

Valid name for the Pratt's leaf-nosed bat, *Hipposideros pratti* (Hipposideridae, Chiroptera, Mammalia)

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ABSTRACT. Leaf-nosed bat *Phyllorhina swinhoei* described by Peters in 1871 from the South-East China was traditionally treated as a synonym of *Hipposideros armiger*. The only exception was represented by short publication of Pohle, published in 1943, where he mentioned that the *Ph. swinhoei* type actually belongs to *H. pratti* — point of view not accepted by the later authors. Studying collections of the Berlin Zoological Museum, I have found that three specimens from the *Ph. swinhoei* type series belong to *H. armiger*, while two other, including the holotype, to *H. pratti*. Since the Peters' name is older, the species should be named *H. swinhoei* (Peters, 1871), and the whole species group should be renamed respectively.

KEY WORDS: *Hipposideros armiger*, *Hipposideros pratti*, South-East Asia, taxonomy, nomenclature.

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Валидное название листоноса Пратта *Hipposideros pratti* (Hipposideridae, Chiroptera, Mammalia)

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РЕЗЮМЕ. Листоноса *Phyllorhina swinhoei*, описанного Петерсом в 1871 г. из юго-восточного Китая, традиционно включали в синонимику *Hipposideros armiger*. Исключение составляла краткая публикация Пола (Pohle) 1943 г., где он указал, что тип *Ph. swinhoei* на самом деле относится к *H. pratti*, и которая не была принята во внимание последующими авторами. Работая с коллекциями Берлинского зоологического музея, мы установили, что три экземпляра из типовой серии *Ph. swinhoei* принадлежат к *H. armiger*, а два, включая голотип — к *H. pratti*. Поскольку название, данное Петерсом, старше, то вид должен называться *H. swinhoei* (Peters, 1871), и соответственно должна быть переименована и видовая группа.

КЛЮЧЕВЫЕ СЛОВА: *Hipposideros armiger*, *Hipposideros pratti*, Юго-Восточная Азия, систематика, номенклатура.

Background

The genus *Hipposideros* is one of the largest mammalian genera, containing no less than 70 living species distributed throughout Palaeotropics and Australia (Simmons, 2005). In this case, numerous unresolved taxonomic and nomenclature questions concerning this genus are quite predictable.

The “*pratti*” species group was stated by Tate (1941) for only two species: *H. pratti* and *H. lylei*. One additional species, *H. scutinares*, was recently described (Robinson *et al.*, 2003). In the light of the genetic data species independence of this form is doubtful (Francis *et al.*, 2010). According to Tate, group members are similar with another large South-East Asian *Hipposideros*, *H. armiger*, in general size and proportions of skull and teeth, though in *H. pratti* the cheek teeth are less robust than in *H. armiger* and skull possess well-pronounced frontal depression. Externally members of the “*pratti*” group are characterized by well-developed transverse lobate structures behind the nose leaves, espe-

cially huge in adult males (Tate, 1941; Francis, 2008; Kruskop, 2013).

In 1871 Peters on the basis of five specimens, collected in Amoy (= Xiamen), Fujian Province, China, described a new species *Phyllorhina swinhoei*. However Peters himself supposed possible synonymy between his newly described form and *Ph.* (= *Hipposideros*) *armiger* and Dobson (1876) followed this opinion. Allen (1938) in his monograph on mammals of China and Mongolia considered *H. swinhoei* as a subspecies of *H. armiger*, distinct from the typical form. Allen definitely possessed collection material of *H. armiger* and *H. pratti* from China, but he presumably never saw any types of *H. swinhoei* (see Allen, 1938: 192). In 1941 Tate, making an observation of *Hipposideros*, wrote that he saw specimen of *H. armiger* from *terra typica* of *Ph. swinhoei* and found no significant difference between it and *H. armiger* s. str.; thus he suggested to treat the name *swinhoei* Peters as a full synonym of *H. a. armiger*. It is noticeable, that the only Amoy animal seen by Tate was a mounted specimen with skull inside (Tate, 1941: 371).

Two years later Pohle (1943) made an overview of the Peters' types and mentioned that the syntypes of *P. swinhoei* actually belong to *Hipposideros pratti*, not to *H. armiger* and that in this case the name "*swinhoei* Peters, 1871" has the priority against "*pratti* Thomas, 1891."

However, in subsequent publications this opinion was entirely ignored. Ellerman and Morrison-Scott (1951), following Allen's opinion, considered *P. swinhoei* as a subspecies of *H. armiger*. Hill (1963) in his revision of *Hipposideros* concurred with Tate, appealing to the own Peters' opinion. Hill and Smith (1992), Koopman (1994) and Simmons (2005) followed the Tate's point of view without any comments. Robinson (Robinson *et al.*, 2003), while discussing content of the "*H. pratti*" species group, not mentioned *H. swinhoei* at all. Finally, Turni and Kock (2008), observing bat types in the collection of the Berlin Zoological Museum, uniquely attributed the type series of *P. swinhoei* to *H. armiger*, indicating that Pohle erroneously treated *P. swinhoei* as a senior synonym of *H. pratti* (Turni & Kock, 2008: 39).

