

*Leiothrichinirmus* Mey, 2017: 166.

**Type species:** *Leiothrichinirmus weigoldi* Mey, 2017: 166, figs 89–90, pl. XVI: figs 4–5 [= *Resartor weigoldi* (Mey, 2017)]. By original designation.

**Remarks.** We agree with Mey (2017: 182) that *Leiothrichinirmus* Mey, 2017 is a junior synonym of *Resartor* Gustafsson & Bush, 2017.

Mey's (2017: 169) statement that his three new species have very different male genitalia can be entirely ascribed to the fact that he illustrated different aspects of the same type of genitalia. In the illustration of the male genitalia of *L. grammatoptiliphagus* (Mey 2017: fig. 93) ventral characters have been emphasized, whereas in the illustration of *L. himalayanus* (Mey 2017: fig. 94) dorsal characters are shown. In the illustration of the male genitalia of *L. weigoldi* (Mey 2017: fig. 90) much of the mesosome has erroneously been fused with the proximal parameres, and only part of the mesosome has been illustrated as a distinct unit. Only the illustration of the male genitalia of *L. grammatoptiliphagus* represents non-distorted genitalia. A comparison of Mey's (2017) illustrations with those for *Resartor impressifrons* (Ansari, 1956b) in Gustafsson & Bush (2017: figs 164–166) clearly show the different aspects discussed above.

### ***Leiothrichinirmus grammatoptiliphagus* Mey, 2017**

*Leiothrichinirmus grammatoptiliphagus* Mey, 2017: 170, figs 91, 93, pl. XVII: fig. 2.

*Resartor grammatoptiliphagus* (Mey, 2017). **New combination.**

**Type host:** *Grammatoptila striata sikkimensis* Ticehurst, 1924—striated laughingthrush.

**Type locality:** Gangtok, Sikkim, India.

**Remarks.** Mey's (2017) illustrations of *Leiothrichinirmus grammatoptiliphagus* are sufficient to recognise it as a valid species, distinguishable from *L. weigoldi* by the chaetotaxy of the posterior segments as shown by Mey (2017: figs 90, 93). However, the separation of *L. grammatoptiliphagus* from *L. himalayanus* is not clear (see below).

### ***Leiothrichinirmus himalayanus* Mey, 2017**

*Leiothrichinirmus himalayanus* Mey, 2017: 169, fig. 94, pl. XVI: fig 6, pl. XVII: fig. 1.

*Resartor himalayanus* (Mey, 2017). **New combination, species inquirenda.**

**Type host:** *Trochalopteron affine blythii* Verreaux, 1871—black-faced laughingthrush.

**Type locality:** Washan, Sichuan, China.

**Remarks.** Mey (2017) did not compare *Leiothrichinirmus himalayanus* against *Brueelia impressifrons*, despite placing the *Br. impressifrons* in *Leiothrichinirmus*. Gustafsson & Bush (2017: 105) placed *Br. impressifrons* in *Resartor*, parasitising two different subspecies of the same host species, *Trochalopteron affine*. The illustration of the male genitalia of *L. himalayanus* by Mey (2017: 94) is not complete and appears slightly distorted. Other than the angle of the lateral margins of the mesosome, there are no differences between the genitalia of *L. himalayanus* and those of *Re. impressifrons* that cannot be ascribed to the distortion of the specimen illustrated, the lack of detail in Mey's illustration, or within-species variation. The only other characters mentioned in the description of *L. himalayanus* refer to illustrations of *L. grammatoptiliphagus*, but it is unclear whether these two species are so similar that the same illustration of the terminalia can serve to illustrate two species, or whether this is a mistake. In our experience, the chaetotaxy of the posterior segments differ among all species of *Resartor*.

We strongly suspect that *Leiothrichinirmus himalayanus* is a junior synonym of *Re. impressifrons*, but the type material needs careful examination to confirm this hypothesis. For this reason, we consider *Re. himalayanus* a *species inquirenda* in need of redescription.

### ***Leiothrichinirmus weigoldi* Mey, 2017**

*Leiothrichinirmus weigoldi* Mey, 2017: 166, figs 89–90, pl. XVI: figs 4–5.

*Resartor weigoldi* (Mey, 2017). **New combination.**

**Type host:** *Trochalopteron formosum formosum* Verreaux, 1869—red-winged laughingthrush.

**Type locality:** Buge, Kwanhsim [?], Sichuan, China.



**Remarks.** Besides photographs of the habitus of both sexes (Mey 2017: pl. XVI: figs 4–5), *Leiothrichinirmus weigoldi* is illustrated by the preantennal area with a mixture of ventral and dorsal features, and the male terminalia showing dorsal characters of the abdomen and the male genitalia (Mey 2017: figs 89–90). However, the male genitalia as shown are incomplete and distorted and not comparable with illustrations of other *Resartor* species. *Leiothrichinirmus weigoldi* is in need of redescription and regarded here as *species inquirenda*.

### ***Timalinirmus* Mey, 2017**

*Timalinirmus* Mey, 2017: 170.

**Type species:** *Brueelia hrabali* Najer & Sychra [in Najer *et al.*], 2012: 65, figs 2A–B, 3A–F, 6C–D. [= *Timalinirmus hrabali* (Najer & Sychra [in Najer *et al.*], 2012)]. By original designation.

