

Notes on the descriptions of some *Philopterus* species (Insecta, Phthiraptera, Ischnocera, Philopteridae s. l.) of Reed warblers (Acrocephalidae), Kinglets (Regulidae) and Tits (Paridae): a response

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Zusammenfassung

Anmerkungen zu Beschreibungen einiger *Philopterus*-Spezies (Insecta, Phthiraptera, Ischnocera, Philopteridae s. l.) von Rohrsängern (Acrocephalidae), Goldhähnchen (Regulidae) und Meisen (Paridae) – eine Replik

In ihrer Studie beklagen NAJER et al. (2020), dass ihnen bestimmte taxonomische Entscheidungen mangels Vergleichsmaterial nicht mit hinreichender Sicherheit möglich gewesen wären. Sie behaupten in eindringlicher Weise, ihnen sei dafür die Ausleihe von Typen vorenthalten worden. Dies entspricht nicht den Tatsachen und läuft tendenziös auf eine Verletzung ethischer Normen hinaus. In der hier vorgestellten kritischen Betrachtung ihrer Befunde wird u. a. festgestellt und begründet: **1.** Bei dem aus *Acrocephalus l. luscinius* † auf Guam Island (Marianas, Pazifik) gesammelten Weibchen von *Philopterus acrocephalus* Carriker, 1949 handelt es sich sehr wahrscheinlich um einen Irrläufer von einer anderen Singvogelart. **2.** Alle bisher aus *Acrocephalus* beschriebenen *Philopterus*-Formen (3 spp.) mit *Philopterus acrocephalus* zu synonymisieren ist ausgeschlossen. **3.** Die ausführliche „Wiederbeschreibung von *P. acrocephalus*“ nach Material aus *Acrocephalus melanopogon* betrifft sehr wahrscheinlich eine andere, unbenannt gebliebene Art. **4.** Die exakte Wiederbeschreibung des Holotypus von *P. acrocephalus* ist zwingend geboten. **5.** Statt *Philopterus reguli* Denny, 1842 zu einem „invalid name“ (der Name ist aber legitim) zu erklären, ist er tatsächlich ein nomen dubium. **6.** Das einzige (ursprünglich von mehreren) erhalten gebliebene *Philopterus*-Individuum in der historischen Sammlung von H. Denny, dass von *Regulus regulus* stammen soll, aber nach NAJER et al. (2020) definitiv nicht konspezifisch mit *P. reguli* Denny ist, beruht sehr wahrscheinlich auf einem Irrtum. **7.** Für „*Philopterus (Docophorus) reguli* Denny, 1842“ ex *Regulus r. regulus* wird ein Neotypus designiert. **8.** *Philopterus gustafssoni* Najer et al., 2020 ex *Regulus*

regulus wird als jüngeres subjektives Synonym von *Philopterus reguli* Denny, 1842 betrachtet. **9.** Das Vorhandensein von jederseits mehr als einer Makrochaete auf dem Pronotum, verbindet *P. reguli* mit den auf manchen Meisen (Paridae) lebenden *Philopterus*-Formen zur *reguli*-Artengruppe.

Nach Lektüre der Ausführungen von NAJER et al. (2020) kann man sich nur schwer des Eindrucks erwehren, dass sie neben Missachtung ethischer Gepflogenheiten auch den taxonomischen und nomenklatorischen Herausforderungen ihres Themas nicht gewachsen waren.

Summary

In their study on “New records of *Philopterus* ...” NAJER et al. (2020) complain that they could not make certain taxonomic decisions with sufficient certainty due to a lack of comparative material. They emphatically claim that they were deprived of access to type materials needed for this purpose. This is not true, and tends toward an infringement of ethical standards. In the critical review of their findings presented here, among other things, it is established and justified: **1.** The female of *Philopterus acrocephalus* Carriker, 1949, collected from *Acrocephalus l. luscinius* † on Guam Island (Marianas, Pacific) is most likely a straggler from another songbird species. **2.** To synonymise all *Philopterus* forms (3 spp.) described so far from *Acrocephalus* with *Philopterus acrocephalus* is impossible. **3.** The detailed “redescription of *P. acrocephalus*” based on material from *Acrocephalus melanopogon* most likely refers to another, unnamed species. **4.** An exact re-description of the holotype of *P. acrocephalus* is imperative. **5.** Instead of declaring *Philopterus reguli* Denny, 1842 an “invalid name” (but the name is legitimate), it is actually a nomen dubium. **6.** The only preserved *Philopterus* individual (originally of several) in the historical collection of H. Denny, which is said to come from *Regulus regulus*, but according to NAJER et al. (2020) is definitely not conspecific with *P. reguli*

Denny, is most likely the result of an “error”. 7. A neotype is designated for “*Philopterus (Docophorus) reguli* Denny, 1842” ex *Regulus r. regulus*. 8. *Philopterus gustafssoni* Najer et al., 2020 ex *Regulus r. regulus* is considered a junior subjective synonym of *Philopterus reguli* Denny, 1842. 9. The presence of more than one macrochaete on each side of the pronotum connects *P. reguli* with the *Philopterus* forms living on some tits (Paridae), to form the *reguli* species group.

After reading the comments of NAJER et al. (2020), it is difficult to avoid the impression that, in addition to disregarding ethical conventions, they did not rise to the taxonomic and nomenclatural challenges of their topic.

Key words: response, ethics, nomenclature, taxonomy, Phthiraptera, birds, host-parasite association

Introduction

The “European Journal of Taxonomy” (EJT) recently published an article by NAJER et al. (2020), which deals with the taxonomy of different *Philopterus* species. I have considered for a long time whether it would be appropriate to gently expose the issues with my colleagues’ work, in a matter-of-fact manner. However, as ethical conventions of scientific work seem to me to have been violated both by the authors of this article themselves and, in retrospect, by the responsible editors of the EJT, I feel obliged to draw attention to these problems, despite my reservations about such a clarification. No similar case is known to me in the history of phthirapterology. From this point of view, it may be advisable not to simply pass over the matter, especially since the contribution in question has considerable technical weaknesses, which cannot simply be ignored. The main part of this response is devoted to addressing these weaknesses.

Type material withheld?