Material

While working with scientific collections of the Berlin Museum of Natural History (Berlin Zoological Museum, ZMB), the author had possibility to study also the type series of *Hipposideros swinhoei*, collected by Peters in Amoy, China. It consists of five specimens: holotype ZMB 3996 (female, skin and skull; see Pohle, 1943; Turni & Kock, 2008) and four paratypes (ZMB 3946 female, skull; ZMB 3947 sex unknown, skull; ZMB 3995 female, skin and skull; ZMB 3997 male, skull). I compared them with 31 specimens (skins or alcohol preserved bodies with extracted skulls) of *Hipposideros* from the "*armiger*" and "*pratti*" species groups, housed in ZMB, Zoological Museum of Moscow University (ZMMU), British Museum of Natural History (MNH), National Museum of Natural History in Paris (MNHN), and Natural History Museum of Geneva (MHNG):

H. armiger: China: ZMB 43280, sex unknown; ZMB 43281, sex unknown; ZMB 43282, sex unknown; ZMB 4328, female; ZMB 43285, sex unknown; ZMB 4490, male; MNHN CG1983-1967, sex unknown. Laos: MNHN CG1948-361, male (holotype of *H. armiger tranninhensis*). North Vietnam: ZMMU S-192858, female; ZMMU S-192859, female; ZMMU S-192860, female. Central Vietnam: ZMMU S-167152, male; ZMMU S-167155, male; ZMMU S-167169, male; ZMMU S-167563, male. Thailand: MNHN CG1991-1516, male; MNHN CG1991-1517, female; MNHN CG1991-1518, male.

H. cf. griffini: South Vietnam: ZMMU S-191905, male; ZMMU S-191906, male; ZMMU S-175145, female.

H. pratti: China: ZMB 31803, male; ZMB 43286, male; ZMB 43290, male; MNH 91.5.11.1, female (holotype of *H. pratti*); MHNG 821.76, female.

H. lylei: Thailand: MNH 13.4.18.3, male (holotype of *H. lylei*).

H. scutinares: Central Vietnam: ZMMU S-167163, female; ZMMU S-167164, female; ZMMU S-167168, male; ZMMU S-167176, male.

Discussion

Members of "*H. armiger*" and "*H. pratti*" complexes are quite similar in overall size, general proportions and skull measurements. They can be reliably distinguished by shape of nasal structures, more narrow and rectangular in *H. armiger*, with four pairs of lateral leaflets; and more rounded and wide in *H. pratti* and relatives, with two pairs of proportionally large lateral leaflets and — in case of males — with large transverse lobes behind the nasal leafs. Another good diagnostic feature is the skull lateral profile, evenly sloped in frontal part in *H. armiger* and concaved in *H. pratti* complex (Tate, 1941; Hill, 1963; Kruskop, 2013).

It is well seen that skulls in two of five specimens in the type series — holotype ZMB 3996 and paratype ZMB 3947 — undoubtedly demonstrate clear features of the "*H. pratti*" species group (Fig. 1). On dry skin of the holotype transverse lobes cannot be seen, because the specimen is female, but nasal leafs definitely possess shape characteristic for *H. pratti*: somewhat rounded anterior leaf with single medial notch and two pairs of supplementary leaflets. Three other paratypes belong to *H. armiger*.

This situation can be described as a taxonomic "blind spot." Noticeable, that three Chinese specimens of *H. pratti* in ZMB collection, originated from Kuangtung (? = Guangdong), China, were originally labeled as "*Hipposideros swinhoei*". On the original label of the ZMB 3996 the name *pratti* was wrote, probably by Pohle's hand. Nonetheless, nobody paid attention to these facts in last seven decades.

Possible explanation can be as follows. All the specimens in type series were captured in the same time in the same place. Their size similar (widths across canines in ZMB 3996, 3947, 3997, 3995, 3946 are 8.19, 8.50, 8.22, 8.65, 8.66, respectively; upper tooth row lengths are 12.07, 12.65, 12.00, 12.61, 12.36) and lies within or nearby size variability of both *H. armiger* (8.01–8.81; 11.97–12.45) and *H. pratti* (8.06–8.79; 12.10–12.76: Robinson *et al.*, 2003). The only male in the type series of *P. swinhoei* is *H. armiger* (ZMB 3997), so neither Peters himself nor Dobson could pay attention to the characteristic transverse lobes, because they are not well developed in females (and besides were additionally tightened on the stuffed skins). Skulls were extracted from skins presumably only in 1940s. That is why Peters and later Dobson and other researchers of the XIX century did not found differences between *H. armiger* and the new taxon, and Tate and other later authors (except for Pohle who really worked with *H. swinhoei* type) followed in general their opinion. Thus, only position of Turni and Kock (2008), who



Figure 1. Lateral view on skulls of the holotype (ZMB 3996, top) and paratype (ZMB 3947, middle) of *Phyllorhina swinhoei*, compared with a skull of *H. armiger* (ZMB 43281, bottom) from China.

had a possibility to view a type specimen and check its species affiliation, rises certain questions.

The type specimen of *H. swinhoei* is quite similar in size and shape to the type of *H. pratti* and has nasal leaf shape also typical to that species. According to Robinson *et al.* (2003) of the “*H. pratti*” species group only *H. pratti* itself occurs in Fujian and in the Southeast China on the whole. Though the name “*pratti*” was definitely used as valid species name by many authors in last 50 years, meantime the name “*swinhoei*” was also used as valid name after 1899 (as a subspecies of *H. armiger*; see Allen, 1938; Ellerman & Morrison-Scott, 1951). So, the conditions declared by ICZN for the reversal of name precedence (ICZN, 1999; see article 23.9.1) are not fully complied, and the name “*swinhoei*” can not be considered *nomen oblitum*. Thereby, *H. swinhoei* (Peters, 1871) should be excluded from the synonymy of *H. armiger* and regarded as a full senior synonym of *H. pratti*. In this case the whole species group should be renamed into “*H. swinhoei*” species group.

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