**Remarks.** Mey (2017: 182) tentatively synonymized *Timalinirmus* with *Turdinirmoides* Gustafsson & Bush, 2017 based on non-setal characters and the presence of sternal setae on the male abdominal plate VII, a diagnostic character of *Turdinirmoides*. Also, Gustafsson & Bush (2017: 114) placed the type species of *Timalinirmus*—*Brueelia hrabali*—in *Turdinirmoides*, but recognising that “when a larger number of species in this complex are known and have been adequately described and sequenced, the systematics of *Turdinirmoides* and related genera may need further revision.”

We examined additional undescribed species of this group, which have male sternal plate VII fused with the subgenital plate, and lack sternal setae on male abdominal segment VII. These and other characters suggest that this group of *Brueelia*-complex lice deserve a separate genus. We thus reverse Mey’s (2017) synonymy and resurrect *Timalinirmus* as a valid genus, containing only the type species, *Timalinirmus hrabali*.

Nevertheless, we should make the point that the undescribed species that we studied and *T. hrabali* are close to *Turdinirmoides*, and the division of this genus into two is not straightforward. One undescribed species [from *Yuhina castaniceps* (Moore, 1854)] has a female subgenital plate separated from the cross-piece as in *Turdinirmoides* and a dorsal preantennal suture that reaches the *ads*. Another undescribed species [from *Megapomatorhinus gravivox* (David, 1873)] has a female subgenital plate more similar to that found in females of the genus *Aratricerca* Gustafsson & Bush, 2017, but a shortened dorsal preantennal suture as in most species of *Resartor*.

We examined at least 12 undescribed species included in these three genera—*Turdinirmoides*, *Aratricerca* and *Timalinirmus*—distributed over seven host families. Within the *Brueelia*-complex, this is the most difficult group to draw genus-level boundaries based on morphology, and therefore genetic data for these taxa are sorely needed. The phylogeny of Bush *et al.* (2015, 2016: fig. 3f, clade L, specimen 262) included a single specimen from this group belonging to the genus *Aratricerca*, which was placed as sister to the single representative of *Resartor* included in the phylogeny (Bush *et al.* 2015, 2016: fig. 3f, clade L, specimen 269). In comparison to the difficulties in separating the *Turdinirmoides*-*Aratricerca*-*Timalinirmus* group, *Resartor* is a remarkably homogeneous genus. Due to the very small number of species involved and the complex morphological relationships, we tentatively accept a classification that contains two very closely related genera that may ultimately have to be synonymized. Species with the male subgenital plate divided from sternite VII and with sternal setae on the posterior margin of abdominal segment VII in males belong in the genus *Turdinirmoides*. Species with the male sternite VII fused to the subgenital plate and lacking sternal setae on the posterior margin of abdominal segment VII belong in the genus *Timalinirmus*. We have no doubt that finding more species belonging in this complex will require further revisions of this classification.

### ***Carpodaciella* Mey, 2017**

*Carpodaciella* Mey, 2017: 170.

**Type species:** *Carpodaciella carpodaci* Mey, 2017: 171, figs 95, 97, pl. XVII: figs 5–6 [= *Turdinirmoides carpodaci* (Mey, 2017)]. By original designation.

**Remarks.** As mentioned above, the most useful characters to identify *Turdinirmoides* are the division of the male subgenital plate and the sternal setae on the male abdominal segment VII. These setae are not mentioned by Mey (2017) for *Carpodaciella* but, both the text and the photographs clearly show that both species of *Carpodaciella* have the male sternite VII separated from the subgenital plate, although the setae cannot be seen in the photographs. These features place both species of *Carpodaciella* in *Turdinirmoides* as defined by Gustafsson & Bush (2017: 112), and as discussed above. When more species of *Turdinirmoides* are described and the morphological variation within

this genus is better understood, *Carpodaciella* may be resurrected as a subgenus of *Turdinirmoides*. However, at present, we regard *Carpodaciella* Mey, 2017 as a junior synonym of *Turdinirmoides* Gustafsson & Bush, 2017 **new synonymy**.

***Carpodaciella carpodaci* Mey, 2017**

*Carpodaciella carpodaci* Mey, 2017: 171, figs 95, 97, pl. XVII: figs 5–6.

*Turdinirmoides carpodaci* (Mey, 2017). **New combination.**

**Type host:** *Carpodacus rubicilla kobdensis* (Sushkin, 1925)—great rosefinch.

**Type locality:** Bajan nuur Somon, Aimak Bajan-Ulgy, Mongolia.

**Remarks.** Based on the text description and the illustrations, we recognise *Carpodaciella carpodaci* as a valid species within the genus *Turdinirmoides*.

***Carpodaciella vasjukovae* Mey, 2017**

*Carpodaciella vasjukovae* Mey, 2017: 172, fig. 96, pl. XVIII: figs 1–2.

*Turdinirmoides vasjukovae* (Mey, 2017). **New combination.**

**Type host:** *Uragus sibiricus sibiricus* (Pallas, 1773)—long-tailed rosefinch.

**Type locality:** Omsk Oblast, West Siberia, Russia.

**Remarks.** Based on the text description and the illustrations, we recognise *Carpodaciella vasjukovae* as a valid species within the genus *Turdinirmoides*.

***Mohoaticus* Mey, 2017**

*Mohoaticus* Mey, 2017: 173.