NAJER et al. (2020) claim that they have been deprived of access to type material of *Philopterus fedorenkoae* (Mey, 1983), *P. h. hercynicus* (Mey, 1988) and *P. hercynicus peripariphilus* (Mey, 1988): “We tried to contact Eberhard Mey in order to get information about type material of *Ph. fedorenkoae* and specification of “*reguli*” [...] species group diagnosis, but without any success.” (p. 7)

“Even after several attempts to contact E. Mey and the National Academy of Science of Ukraine (where it should be stored), we did not get any information about the type material.” (concerns *P. fedorenkoae*, p. 18)

“Type material of *Ph. hercynicus* and *Ph. peripariphilus* should be deposited in the Museum of Natural History Rudolstadt, Germany. We tried to contact Eberhard Mey in order to get more information about this material, but without any success.” (p. 20)

“However, all our attempts to find the type material of *Ph. fedorenkoae* failed, so we cannot consider this conclusion as absolutely sure.” (p. 31)

“In all these cases, we tried to find these specimens in the institutions where they should be stored. However, all our effort was unsuccessful, often with people not replying to our inquiries, so we are not able to evaluate its quality and identification.” (p. 31).

This is not true! As the loan contract of 30.9.2010, copied in Figure 1, testifies, one of the co-authors of NAJER et al. (2020), C. Adam, has been provided with valuable material for studies on *Brueelia*, *Philopterus* and *Penenirmus*. This also includes the holotype of “*Docophorus mirificus* Złotorzycka, 1964”, which is reported to be no longer in existence (JALOSZYNSKI et al. 2014, NAJER et al. 2020: 7; see also Mey 2004 b). Not subject of this loan contract are types of *P. h. hercynicus* and *P. h. peripariphilus*, which I have never been asked to borrow by any of the 9 authors of the article in question. I had several conversations with Costică Adam, Tomas Najer and Oldřich Sychra during the International Congress on Phthiraptera (ICP “6”) in Brno (Czech Republic) from 23–29 June 2018. None of them mentioned the philopterids from tits. Even in a talk at the International Congress by O. Sychra about Karl [not Karel] Pflieger (4.viii.1900–30.i.1951) and his mallophagological activities¹ there was no mention of

1 What seemed to me particularly strange about the talk by O. Sychra was that he failed to inform the auditorium from whom he had received the photocopy of Karl Pflieger’s dissertation “Biologie der Mallophagen” [Biology of Mallophaga] (304, 1928), which had remained unpublished and could not be found in Prague, and that he removed the stamped origins (“Dekanat der naturwissenschaftlichen Fakultät der deutschen Universität in Prag” and “Bücherei E. Mey”) [Deanery of the Faculty of Natural Sciences of the German University in Prague and E. Mey Library] on the digitally presented front page. The aforementioned photocopy had come into my possession after the death of Wolf Dietrich Eichler (1912–1994). W. Eichler has repeatedly referred to and quoted the valuable observations of Karl Pflieger in his publications.

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30.9.2010

Loan agreement

Date of issue: 30th September 2010

Date of return: November 2012

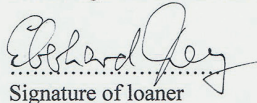
Borrowed items:

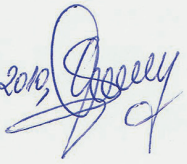
P h t h i r a p t e r a , Ischnocera, Philopteridae (Insecta), slides*

Brueelia gobiensis Mey, 1982 - 3 ♂, 3 ♀ (all paratypes), 6 slides
Penenirmus speciosus Mey, 1982 - 1 ♂ (holotype), 2 ♀ (paratypes); 3 slides
Penenirmus speciosus Mey, 1982 - 1 ♂, 2 ♀; 3 slides
Penenirmus phylloscopi rarus (Zlotorzycska, 1976) - 2 ♂, 3 ♀; 5 slides
Penenirmus kuxi Balát, 1981 - 4 ♀; 4 slides
Penenirmus sp. ex *Sylvia borin* - 2 ♀; 2 slides
Docophorus r. reginae Mey, 1982 - 4 ♂ (holotype, paratypes), 4 ♀ (allotype, paratypes); 8 slides
Docophorus reginae taigaicus Mey, 1982 - 2 ♀ (holotype, paratypes); 2 slides
Docophorus fedorenkoae Mey, 1983 - 2 ♂ (holotype, paratype), 1 ♀ (allotype); 3 slides
Docophorus mirificus Zlotorzycska, 1964 - 1 ♂ (holotype), 1 larve; 2 slides
 « *Docophorus eichleri* Mey, 1977 » [nomen nudum] - 6 ♀; 6 slides
Docophorus sp. ex *Locustella c. certhiola* - 6 ♂, 7 ♀, 6 Larven; 14 slides
 * All slides in photocopies on 8 pages.
 [Docophorus = Philopterus, see Mey 2004, Ornithol. Anz. 43, 149-203]

I acknowledge the receipt of these specimens in good condition and agree to comply with the loan conditions as stated below.

The borrowed material has to be returned via air mail.
 Please sign and return one copy immediately upon receipt of material.


 Signature of loaner

BUCHAREST (ROMANIA), 19th October 2010, 
 Place, Date, Signature of borrower

Return of the borrowed material:

Rudolstadt,

Figure 1. Loan agreement dated 30 September 2010 respectively 19th October 2010 with Dr. Costica Adam (Bucharest), one of the co-authors of NAJER et al. (2020).

Loan conditions

1. The borrower agrees to handle all items entrusted to him the greatest care. He/she agrees to refrain from any alteration (e.g. removal of parts, dissection of specimens for anatomical or histological studies, rearrangement of embedded parts etc.) without the specific permission of the curator. If permission has been obtained, all parts of the original specimen (including slides, casts, genital vials, coated EM-specimens, etc.) must be properly labelled and returned with the rest of the specimens.
2. Exchange or permanent retention of duplicate specimens or preparations is permitted only by written arrangement with the curator.
3. No original labels or other documentary enclosures are to be removed and discarded. Changes in nomenclature should be indicated on a separate label together with the borrower's name and the date.
4. The borrower agrees to return all borrowed items immediately upon request of the Museum of Natural History Rudolstadt or at the end of the agreed loan period. Extension can usually be negotiated. All items must be carefully packed and shipped at the expense of the borrower. He/she may be asked to send them by registered mail, air mail, or courier.
5. The borrower agrees to inform the loaner immediately of any change of address. It is not permitted to give or lend specimens (also preparations) to third parties or institutions without the explicit permission of the curator.
6. One copy of the loan agreement has to be signed and returned immediately after the receipt of the material, one copy has to be return of the material.
7. We would appreciate being properly acknowledged in, and receiving reprints of, publications based on the borrowed material cited under our traditional acronym NMR.

them, although *P. h. hercynicus* and *P. h. peripariphilus* were described by me, among others, based on Pflieger's material which I had received personally in the 1980s from Dr. Frantisek Balát (1925–1992).