**Type species:** *Mohoaticus pteroacariphagus* Mey, 2017: 174, fig. 98, pl. XVIII: figs 3–4 [= *Guimaraesiella* (*Mohoaticus*) *diaprepes* Kellogg & Chapman, 1902: 158]. By original designation.

**Remarks.** *Mohoaticus* Mey, 2017 belongs in a group of lice informally described as the “*Guimaraesiella diaprepes* species group” by Gustafsson & Bush (2017: 219) as determined by comparing the male genitalia illustrated in Gustafsson & Bush (2017: fig. 369) with those depicted in Mey (2017: figs 98–99). At most, we consider *Mohoaticus* a subgenus within *Guimaraesiella*, to which we can add two species: *Guimaraesiella* (*Mohoaticus*) *diaprepes* (Kellogg & Chapman, 1902) and *Guimaraesiella* (*Mohoaticus*) *busharae* (Ansari, 1955b). All other species placed in *Guimaraesiella* by Gustafsson & Bush (2017) are provisionally placed in the subgenus *Guimaraesiella*.

***Mohoaticus pteroacariphagus* Mey, 2017**

*Guimaraesiella* (*Mohoaticus*) *diaprepes* (Kellogg & Chapman, 1902: 158, pl. 13, fig. 4).

*Mohoaticus pteroacariphagus* Mey, 2017: 174, fig. 98, pl. XVIII: figs 3–4. **New synonymy.**

**Type host:** *Moho nobilis* (Merrem, 1786)—Hawaii o-o.

**Type locality:** Hawaii.

**Remarks.** From the short description and partial illustration of the male genitalia of *Mohoaticus pteroacariphagus* Mey, 2017, we consider this species to be a junior synonym of *Guimaraesiella* (*Mohoaticus*) *diaprepes* (Kellogg & Chapman, 1902) **new synonymy**, as no significant differences can be found between these two species. In our opinion, a putative validation of *M. pteroacariphagus* depends on a complete redescription of the type material.

***Mohoaticus oocalis* Mey, 2017**

*Mohoaticus oocalis* Mey, 2017: 174, fig. 99, pl. XVIII: fig. 5.

*Guimaraesiella* (*Mohoaticus*) *oocalis* (Mey, 2017). **New combination.**

**Type host:** “*Moho* sp.” or “*Chaetoptila angustipluma* (Peale, 1849)”, herewith corrected to: *Chloridops kona* Wilson, 1888—Kona grosbeak (see below).

**Type locality:** Kona, Hawaii.

**Remarks.** Based on the text description and the illustrations, we recognise *Mohoaticus oalis* as a valid species within the genus *Guimaraesiella*.

There is no clear reasoning behind Mey's (2017: 174) designation of the type host of *Mohoaticus oalis* as "*Moho* sp." or "*Chaetoptila angustipluma* (Peale, 1849) given that neither is the species from which the single male holotype was collected. Mey (2017: 174) regarded *Chloridops kona* as an incorrect host, and suggested that either an unidentified species of *Moho* Lesson, 1830 or *Chaetoptila angustipluma* (Peale, 1849) was the true host, and designated either of these species as the type host, but did not explain his reasoning. The holotype of *M. oalis* was collected from a museum skin of *Chloridops kona*, which is closely related to *Drepanis coccinea* (Forster, 1780), the type host of *Guimaraesiella (Mohoaticus) diaprepes*. Therefore, it is plausible that the true, natural host species of *M. oalis* is, in fact, the species it was found on. Mey (2017) gives no evidence of the occurrence of *M. oalis* on any of the hosts he suggests as type hosts, other than the "high likelihood" that some contamination occurred during collection.

The *Code's* (1999: 120) definition of "type host" clearly states that it is "The host species with which the name-bearing type of a nominal species or subspecies was associated". Therefore, it is not required that the type host is the true, natural host of the parasite species. Thus, the accepted type host can be in error, as it has been shown for many species (see Price *et al.* 2003). However, it is important to provide evidence when one argues that a type specimen is a straggler or a contaminant. Considering that Mey (2017: 174) gives no evidence or argument, beyond statement of opinion, that *Chloridops kona* was an incorrect host, his designation of type host is not valid and needs to be corrected (see Recommendation 76A.2 in the *Code* 1999). Therefore, the type host of *M. oalis* is *Chloridops kona*.

#### ***Turdinirmus* Eichler, 1951**

*Turdinirmus* Eichler, 1951: 41.

**Type species:** *Nirmus merulensis* Denny, 1842: 51, by original designation.

**Remarks.** Mey (2017: 176) included *Degeeriella myiophoneae* Clay, 1936 in *Turdinirmus*. However, this species belongs in *Guimaraesiella* Eichler, 1949, as established by Gustafsson & Bush (2017: 222, 350).

#### ***Allobrueelia* Eichler, 1951 sensu Mey, 2017**

*Allobrueelia* Eichler, 1951: 36.

*Allobrueelia* Eichler, 1952: 74.

*Allonirmus* Złotorzycka, 1964: 263.

**Type species:** *Allobrueelia amsel* Eichler, 1951: 9, [= *Guimaraesiella amsel* (Eichler, 1951)]. By original designation.

**Remarks.** *Allobrueelia* Eichler 1951, is a junior synonym of *Guimaraesiella* sensu stricto as demonstrated by Gustafsson & Bush (2017: 221). However, Mey's (2017: 176) definition of this genus appears to be based entirely on host relationships, regardless of louse morphology. As a result, Mey's (2017: 176) list of 25 species included in *Allobrueelia* contains three species that are morphologically very different from *Guimaraesiella*, and thus belong in other genera within the *Brueelia*-complex, and one of which is a junior synonym, as follows:

*Allobrueelia antimarginalis* (Eichler, 1951) belongs in *Brueelia* sensu stricto, where Eichler (1951: 12) originally placed it. Subsequently, Gustafsson & Bush (2017: 38) confirmed Eichler's generic placement.

*Allobrueelia busharae* (Ansari, 1955) belongs in in the subgenus *Guimaraesiella (Mohoaticus)*, as discussed above.

*Allobrueelia cambayensis* (Ansari, 1955) belongs in *Brueelia* sensu stricto, as established by Gustafsson & Bush (2017: 38).

*Allobrueelia carrikeri* (Ansari, 1955) belongs in *Traihoriella* Ansari, 1947, as suggested by Mey & Barker (2014) and confirmed by Gustafsson & Bush (2017: 165).

*Allobrueelia z. zeropunctata* (Ansari, 1957) belongs in *Guimaraesiella* but is a junior synonym of *Guimaraesiella antiqua* (Ansari, 1956c), as established by Gustafsson & Bush (2017: 223).

**TABLE 1. Summary of taxonomic acts proposed in this paper**

Our placement of the genera, species, and subspecies described by Mey (2017) follows the classification proposed by Gustafsson & Bush (2017). Genera are given in **bold face**. See main text for the justification of these acts.

Taxa proposed by Mey (2017)	Our classification	Comments
<b>Australnirmus</b>	<b>Saeopocephalum</b>	Synonymised by Mey (2017)
<i>Australnirmus corcoraciphilus</i>	<i>Saeopocephalum stephenfryi</i>	Synonymised by Mey (2017)
<b>Callaenirmus</b>	<i>Guimaraesiella</i>	New synonymy
<i>Callaenirmus kokakophilus</i>	<i>Guimaraesiella callaeincola</i>	New synonymy
<b>Carpodaciella</b>	<b>Turdinirmoides</b>	New synonymy
<i>Carpodaciella carpodaci</i>	<i>Turdinirmoides carpodaci</i>	New combination
<i>Carpodaciella vasyukovae</i>	<i>Turdinirmoides vasyukovae</i>	New combination
<b>Cinclosomatellum</b>	<b>Maculnirmus</b>	New synonymy
<i>Cinclosomatellum novaehollandiae</i>	<i>Maculnirmus novaehollandiae</i>	New combination
<i>Corvonirmus barkeri</i>	<i>Corvonirmus barkeri</i>	
<i>Corvonirmus orientalis</i>	<i>Corvonirmus orientalis</i>	
<i>Corvonirmus orruaticus</i>	<i>Corvonirmus orruaticus</i>	
<i>Corvonirmus pleuropelios</i>	<i>Corvonirmus pleuropelios</i>	
<i>Corvonirmus wakuiacus</i>	<i>Corvonirmus wakuiacus</i>	
<b>Couanirmus</b>	<b>Couala</b>	<i>Species inquirenda</i>
<b>Estrildinirmus</b>	<b>Mirandofures</b>	Synonymised by Mey (2017)
<i>Estrildinirmus australis</i>	<i>Mirandofures australis</i>	Synonymised by Mey (2017)
<i>Estrildinirmus papusiacus</i>	<i>Mirandofures kamena</i>	New combination, <i>species inquirenda</i>
<i>Estrildinirmus rongoensis</i>	<i>Mirandofures rongoensis</i>	Synonymised by Mey (2017)
<b>Garrulaxeus</b>	<b>Pricetiella (Camurnirmus)</b>	New combination
<i>Garrulaxeus babaxiphilus</i>	<i>Pricetiella (Camurnirmus) babaxiphilus</i>	New synonymy
<i>Garrulaxeus ecki</i>	<i>Pricetiella (Camurnirmus) ecki</i>	New combination
<i>Garrulaxeus formosus</i>	<i>Pricetiella (Thescelovora) formosa</i>	New combination, <i>species inquirenda</i>
<i>Garrulaxeus parvus</i>	<i>Brueelia parva</i>	New combination
<i>Garrulaxeus sichuanensis</i>	<i>Pricetiella (Camurnirmus) sichuanensis</i>	New combination
<i>Garrulaxeus sikkimensis</i>	<i>Pricetiella sikkimensis</i>	New combination, <i>incertae sedis</i>
<i>Garrulaxeus taivanus</i>	<i>Pricetiella taivana</i>	New combination, <i>incertae sedis</i>
<i>Garrulaxeus tibetanus</i>	<i>Pricetiella (Camurnirmus) tibetana</i>	New combination
<b>Harpacticus</b>	<b>Harpactrox</b>	Synonymised by Mey (2017)

.....continued on the next page



TABLE 1. (Continued)