***Philopterus acrocephalus* Carriker, 1949**

Type host: *Acrocephalus luscinius* (Quoy & Gaimard, 1830), but most probably an error.

CARRIKER (1949) described this species from a female collected by Rollin H. Baker from a Guam Reed-warbler *Acrocephalus l. luscinius* (Quoy & Gaimard, 1830) on Guam Island (Marianas) on June 4, 1945.² The skin of this host is still in the United States National Museum,

Washington (D. C.). CARRIKER (1949) did not designate a holotype when describing *P. acrocephalus*. The ICZN Code provides that if a new species is described based on only one individual, that individual automatically becomes the holotype by monotypy (but compare the case of *Philopterus reguli*, p. 160).

The holotype of *Philopterus acrocephalus* was studied by NAJER et al. (2020), who photographed it, but incomprehensibly failed to describe it again in detail. Instead, already in the introduction, the authors fall into the trap

2 The Guam Reed-warbler *Acrocephalus luscinius* (Quoy & Gaimard, 1830), resident on and endemic to Alamagan and Saipan of Northern Mariana Islands in the Pacific, is slightly larger than the Great Reed-warbler and is now very likely extinct (DICKINSON & CHRISTIDIS 2014, del HOYO & COLLAR 2016).

Table 1: Some body measurements (mm) of females of three *Philopterus* species according to 1. CARRIKER (1949), 2. MEY (1983), 3. FEDORENKO (1988) and 4. NAJER et al. (2020).

	<i>Philopterus</i>			
	<i>acrocephalus</i> holotype	<i>fedorenkoeae</i> paratype	<i>fedorenkoeae</i> n = ?	sp. ex <i>Acrocephalus melanopogon</i>
	1.	2.	3.	4.
Total length	1.38	1.77	1.82–1.91	1.41–1.68, x = 1.56
Head length	0.53	0.58		?–0.54, x = 0.46
Occiput width	0.45	0.54		0.40–0.51, x = 0.48
Prothoracic width	0.23	0.33	0.32–0.33	0.24–0.32, x = 0.29
Mesometathoracic width	0.38	0.49	0.48–0.51	0.36–0.48, x = 0.43
Abdominal width	0.59	0.72	0.70–0.75	0.55–0.87, x = 0.68

described so assuming that all other *Philopterus* species described so far from Acrocephalids, namely *P. mirificus* (Złotorzycka, 1964), *P. necopinatus* (Złotorzycka, 1964) and *P. fedorenkoeae* (Mey, 1983) are probably conspecific with *P. acrocephalus* (NAJER et al. 2020: 2). However, they contradict each other when they admit that *P. fedorenkoeae*, whose original description they criticize, is valid, although not with 100% certainty. They had at their disposal a relatively good series (1 ♂, 9 ♀) of *P. fedorenkoeae* off Great Reed-warblers from the former Czechoslovakia, but their investigation apparently did not help to dispel their “piercing” doubts. In fact, the only known individual (ad. ♀) of *Philopterus acrocephalus* is very likely to be a straggler from a songbird species other than the indicated taxon! This can be deduced from its body dimensions, which are significantly smaller than those of *P. fedorenkoeae* (see Table 1). According to Harrison's rule, the difference in size between *P. acrocephalus* and *P. fedorenkoeae* should not be so great, since their hosts, Guam Reed-warbler and Great Reed-warbler, are of approximately similar size. In other words, it is highly unlikely that a small *Philopterus* species such as ex *Acrocephalus palustris* (Bechstein, 1798), *A. scirpaceus* (Hermann, 1804) or *A. melanopogon* (Temminck, 1823) appeared naturally on the Guam Reed-warbler. My previous experiences with *Philopterus* do not contradict this. If one has **well-founded doubts** about the correctness of the host association of this chewing louse, which was described based on only one individual, it seems all the more important to make up for the vague description of the holotype of *Philopterus acrocephalus* by providing a more substantial description, before continuing to build a

“taxonomic edifice” on a “unstable foundation”, which is in danger of collapsing right from the start. Under these circumstances it is completely unacceptable to nonchalantly declare *Philopterus acrocephalus* ex *Acrocephalus luscinius* † from Micronesia to be conspecific with a *Philopterus* clade living on *Acrocephalus melanopogon* in Europe, and in all seriousness to redescribe the former, based on the latter!³

The authors are not familiar enough with the typification of the chaetotaxy of bird ischnocera, which was introduced by CLAY (1951) and has since been further developed.

Diagnostically important head setae are named incorrectly (‘vsm1’ should be avs3; ‘avs3’ should be as 1; as 1 should be as 2; as 2 should be vsm1, see NAJER et al.

3 I think it would be useful to raise a case of a slightly different nature. PALMA (2017: 149) offers the following in his very commendable work “Phthiraptera (Insecta): a catalogue of parasitic lice from New Zealand”: “A second species of *Nesiotinus* described by MEY (2011) based on a single female louse from a Subantarctic diving petrel (*Pelecanoides urinatrix exsul* Salvin, 1896) needs confirmation of both its identity and its host association.” He underlines this view by refusing, **without justification**, to give the reader the full name of the allegedly dubious species, *Nesiotinus kerguelensis*. Unfortunately, VANSTREEL et al. (2020) have followed him in this. Insect taxonomists in particular are well aware that taxa that are insufficiently described or otherwise unsatisfactorily labelled are an abomination. But in the case of *N. kerguelensis* this is not the case at all. If PALMA l. c. considers a confirmation of its host origin necessary, that is its right and reasonable. But questioning their identity in the face of type-based detailed and richly illustrated presentation in clear diagnosis (MEY 2011) is perplexing and thought-provoking. Here PALMA l. c. has elevated his very personal opinion to a subjectivity that is beyond science. If a taxonomist wants to ignore certain taxa completely at his discretion in checklists, catalogues etc., just because he considers them – for whatever reason – to be unsafe and therefore **believes** he must suppress them, he is acting against sensible and necessary customs in his discipline.