Taxa proposed by Mey (2017)	Our classification	Comments
<i>Harpactiacus dickinsoni</i>	<i>Harpactrox dickinsoni</i>	<b>New combination</b> , <i>species inquirenda</i>
<i>Harpactiacus mindanensis</i>	<i>Harpactrox loeiensis</i>	Synonymised by Mey (2017)
<i>Harpactiacus rotundicephalicus</i>	<i>Harpactrox rotundicephalicus</i>	<b>New combination</b>
<b>Koanirmus</b>	<b>Couala</b>	<b>New synonymy</b>
<i>Koanirmus koaphilus</i>	<i>Couala koaphila</i>	<b>New combination</b>
<b>Leiothrichinirmus</b>	<b>Resartor</b>	Synonymised by Mey (2017)
<i>Leiothrichinirmus grammatoptiliphagus</i>	<i>Resartor grammatoptiliphagus</i>	<b>New combination</b>
<i>Leiothrichinirmus himalayanus</i>	<i>Resartor himalayanus</i>	<b>New combination</b> , <i>species inquirenda</i>
<i>Leiothrichinirmus weigoldi</i>	<i>Resartor weigoldi</i>	<b>New combination</b> , <i>species inquirenda</i>
<b>Lycocoranirmus</b>	<b>Corvonirmus</b>	<b>New synonymy</b>
<i>Lycocoranirmus giloloensis</i>	<i>Corvonirmus giloloensis</i>	<b>New combination</b> , <i>species inquirenda</i>
<b>Manucodiacus</b>	<b>Manucodicola</b>	Synonymised by Mey (2017)
<i>Manucodiacus asymmetricus asymmetricus</i>	<i>Manucodicola asymmetrica asymmetrica</i>	<b>New combination</b> , <i>species subspecies inquirenda</i>
<i>Manucodiacus asymmetricus papuanus</i>	<i>Manucodicola asymmetrica papuana</i>	<b>New combination</b> , <i>species subspecies inquirenda</i>
<i>Manucodiacus asymmetricus phonygammicolus</i>	<i>Manucodicola asymmetrica phonygammicola</i>	<b>New combination</b> , <i>species subspecies inquirenda</i>
<b>Melinirmus</b>	<b>Melinirmus</b>	
<i>Melinirmus christidisi</i>	<i>Melinirmus christidisi</i>	
<i>Melinirmus mallee</i>	<i>Melinirmus mallee</i>	
<b>Mohoaticus</b>	<b>Guimaraesiella (Mohoaticus)</b>	<b>New status</b>
<i>Mohoaticus oalis</i>	<i>Guimaraesiella (Mohoaticus) oalis</i>	<b>New combination</b>
<i>Mohoaticus pterocariphagus</i>	<i>Guimaraesiella (Mohoaticus) diaprepes</i>	<b>New synonymy</b>
<b>Neosittella</b>	<b>Brueelia</b>	<b>New synonymy</b>
<i>Neosittella longiabdominalis</i>	<i>Brueelia longiabdominalis</i>	<b>New combination</b>
<b>Nitzschinirmus</b>	<b>Guimaraesiella</b>	Synonymised by Gustafsson & Bush (2017)
<i>Olivinirmus agadirensis</i>	<i>Olivinirmus agadirensis</i>	<i>Species inquirenda</i>
<i>Olivinirmus amamiensis</i>	<i>Olivinirmus amamiensis</i>	
<i>Olivinirmus borneensis</i>	<i>Guimaraesiella borneensis</i>	<b>New combination</b>
<i>Olivinirmus cittaphilus</i>	<i>Olivinirmus cittaphilus</i>	
<i>Olivinirmus crypsirini</i>	<i>Olivinirmus crypsirini</i>	<i>Species inquirenda</i>
<i>Olivinirmus taivanensis</i>	<i>Olivinirmus taivanensis</i>	<i>Species incertae sedis</i>
<b>Philemoniellus</b>	<b>Guimaraesiella</b>	<b>New synonymy</b>

.....continued on the next page

TABLE 1. (Continued)

Taxa proposed by Mey (2017)	Our classification	Comments
<i>Philemoniellus pentlandiensis</i>	<i>Guimaraesiella pentlandiensis</i>	<b>New combination</b> , <i>species inquirenda</i>
<i>Philemoniellus samoensis</i>	<i>Guimaraesiella samoensis</i>	<b>New combination</b> , <i>species inquirenda</i>
<i>Philemoniellus timorensis</i>	<i>Guimaraesiella timorensis</i>	<b>New combination</b>
<b>Plesionirmus</b>	<b>Brueelia</b>	<b>New synonymy</b>
<i>Plesionirmus schoddei</i>	<i>Brueelia schoddei</i>	<b>New combination</b> , <i>species inquirenda</i>
<b>Pomatostomiacus</b>	<b>Anarchonirmus</b>	<b>New synonymy</b>
<i>Pomatostomiacus johnstonei</i>	<i>Anarchonirmus johnstonei</i>	<b>New combination</b>
<b>Protonirmus</b>	<b>Ceratocista</b>	Synonymised by Mey (2017)
<b>Ptilononirmus</b>	<b>Ptilononirmus</b>	<i>Genus inquirenda</i>
<i>Ptilononirmus australis</i>	<i>Ptilononirmus australis</i>	<i>Species inquirenda</i>
<b>Tesonirmus</b>	<b>Couala</b>	<b>New synonymy</b>
<i>Tesonirmus teso</i>	<i>Couala teso</i>	<b>New combination</b>
<b>Timalinirmus</b>	<b>Timalinirmus</b>	

## Discussion

We conclude that only one of the 22 genera described as new by Mey (2017) is definitively valid, i.e. *Melinirmus*. However, we tentatively accept *Timalinirmus* as valid, but in need of redescription because the limits between this genus and *Turdinirmoides* are not well defined. We consider another genus (*Mohoaticus*) a subgenus of *Guimaraesiella*, because the only consistent differences between these two groups are in the structure of the mesosome. Two other genera (*Carpodaciella* and *Cinclosomatiellum*) may ultimately prove to be subgenera of *Turdinirmoides* and *Maculinirmus*, respectively. Lastly, we provisionally accept *Ptilononirmus* as *genus inquirenda* because it is at present unidentifiable due to the partial illustrations provided, its cursory text description, and the illustration of the male genitalia based on a distorted specimen.

We regard the remaining 16 genera described as new by Mey (2017) as junior synonyms of existing genera, including some described by Gustafsson & Bush (2017). The high degree of convergence between the revision by Gustafsson & Bush (2017) and that of Mey (2017) is highly encouraging, as it constitutes an independent replication of methodology using entirely different data sets. We are thus assured that, regardless of names, the generic groups identified by both Gustafsson & Bush (2017) and Mey (2017) are likely to stand the test of time.

We recognise most of the new species described by Mey (2017) as valid (Table 1). However, most of these species need proper redescriptions to allow their identification without examining their type material.

Notwithstanding the large number of genera and species recognised by Gustafsson & Bush (2017) and Mey (2017) within the *Brueelia*-complex, many more species in the complex remains to be explored and described. Lice belonging to the *Brueelia*-complex are still unknown from many potential host families, particularly those that are restricted to the Australasian and Indo-Malayan regions. Judging from the morphological diversity presented by Gustafsson & Bush (2017) and Mey (2017), these are precisely the regions where we would expect the majority of undiscovered genera and species of the *Brueelia*-complex to occur.

The unlikely and almost concurrent publication of two large taxonomic revisions on the same gargantuan group of lice from the *Brueelia*-complex would suggest that phthirapterists should communicate with each other to avoid unnecessary duplication and taxonomic confusion. Also, we urge phthirapterists to describe new species from complete specimens of both sexes, to illustrate them in abundant detail, and to make type material available to other bona fide workers upon request. The Phthiraptera community will benefit from this kind of openness, cooperation and thoroughness.

## Acknowledgements

DG was funded by the Guangdong Academy of Sciences Special Project of Science and Technology Development Grant 2017GDASCX-0107 during the writing of this manuscript. This work was supported in part by National Science Foundation grant DEB-1050706 to SEB.

## References

- Ansari, R.A.M. (1947) Mallophaga (Ischnocera) infesting birds in the Punjab (India). *Proceedings of the National Institute of Science India*, 13, 253–303.
- Ansari, R.A.M. (1955a) Studies on the ischnoceron [sic] Mallophaga infesting birds in Pakistan. *Proceedings of the Seventh Pakistan Scientific Conference*, Biology, Bahawalpur, 1955, 5–59.
- Ansari, R.A.M. (1955b) Studies on Ischnoceran Mallophaga parasitic on Turdidae. *Pakistan Journal of Health, Lahore*, 5, 47–76.
- Ansari, R.A.M. (1956a) A revision of the *Brüelia* (Mallophaga) species infesting the Corvidae. Part I. *Bulletin of the British Museum (Natural History) Entomology*, 4 (8), 369–606.
- Ansari, R.A.M. (1956b) A brief survey of *Brueelia* species (Ischnocera: Mallophaga) parasitic on the babblers and laughing thrushes (Timaliidae). *Pakistan Journal of Health*, 6, 133–154.
- Ansari, R.A.M. (1956c) Studies on *Brueelia* species (Mallophaga) occurring on true thrushes. *Biologia, Lahore*, 2, 102–143.
- Ansari, R.A.M. (1957) Post script—Change of name. A new name proposed for *Brueelia longifrons* Ansari 1956. *Pakistan Journal of Health*, 6 (4), 270.
- Burmeister, H. (1838) Mallophaga Nitzsch. *Handbuch der Entomologie, Berlin*, 2, 418–443.
- Bush, S.E., Weckstein, J.D., Gustafsson, D.R., Allen, J., DiBlasi, E., Shreve, S.M., Boldt, R., Skeen, H.R. & Johnson, K.P.