2020: Fig. 2 D), others are created unnecessarily. Their line drawings reveal that they apparently did not consider it necessary to show approximate or exact length of some setae (e.g. temporal or thoracic setae). Thus the computer drawings lose diagnostic value.

Host specificity and taxonomic practice

NAJER et al. (2020) do not redescribe *Philoaterus acrocephalus* Carriker, if they base their description solely or primarily on material ex *Acrocephalus mela-*

nopogon. Without knowing it, they probably presented an unrecognised *Philoaterus* form, which may be conspecific or closely related to *Philoaterus mirificus* and/or *P. necopinatus*. This cannot be verified on the basis of the types alone. Here, extensive and well-prepared material is necessary, or precisely known origin and authenticity, because the phenomenon of host specificity is strictly observed. This basic principle is carelessly abandoned when it is thought that there are too many exceptions in nature to convince us of its dubiousness or even the opposite. It is easier to declare one (mor-



Figure 2. Great Reed-warbler *Acrocephalus a. arundinaceus* (L.), type host of *Philoaterus fedorenkoae* (Mey). Photo: E. Mey (6.6.2020 Saale valley near Kolkwitz, Thuringia, Germany).



Figure 3. Goldcrest *Regulus r. regulus* (L.), type host of *Philoaterus reguli* Denny, 1842. – Photo: E. Mey (21.10.2020 Breitenheerda, Thuringia, Germany).

pho-) species to be conspecific with an apparently different one than to search for relevant differences which show their independence, by laborious detailed work. Only when the necessary effort has been expended and has not succeeded, one has a justified reason to assume conspecificity. However, one should always bear in mind that in the evolution of phthiraptera their natural close host relationship leads to and/or has led to host specificity, which is expressed in an enormous diversity. In my opinion, the subtle research of the animal louse taxonomist can only stand against this background, if that taxonomist strives for truthfulness in the elucidation of the biodiversity of these miniature creatures. This includes the acquisition of a solid taxonomic and nomenclatural practice.

It is counterproductive if NAJER et al. (2020: 2) believe, with some justification that is not fully thought through, “the approach that the lice in each host-louse association constitute separate species, regardless of morphological similarity to species known from other host species.” Instead they let the pendulum swing in the opposite,

and by no means better, direction, as without exact comparative morphological studies they can think that “their *P. acrocephalus*” is a polyhospital species, and that it can be found not only on the type host but also on the following seven locustellids and acrocephalids: *Locustella ochotensis* (von Middendorff, 1853), *Locustella* sp., *Arundinax aedon rufescens* (Stegmann, 1929), *Iduna rama* (Sykes, 1832), *Acrocephalus melanopogon*, *A. scirpaceus* und *A. schoenobaenus*. They overlook the fact that *Philoaterus locustellae* Fedorenko, 1984 was described ex *Locustella fasciolata* (G. R. Gray). *P. locustellae* is also missing from PRICE et al. (2003), which was pointed out by MEY (2007: 95). The statement (NAJER et al. 2020: 2): “*Philoaterus acrocephalus* represents the first species of the *Philoaterus*-complex recorded in the family Locustellidae [...]” is therefore unsustainable in several respects. They also ignore BLAGOVESHCHENSKY (1951: 292), who reports from Tajikistan 5 ♀ and 1 larva of “*Philoaterus subflavescens* (Geoffroy)” from *Locustella naevia straminea* Seebohm, 1881.

Philopterus reguli versus *Philopterus gustafssoni*

DENNY (1842: 91) states in his description of “*Philopterus (Docophorus) reguli*”⁴:

“The first specimen of this species, which I had an opportunity of examining, was in the possession of the Rev. L. JENYNS, since then I have obtained others, all of which were from the Golden-crested Regulus (*Regulus aurocapillus*).” In contrast, NAJER et al. (2020: 2) assume that the only “typical” specimen of *P. reguli* Denny, 1842 present in the Natural History Museum in London and studied by them is (automatically) its “holotype”. However, it should be noted that there can be no holotype of “*Philopterus (Docophorus) reguli* Denny, 1842”, since Denny, firstly, in all his species descriptions, never designated a holotype, and secondly, several individuals (“syntypes”) of the species were available.⁵ According to the rules of Zoological Nomenclature (ICZN Code), the only surviving specimen of *P. reguli* from Denny's collection could not be designated as a holotype but only as a lectotype. Nobody has been prompted to do so until now. From the history of Denny's collection, which THOMPSON (1937: 74)⁶ briefly

sketches, it is easy to conclude the reasons for its present incompleteness. “A part of the Denny Collection was purchased by the British Museum from the author in 1852 [cf. GRAY 1852]; the location of the remainder of this collection is at present unknown to me. Originally Denny's specimens were mounted dry on cards, but during the past years all the specimens have been treated with caustic potash and mounted in Canada balsam. I am unable to state to whom the credit of mounting the Denny specimens is due, but it is certain that the late Bruce F. Cummings and Dr. James Waterston worked on this collection.”

According to the investigations of NAJER et al. (2020), the dubious, allegedly Denny's “type” individual of *P. reguli* is not conspecific with numerous authentic *Philopterus* collections from the Goldcrest *Regulus regulus*, including subspecies *regulus* (Linnaeus, 1758), *azoricus* Seebohm, 1883, *sanctaemariae* Vaurie, 1954, *buturlini* von Loudon, 1911 as well as *tristis* Pleske, 1892 and the Firecrest *Regulus i. ignicapilla* (Temminck, 1820). There can be no doubt about this finding.

NAJER et al. (2020: 3), however, draw strange conclusions when they claim “[...] the holotype [of *reguli*] to be a straggler and *Ph. reguli* to be an invalid name” and think that the *Philopterus* species actually living on the Goldcrest requires a new substitute name, *P. gustafssoni* Najer et al. 2020. However, as it can be shown that no name-bearing type of *Philopterus reguli* ex *Regulus regulus* any longer exists (see above) and the only existing “syntype” is of dubious type status, and cannot be used taxonomically, it is necessary to establish a neotype in the interest of the stability of this taxon. This neotype satisfies the conditions of Article 75.3 of the ICZN Code. It makes *Philopterus gustafssoni* Najer et al. 2020 a junior subjective synonym of *Philopterus reguli* Denny, 1842. Any other solution for the taxonomic and nomenclature problem with *P. reguli* is difficult to imagine. If necessary, the Commission on Zoological Nomenclature will have to be called upon to take a definitive decision if this proposal meets with any well-founded resistance.

The original written description of *P. reguli* has hardly any recognition value. On the other hand, Denny's copper engraving (see Fig. 4 here) is at least compatible with the habitus of *P. reguli* as we know it today.

4 It must be pointed out at this point that DENNY (1842) followed the systematics of NITZSCH (1818) in his descriptions at genus level. He then distinguished two genera in the Philopteridae Burmeister, 1838: *Philopterus* Nitzsch and *Trichodectes* Nitzsch. He divided *Philopterus* into five subgenera: *Docophorus* Nitzsch, *Nirmus* Nitzsch, *Lipeurus* Nitzsch, *Goniodes* Nitzsch and *Ornithobius* Denny. Although nomenclaturally correct, this has been ignored in the checklists of HARRISON (1916), HOPKINS & CLAY (1952) and PRICE et al. (2003). Thus, all species described by DENNY (1842) in *Philopterus (Docophorus)* are listed there as originally placed in “*Docophorus*”, although this subgenus was only raised to a genus later, by GIEBEL (1866).

5 The fact that DENNY (1842) is said to have described *Philopterus reguli* only from a female, as NAJER et al. (2020: 32) claim, only shows that they did not actually (attentively) read his description!

6 CLAY (1947: 550) complains that Thompson's survey is incomplete: “In the case of the Denny collection [THOMPSON, 1937, pp. 74–81], twenty of the species marked as missing are, in fact, represented by one or more specimens.” Instead of listing these missing species, it only referred to two, “*Nirmus claviformis*” (not even mentioned by THOMPSON l. c.) and “*Lipeurus gyricornis*”, for which neotypes have been unnecessarily established. Consequently, it leads to the following conclusion: “Neotypes for Denny and Piaget species should not, [...], be erected without reference to the British Museum.” To sum up: THOMPSON (1937) records the absence of type material of 38 species described by Denny. According to CLAY (1947), however, there are 20 species for which types are not absent, leaving 18. After a comparison with HOPKINS & CLAY (1952), it is easy to find out which of the 18 species are Denny's, of which after THOMPSON (1937) and CLAY (1947) there is no type material left, as all 38 species names are marked with an asterisk. Apart from the doubtful individual mentioned above, nothing of the original material of *Philopterus reguli* Denny has apparently been preserved (THOMPSON 1937: 78).

GIEBEL (1874: 120), PIAGET (1880: 60 f.)⁷ and SÉGUY (1944: 252) knew *P. reguli* only from Denny's description. Only ZŁOTORZYCKA (1964: 421; 1977: 103, 105) and ZŁOTORZYCKA & LUCIŃSKA (1975: 287 f.) describe "*Docophorus reguli* (Denny, 1842)" ex *Regulus r. regulus* more precisely (but without comparison with Denny's "syntype"). For this purpose they had 22 ♂ and 46 ♀ from Poland and 2 ♀ from Germany from more than 20 host individuals available. From this rich authentic material, NAJER et al. (2020) examined numerous specimens, all (!) of which they unnecessarily transferred to "*Philoaterus gustafssoni*". One should have expected the authors to clarify the actual identity of "Dennys *Philoaterus* female", which is very doubtful with regard to its host. However, this necessary step was sacrificed to the false ambition of naming a new species while leaving another in taxonomic uncertainty. Following to this state of affairs it is consistent to completely suppress the allegedly syntypic individual with dubious host origin, i.e. to exclude it from any further taxonomic evaluation as if it did not even exist.

There is little doubt that only one *Philoaterus* species, *P. reguli* Denny, lives on *Regulus regulus* and probably most, if not all, of the collections from the Goldcrest reported so far belong to this species.

***Philoaterus reguli* DENNY, 1842**

Fig. 4, 6–7, Tab. 2

Pediculus subflavescens Geoffroy, 1763, pro parte. BLAGOVESHCHENSKY (1940, 1951).

Philoaterus (Docophorus) reguli Denny, 1842 (DENNY 1842: 45, 91, plate 6, Fig. 4 [see here Fig. 4])

New synonym: *Philoaterus gustafssoni* Najer, Papoušek, Adam, Trnka, Quach, Nguyen, Figura, Literak & Sychra, 2020 (European Journal of Taxonomy 632: 19)

Type host: *Regulus r. regulus* (Linnaeus, 1758)⁸

Material: 2 ♂, 3 ♀, 3 larvae (L III) from 5 living host individuals, namely 1. 1 ♂, 1 ♀ (M. 3508.) ex *R. r. regulus*, 8.4.1977 Serrahn, East Mecklenburg, GDR

7 "La description de Denny est trop vague pour l'assimiler à quelqu'une des variétés précédentes. L'auteur l'a trouvé sur un *Regulus aurocapillus*. [...]"

8 According to the geographical origin, the type host would have been *Regulus regulus anglorum* Hartert, 1905. Since VAURIE (1959), however, it has been included in the nominate form of *Regulus regulus* (DICKINSON & CHRISTIDIS 2014, del HOYO & COLLAR 2016, SHIRIHAI & SVENSSON 2018).

[Germany], leg. F. Balát. 2. 1 ♂ (M. 3510.) ex *R. r. regulus*, 10.4.1977 Serrahn, East Mecklenburg, GDR [Germany], leg. F. Balát. 3. 1 ♀ (M. 3507.) ex *R. r. regulus*, 11.10.1978 Serrahn, East Mecklenburg, GDR [Germany], leg. F. Balát. 4. 1 ♀ (M. 6519.) ex *R. r. regulus*, c. 1980 Cismar, District of East Holstein, Lübeck Bay/Baltic Sea, Schleswig-Holstein, FRG [Germany], leg. Vollrath Wiese. 5. 3 larvae (M. 6520.) ex *R. r. regulus*, 8.5.2020, Kalmberg near Breitenheerda, district of Saalfeld-Rudolstadt, Thuringia, Germany, leg. E. Mey (Hi KX4712).