- (2015) Data supporting a molecular phylogeny of the hyper-diverse genus *Brueelia*. *Data in Brief*, 5, 1078–1091.  
<https://doi.org/10.1016/j.dib.2015.10.022>
- Bush, S.E., Weckstein, J.D., Gustafsson, D.R., Allen, J., DiBlasi, E., Shreve, S.M., Boldt, R., Skeen, H.R. & Johnson, K.P. (2016) Unlocking the black box of feather louse diversity: A molecular phylogeny of the hyper-diverse genus *Brueelia*. *Molecular Phylogenetics and Evolution*, 94, 737–751.  
<https://doi.org/10.1016/j.ympev.2015.09.015>
- Carriker, M.A. Jr. (1963) Neotropical Mallophaga (Insecta) miscellany, No. 13. *Revista Brasileira de Biologia*, 23, 293–316.
- Cicchino, A.C. (1983) Especies nuevas o poco conocidas del género *Brueelia* Kéler, 1936 (Mallophaga: Philopteridae), parásitas de Passeriformes, Piciformes y Trogoniformes (Aves) americanos. *Revista de la Sociedad Entomológica Argentina*, 42, 283–303
- Clay, T. (1936) New species of Mallophaga recorded from Asiatic birds. *Proceedings of the Zoological Society of London*, 1935, 905–914.  
<https://doi.org/10.1111/j.1469-7998.1935.tb06270.x>
- Clay, T. (1951) An introduction to the classification of the Avian Ischnocera (Mallophaga): Part I. *Transactions of the Royal Entomological Society of London*, 102, 171–194.  
<https://doi.org/10.1111/j.1365-2311.1951.tb00746.x>
- Clay, T. & Hopkins, G.H.E. (1955) Notes on the Rudow Collection of Mallophaga. *Mitteilungen der Hamburger Zoologischer Museum Institut*, 53, 49–73.
- Clements, J.F., Schulenberg, T.S., Iliff, M.J., Roberson, D., Fredericks, T.A., Sullivan, B.L. & Wood, C.L. (2018) The eBird/Clements checklist of birds of the world: v2018. Available from: <http://www.birds.cornell.edu/clementschecklist/download/> (accessed 28 October 2018)
- Coinde, J.P. (1859) Notes pour servir à l'histoire des épizoïques. Descriptions de quelques espèces nouvelles appartenant aux genres: *Docophorus*, *Nirmus*, *Lipeurus*, etc. *Bulletin de la Société Impériale des Naturalistes de Moscou*, 32 (4), 418–427.
- Denny, H. (1842) *Monographia Anoplurorum Britanniae*. Henry G. Bohn, London, xxvi + 262 pp.
- Eichler, W. (1941) Zur Klassifikation der Lauskerfe (Phthiraptera Haeckel: Rhynchophthirina, Mallophaga und Anoplura). *Archiv für Naturkunde, Neue Folge*, 10, 345–398.
- Eichler, W. (1944) Notulae Mallophagologicae. XI. Acht neue Gattungen der Nirmi und Docophori. *Stettiner entomologische Zeitung*, 105, 80–82.
- Eichler, W. (1949) Phthirapterorum nova genera. *Bollettino della Società Entomologica Italiana*, 79, 11–13.
- Eichler, W. (1951) Die Federlinge die Drosseln. In: *Bedeutung der Vogelwelt in Forschung und Praxis. Vorträge der I. Ornithologische Tagung der DDR am 21–22 Oktober 1950 in Leipzig*, 3, 29–47.
- Eichler, W. (1952) Notulae Mallophagologicae. XXVI. *Rhombiceps* n. g. und andere neue Federlingsgattungen. *Zoologische Anzeiger*, 149, 74–78.
- Eichler, W. (1953) Von Alexander König gesammelte Federlinge. I. Von Singvögeln und Spechten. *Bonner zoologische Beiträge*, 4, 333–343.
- Eichler, W. (1957) Notes on the *Brüelia* group of Mallophaga (Feather-lice), with descriptions of four new species. *Journal of the Bombay Natural History Society*, 54, 577–580.
- Giebel, C.G.A. (1874) *Insecta epizoïca. Die aus Säugetieren und Vögeln schmarotzenden Insecten nach Chr. L. Nitzsch's Nachlass bearbeitet*. Otto Wigand, Leipzig, xvi + 308 pp., 20 pls.  
<https://doi.org/10.5962/bhl.title.66072>
- Giebel, C.G.A. (1879) Einige von Herrn Dr. Meyer, Director des Zoologischen Museums in Dresden, auf der Südseeinseln gesammelte Philopteren oder Federlinge. *Zeitschrift für der Gesamten Naturwissenschaften*, 28, 353–475.
- Green, R.H. & Palma, R.L. (1991) A list of lice (Insecta: Phthiraptera) recorded from Tasmania. *Records of the Queen Victoria Museum*, 100, 1–43.
- Gustafsson, D.R. & Bush, S.E. (2017) Morphological revision of the hyperdiverse *Brueelia*-complex (Insecta: Phthiraptera: Ischnocera: Philopteridae) with new taxa, checklists and generic key. *Zootaxa*, 4313 (1), 1–443.  
<https://doi.org/10.11646/zootaxa.4313.1.1>
- Gustafsson, D.R., Chu, X., Bush, S.E. & Zou, F. (2018a) Ten new species of *Brueelia* (Phthiraptera: Ischnocera: Philopteridae) from nuthatches (Aves: Passeriformes: Sittidae), tits and chickadees (Paridae), and goldcrests (Regulidae). *Acta Parasitologica*, 63, 527–557.  
<https://doi.org/10.1515/ap-2018-0063>
- Gustafsson, D.R., Clayton, D.H. & Bush, S.E. (2018b) Twelve new species of *Priceiella* (Phthiraptera: Ischnocera: Philopteridae) from Old World babblers, with keys to species of two subgenera and checklist of species for the genus. *Zootaxa*, 4382 (3), 401–449.  
<https://doi.org/10.11646/zootaxa.4382.3.1>
- Gustafsson, D.R., Clayton, D.H. & Bush, S.E. (2019) Twelve new species of *Guimaraesiella* (Phthiraptera: Ischnocera: Philopteridae) from “babblers” (Passeriformes: Leiothrichidae, Pellorneidae, Timaliidae) with a description of a new subgenus and a key to its species. *Zootaxa*, 4543 (4), 451–497.  
<https://doi.org/10.11646/zootaxa.4543.4.1>
- Harrison, L. (1916) The genera and species of Mallophaga. *Parasitology*, 9, 1–156.