Neotype ♂ (M. 3510.) and 4 "neoparatypes" in Natural Science Collections, Martin Luther University Halle-Wittenberg in Halle (Saale), Germany.

Neotype and "neoparatypes" of *Philoaterus reguli* Denny, 1842 are (apart from obvious defects) widely compatible with the detailed description of "*Philoaterus gustafssoni* Najer et al., 2020", so that a repetition of the same is not necessary here. However, some comments on the diagnosis of the species are required.

NAJER et al. (2020) have correctly recognised that due to the unusual occurrence of more than two pronotally meso- or macrochaetes among Eurasian *Philoaterus* representatives, *P. reguli* has a remarkable similarity with some *Philoaterus* species living on Paridae. This circumstance alone should justify the inclusion of these species, at least for the time being, in the *reguli* group.⁹ Nevertheless, this diagnostic feature also seems to apply to other philoaterids that live on phylogenetically completely different bird families than tits and kinglets. It is known from *Paraphiloaterus*¹⁰, which occurs on bowerbirds (Ptilonorhynchidae) in Australia and New Guinea. Another Australian philoaterid group on the Falcunculidae, still undescribed, also possesses this apparently ancient feature.

9 It proved to be wrong, on the one hand, to combine the *Philoaterus* species of the Paridae in the *palescens* species group and, on the other hand, to place *Philoaterus thuringiacus* Mey ex *Parus major* and (with reservations) *Lophophanes cristatus* in one group with *Philoaterus reguli* (MEY 1988: 76). Assigning *P. thuringiacus* to a specific species group must remain open for the time being.

10 The type host of the generotype, *Paraphiloaterus styloideus* Mey, is according to my as yet unconfirmed assumption, an Australian bowerbird species and not *Corcorax melanorhamphos* as indicated (see MEY 2004 a: 188). The *Paraphiloaterus meyi* described from New Guinean Satinbirds (Cnemophilidae), however, does not possess a posterior-central pronotal mesochaete pair (GUSTAFSSON & BUSH 2014)!

There are two *Philopterus* groups among the Paridae, which can be distinguished today by the pronotal setae. On the one side with only one pair of pronotal setae there is *Philopterus thuringiacus* ex Great Tit *Parus m. major* and Crested Tit *Lophophanes cristatus* (see MEY 1988: 76 and ZŁOTORZYCKA & LUCIŃSKA 1976: 294 f.), on the other side with three to about 11 pronotal setae there are at least four species:

1. *Philopterus pallescens* Denny, 1842 ex *Poecile palustris dresseri* (Stejneger),
2. “*Docophorus rutteri* Kellogg, 1899” ex *Poecile atricapillus occidentalis* (S.F. Baird), [= type host] (Fig. 5) and ? *P. montanus* ssp. (Conrad),
3. *Philopterus taigensis* Fedorenko & Vasjukova, 1985 ex *Poecila c. cinctus* (Boddaert),
4. “*Docophorus h. hercynicus*” Mey, 1988 ex *Cyanistes c. caeruleus* (Linnaeus) and
5. “*Docophorus hercynicus peripariphilus*” Mey, 1988 ex *Periparus a. ater* (Linnaeus).¹¹

For the sake of completeness, a few more parids should be mentioned here on which philopterids have been collected under the invalid name “*Philopterus subflavescens* (Geoffroy, 1762)” (see HOPKINS & CLAY 1950: 269 f.), which at the time of its introduction contradicted Article 15 of the Code (ICZN). At least they indicate that *Philopterus* sp. is more widespread on tits than we know so far. From Azerbaijan (BLAGOVESHCHENSKY 1940: 48): 2 ♀ from two Great Tits *Parus m. major* (Linnaeus). From Tajikistan (BLAGOVESHCHENSKY

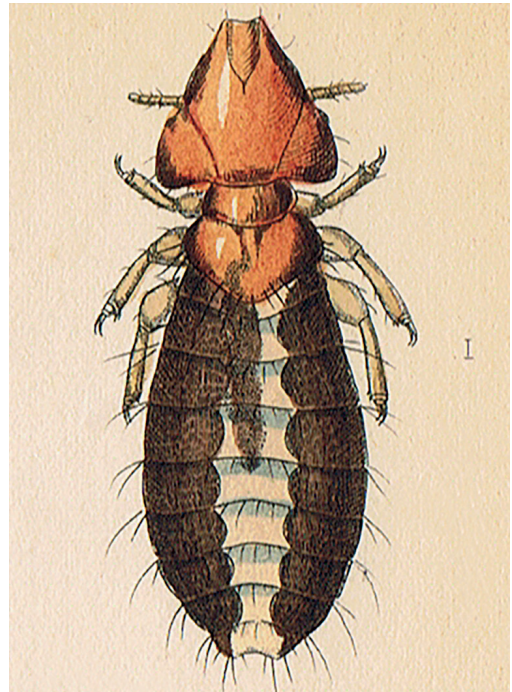


Figure 4. *Philopterus (Docophorus) reguli* Denny, 1842. From DENNY (1842), plate VI, figure 4. Copperplate engraving. Del. et sculp. Henry Denny.

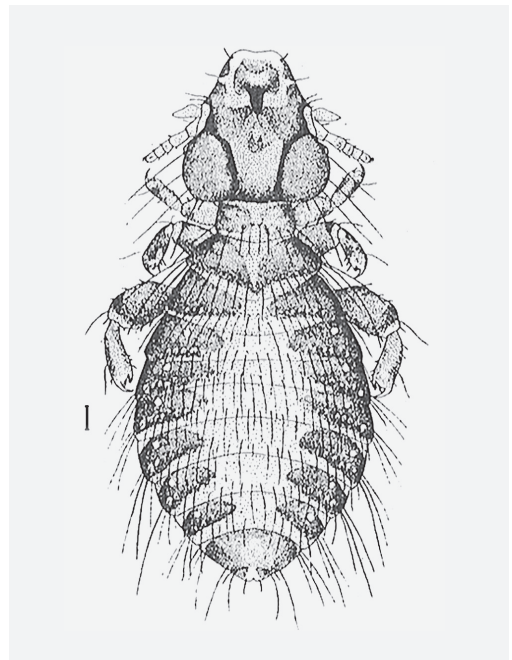


Figure 5. *Philopterus rutteri* (Kellogg, 1896), ♀. Body length 2 mm. From KELLOGG (1896), plate I, fig. 3. Lithography. Del. Mary Wellman.

¹¹ Of No. 1 (after Denny also collected from *Parus major [newtoni]*) no “type material” survives (THOMPSON 1936: 78, HOPKINS & CLAY 1952: 287; see also NAJER *et al.* 2020: 20). No. 2 is described from one female and an immature specimen from Kodiak Island, Alaska. The “type” (♀) is located in the Museum of Stanford University, USA (CARRIKER 1957: 98). According to PRICE *et al.* (2003: 216), *P. rutteri* is also found on Oak Titmouse *Baeolophus inornatus* (Gambel), but they do not provide any evidence for this. However, KELLOGG & CHAPMAN (1899: 65) mention 3 individuals of “*Docophorus communis*” from this host species from California. It is still unclear (see MEY 1988: 73) whether *Philopterus rutteri* is actually conspecific with the *Philopterus* clades living on the Palaearctic Willow Tits *Poecile montanus* ssp. From E. Hartert 1905 until the mid-1950s, the Black-capped Chickadee *Poecile atricapillus* was considered a subspecies of *P. montanus* (see VOUS 1964: 232). No. 3 was described from 3 ♂ and 2 ♀ ex Siberian Tits from Yakutia. Siberian Tits are slightly larger than Willow Tits. In the *reguli* group *P. taigensis* is the largest species. No. 4. & 5. Whether both forms should be recognized as independent species (as formally PRICE *et al.* 2002: 214 f.) is in my opinion still undecided.

Table 2: Body measurements (mm) of neotype and neoparatypes of *Philopterus reguli* Denny, 1842 (Phthiraptera, Ischnocera, Philopteridae s. l.) ex *Regulus r. regulus* (Linnaeus, 1758).

	slide no. Mey				
	3510.	3508.	3508.	3507.	6519.
type	neotype	neoparatypes			
sex	♂	♂	♀	♀	♀
Total length	1.53	1.50	2.05	2.11	2.14
Head length	0.50	0.48	0.59	0.57	0.55
Forehead width	0.33	0.33	0.42	0.40	0.38
Occiput width	0.48	0.45	0.59	0.57	0.52
Prothoracic width	0.27	0.27	0.34	0.34	0.32
Mesometathoracic width	0.41	0.40	0.54	0.54	0.48
Abdominal width	0.69	0.60	0.89	0.93	0.93

1951: 291): 1 ♀, 4 larvae from two out of three examined Rufous-naped Tits *Periparus rufonuchalis* Blyth, 3 ♂, 5 ♀, 12 larvae from one of four Yellow-breasted Tits *Cyanistes cyanus flavipectus* (Severtsov) and 5 ♂, 14 ♀, 19 larvae from 8 of 23 Great Tits *Parus major ferghanensis* Buturlin (*cinereus* subspecies group).

It is assumed that the conspecificity of *Philopterus reguli* with one of the parid-parasitic *Philopterus* species just mentioned is unlikely, given the current, albeit very patchy, state of knowledge.

It is particularly peculiar that *P. reguli* is slightly to significantly larger in all body dimensions than the majority of species in the *reguli* group. Especially in females, this is also expressed in the size of the tergopleural plates (with specific setae to be considered). Given the body size of the Goldcrest (and other *Regulus* species), which is known to be less than that of all tit species, this inverse ratio was not to be expected in their *Philopterus*. Only *P. taigensis* seems to be an exception, because according to FEDORENKO & VASJUKOVA (1985) it is, at 1.79–1.85 mm in males (n = 3) and 2.25–2.38 mm in females (n = 2), clearly larger than *P. reguli* (see Table 2). What is actually hidden behind this phenomenon, which does not seem to follow Harrison's rule, and what can be taxonomically derived from it, remains to be clarified. In this context, it is worth mentioning *P. troglodytis* Fedorenko, 1986 ex *Troglodytes troglodytes* [*dauricus*], whose female (n = 2; ♂ unknown) with a body length of 1.46–1.59 mm comes closer to the ex-

pectations of Harrison's rule, as the Northern Wren is only slightly larger than the Goldcrest.

The trapezoidal forehead of *P. reguli* appears shortened against its wide temples. The shape of the clypeal hyaline also reinforces the tapering of the head (Fig. 6).

The temporal seta mts 5 is dorso-submarginal as a fine bristle (even more delicate than the marginal mts 4) in all individuals of the neotype series of *P. reguli* (Fig. 6). In other forms of the *reguli* species group (such as *P. h. hercynicus*, *P. h. peripariphilus*, *P. pallezens* and *P. rutteri*) mts 4 and 5 are of equal size, insert marginally and are slightly stronger and longer than in *P. reguli*.

The pronotal macrochaetes (Fig. 6) are the following in the neotype series and two larvae of *P. reguli*: ♂ (n = 2 incl. neotype) 6 (3/3 = 3 on each side), ♀ (n = 3) once each 6 (3/3), 7 (3/4) and 9 (4/5). Larvae (n = 2) 6 (3 on each side) and 8 (4 on each side). The macrochaetes reach to the posterior margin of the mesometanotum.

Mesometanotum posterior-marginal with a pleural mesochaete (trichobothrium) on each side. Between these are, in ♂ 19–20, ♀ 20–22 and larvae 19 densely packed meso- and macrochaetes. Their distribution pattern is striking: a mesochaete is followed by a macrochaete and vice versa. Only in the middle of the body is a smaller bristle gap (Fig. 6).

Abdominal segment II lacks pleural seta. Only in one ♂ (3508.) there is a macrochaete on each side in the posterior outer corner.