<https://doi.org/10.1017/S003118200005989>

- Hopkins, G.H. & Clay, T. (1952) *A check list of the genera & species of Mallophaga*. British Museum (Natural History), London, 362 pp.  
<https://doi.org/10.5962/bhl.title.118844>
- International Commission on Zoological Nomenclature (1999) *International Code of Zoological Nomenclature. 4<sup>th</sup> Edition*. International Trust for Zoological Nomenclature, London, xxix + 306 pp.
- Kéler, S. von (1936) Über einige Mallophagen aus Rossitten. *Arbeiten in morphologische und taxonomische Entomologie von Berlin-Dahlem*, 3, 256–264.
- Kéler, S. von (1939) Zur Kenntnis der Mallophagen-Fauna Polens. *Zeitschrift für Parasitenkunde*, 11, 47–57.  
<https://doi.org/10.1007/BF02122077>
- Kellogg, V.L. & Chapman, B.L. (1902) Mallophaga from Birds of the Hawaiian Islands. *Journal of the New York Entomological Society*, 10, 155–169, 3 pls.
- Mey, E. (1982) Mongolische Mallophagen I. *Mitteilungen der zoologische Museum Berlin*, 58, 155–195.
- Mey, E. (2017) [2016] Neue Gattungen und Arten aus dem *Brueelia*-Komplex (Insecta, Phthiraptera, Ischnocera, Philopteridae s.l.). *Rudolstädter naturhistorische Schriften*, 22, 85–215.
- Mey, E. & Barker, S.C. (2014) Eine neue auf Feenvögeln (Irenidae) lebende *Brueelia*-Art (Insecta, Phthiraptera, Ischnocera, Philopteridae), nebst Anmerkungen zur Gattung *Brueelia* Kéler, 1936 sensu lato. *Rudolstädter naturhistorische Schriften*, 19, 73–114.
- Najer, T., Sychra, O., Hung, N.M., Čapek, M., Podzemny, P. & Literák, I. (2012) Chewing lice (Phthiraptera: Amblycera, Ischnocera) from wild passerines (Aves: Passeriformes) in northern Vietnam, with descriptions of three new species. *Zootaxa*, 3530 (1), 59–73.  
<https://doi.org/10.11646/zootaxa.3530.1.6>
- Neumann, L.G. (1906) Notes sur les mallophages. *Bulletin de Société Zoologique de France*, 31, 54–60.  
<https://doi.org/10.5962/bhl.part.18334>
- Nitzsch, C.L. (1818) Die Familien und Gattungen der Thierinsekten (insecta epizoica); als prodromus einer Naturgeschichte derselben. *Magazin der Entomologie*, 3, 261–316.
- Paton, J.B. (1985) The red-whiskered bulbul in South Australia. *South Australian Ornithologist*, 29, 189–190.
- Piaget, E. (1880) *Les Pédiculines. Essai monographique*. E.J. Brill, Leide, xxxix + 714 pp.
- Piaget, E. (1885) *Les Pediculines. Essai Monographique. Supplément*. E.J. Brill, Leide, xvi + 200 pp., 17 pls.
- Piaget, E. (1890) Quelques pédiculines nouvelles. *Tijdschrift voor Entomologie*, 31, 223–259, 3 pls.
- Price, R.D., Hellenthal, R.A. & Palma, R.L. (2003) World checklist of chewing lice with host associations and keys to families and genera. In: Price, R.D., Hellenthal, R.A., Palma, R.L., Johnson, K.P. & Clayton, D.H. (Eds.), *The Chewing lice: world checklist and biological overview. Illinois Natural History Survey Special Publication 24*. Illinois Natural History Survey, Champaign, Illinois, pp. i–x + 1–501.
- Thompson, G.B. (1937) The Piaget Collection of Mallophaga—Part I. *Annals and Magazine of Natural History*, Series 10, 20 (115), 19–27.  
<https://doi.org/10.1080/00222933708655312>
- Thompson, G.B. (1938) The Piaget Collection of Mallophaga—Part V. *Annals and Magazine of Natural History*, Series 11, 2 (12), 607–611.  
<https://doi.org/10.1080/00222933808526888>
- Valim, M.P. & Palma, R.L. (2015) A new genus and two new species of feather lice (Phthiraptera: Ischnocera) from New Zealand endemic passerines (Aves: Passeriformes). *Zootaxa*, 3926 (4), 480–498.  
<https://doi.org/10.11646/zootaxa.3926.4.2>
- Valim, M.P. & Weckstein, J.D. (2011) Two new species of *Brueelia* Kéler, 1936 (Ischnocera, Philopteridae) parasitic on Neotropical trogons (Aves, Trogoniformes). *ZooKeys*, 128, 1–13.  
<https://doi.org/10.3897/zookeys.128.1583>
- Złotorzycka, J. (1964) Mallophaga parasitizing Passeriformes and Pici. II. *Brueeliinae*. *Acta Parasitologica Polonica*, 12, 239–282.