The male genitalia of *P. h. peripariphilus* (see MEY 1988: Fig. 7) have elongated teat-like parameres which



Figure 6. *Philopterus reguli* Denny, 1846. ♀, “neoparatypus”. Torso (dorsal) up to and including II. (= 1st visible) abdominal segment. Scale 0.1 mm. Del. E. Mey.

end at the same level as the endomeric part. In *P. reguli* the endomeron protrudes relatively far beyond the end of the parameres (Fig. 7).

With regard to chaetotaxy and sclerites, the presentation of the last two abdominal segments in males and females of “*P. gustafssoni*” (NAJER et al. 2020: 21) differs considerably from their actual presentation in *P. reguli*.

A triplet of bristles on both sides of the anterior part of the pronotum is common to all *Philopterus* species. It is usually located under the occipital roof and is usually not visible on specimens. Only by preparation-related displacement of the head towards the prothorax does it occasionally become freely visible.

In many *Philopterus* species there are two morphotypes with regard to femur and tibia size and the claws of the 3rd pair of legs. They are so conspicuous that one could consider them a taxonomic feature. For example ZŁOTORZYCKA & LUCIŃSKA (1976) have interpreted this in this sense in *P. rubeculae* Denny and *P. rutteri*. As both morphotypes often occur simultaneously in larvae and imagines in the same population (dem), they are probably of no importance for species diagnostics. This phenomenon has been known for a long time in the *Philopterus* complex (see MEY 2004 a: 156 ff.), but has not yet been examined in detail. Therefore, it should be pointed out again, especially since it has also been demonstrated in the *reguli* group (neotype and “neoparatypes” of *P. reguli* belong to morphotype 2, the three larvae to morphotype 1):

Morphotype 1: All three pairs of legs with an unequal pair of claws. Like a curved needle, the “immovable” one is slightly shorter than the claw, which is stronger in width and can be folded towards the tibia. There are only slight gradual differences in the size of all three pairs of legs.

Morphotype 2: Only the 1st and 2nd leg pair have remained unchanged compared to type 1. In the 3rd leg pair, however, the femur and tibia have grown almost twice as large and the tibia has only one large movable shovel-like claw, while the “immovable” one has been completely or hardly demonstrably reduced.

In order not to unnecessarily extend the technical scope of this response, a more detailed morphological description of the *reguli* species group will be reserved for a later study based on evaluation of more extensive *Philopterus* material.

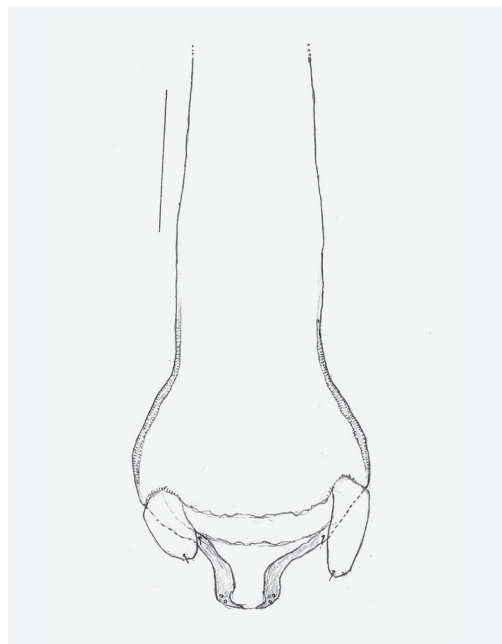


Figure 7. *Philopterus reguli* Denny, 1846. Male genitalia of the neotype. Scale 0.05 mm. Del. E. Mey.

On the topography, intensity and extensity of *Philopterus regulus* infestation

The three third larvae of M. 6520. (a fourth was lost during preparation; see above material) were collected from the feathers of the head plate (“fire crown”). On the throat of the host there were about 15 single egg shells of *Philopterus reguli*.¹² Imagines could not be detected. According to BLAGOVESHCHENSKY (1940: 49), off two Goldcrests *Regulus regulus buturlini* von Loudon on 10. and 14.3.1934 in the Lenkoran region of the Azerbaijan SSR a total of 3 ♂, 5 ♀ and 6 larvae of “*Philopterus subflavescens*” were collected by M. V. Storm. BLAGOVESHCHENSKY (1951: 291) was able to report from the examination of 25 Goldcrests *Regulus regulus tristis* Pleske collected in three winters (Dec. 1939, January 1940 and 1947) in Tajikistan that 13 of these host individuals harboured a total of 3 ♂, 14 ♀ and 40 larvae of “*Philopterus subflavescens*”.

12 NAJER et al. (2020: 32 f.) noted the observation of *P. reguli* “the lice did not occur only on the head of the hosts but reportedly also their nape, mantle and throat”. It has been known for a long time that *Philopterus* spp. is naturally at home in these plumage parts.

Excusable failure of authors and editorial work?

One has to wonder how editors and reviewers were able to overlook all the technical inconsistencies and errors inherent in the contribution by NAJER et al. (2020), which are addressed here. All 9 authors of the article are equally responsible for its content. Unfortunately, it is not clear from the text which of the authors contributed what part of the paper. In international journals it has long been common practice to identify authors' contributions. Had the editors of the "European Journal of Taxonomy" (EJT) adopted this principle and insisted on its enforcement, this embarrassing failure would probably not have occurred. There is some evidence to suggest that the work on this paper was solely in the hands of the first author and that he brought in co-authors as a courtesy with a mutual prospect of gaining reputation and/or mistakenly reinforcing the professional weight of the paper. In this sense, O. Sychra apologised to me in a letter for the false statements concerning the loan contract.

My proposal to the editor to include a correction to NAJER et al. (2020) in the EJT was rejected. Initially, there was only the yawning discrepancy between the loan contract (Fig. 1) and the personal accusations of NAJER et al. (2020). The EJT saw no reason to at least share responsibility for this failure. Instead, the editor made it clear that the unequivocal statements about "withheld loan material" had been demanded by a reviewer, i.e. neither the editor nor the authors were directly responsible!

However, the fact that the considerable technical shortcomings of NAJER et al. (2020) were not recognised or ignored by the reviewers does not, to say the least, cast a good light on the reviewers and/or on the EJT's editorial team. The contribution by NAJER et al. (2020) lacked the necessary maturity that one might expect from a publication in the EJT.

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