

Supplementary S1

List S1

List of Pteromyini specimens used for the qualitative morphological comparison.

Belomys pearsonii: ZMMU S-195387 Vietnam, Cao Bang Prov.; ZMMU S-195433 Vietnam, Kon Tum Prov.; ZIN 99287 Vietnam, Phu Tho Prov.; NMNS 9180, NMNS 5280, NMNS 17438 Taiwan.

Euglaucomys fimbriatus: ZIN 3556 India, Himachal Pradesh

Glaucomys sabrinus: ZMMU S-64255 USA, Montana; ZMMU S-190363 Canada, Ontario

Hylopetes alboniger: ZMMU S-172577 – 172578 Vietnam, Tay Ninh Prov.; ZIN 97730, ZIN 97731, ZIN 98915 Vietnam, Lam Dong Prov.; ZIN 105264 Vietnam, Nghe An Prov.; ZIN 98664 Laos, Khammouane

Hylopetes lepidus: ZMMU S-169692 – 169695 captivity (from ?Java)

Hylopetes spadiceus: ZIN 98663 Laos, Khammouane

Petaurista philippensis: ZMMU S-133463, ZMMU S-133464 Vietnam, Gia Lai Prov.

Petinomys setosus: ZIN 71892, ZIN 71893 Malaysia, Johore; RMNH.MAM.13316 (syntype) Indonesia, Sumatra

Petinomys vordermanni: ZIN 71894, ZIN 71895 Malaysia, Selangor

Pteromyscus pulverulentus: ZIN 71896, ZIN 71897 Malaysia, Johore

Pteromys volans: ZMMU S-44505 Russia, Sayan Mts.; ZMMU S-138938, ZMMU S-184380 Russia, Moscow Reg.

Additionally, available information about morphological features of *Petinomys lugens* (USNM 121531) and *Iomys horsfieldii* (USNM 153684) was taken from the online database of the National Museum of Natural History, Washington (<https://collections.nmnh.si.edu/search/mammals/>).

Supplementary S2

List S2

List of the external and cranial measurements used in the study (scheme of the cranial measurements was adopted from [15, 16, 26]; body mass is in grams, all other are in mm) and selected external and cranial measurements of the specimen S-207534 (Table S1).

Body mass (M), head and body length (from tip of snout to the anus, HB), tail length (without tip hairs, T), height of ear pinna (without tip hairs, E), length of the hind foot (without claws, HF);

Greatest skull length (from the tip of rostrum to the posterior edge of the occiput (GSL), condyle-basal length (CBL), skull breadth at mastoids (MB), zygomatic breadth (ZB), height of zygomatic arch (in most wide place, ZH), breadth of braincase above mastoids (BB), height of braincase (without auditory bullae, BH), rostrum breadth (RB), length of nasal bones (NL), maximum width of nasal bones (MWN), interorbital breadth (IOB), postorbital breadth (POB), length of the incisive foramina (LIF), length of bony plate from incisive foramina to mesopterygoid fossa (LBP), length of bony plate from incisive alveoli to mesopterygoid fossa (LBP2), postpalatal length from mesopterygoid fossa to foramen magnum (PPL), length of auditory bulla (LAB), gap between inner edges of auditory bulla (IBG), length of upper molariform row (P3–M3), greatest palatal breadth (GPB), palatal breadth between first molars (M1–M1), mandible length (to the articular process, ML), mandible height (to the tip of coronoid process, MH), length of lower molariform row (p4–m3).

Table S1. Selected external and cranial measurements of the specimen S-207534 compared with *Petinomys setosus* (after [16]).

| Measurements | ZMMU S-207534 | <i>P. ?setosus</i> | <i>P. setosus</i> | | <i>P. setosus</i> | |
|--------------|--------------------|--------------------|----------------------------|--------|---------------------------|-------|
| | (Phu Yen, Vietnam) | (Lao PDR; n = 1) | (Northern Thailand; n = 3) | | (Western Malaysia; n = 4) | |
| | | | Min–Max | Mean | Min–Max | Mean |
| M | 47 | 47 | – | – | 28.60–58.00 | 42.4 |
| HB | 115 | 129.8 | 111–140 | 123.67 | 109–127 | 116 |
| T | 109 | 126.9 | 116–120 | 117.33 | 93–119 | 106 |
| E | 18.1 | 15.3 | 17–19 | 17.67 | 14–15 | 14.75 |
| HF | 26.7 | 24.8 | 18–24 | 21.33 | 22–24 | 23 |
| GSL | 31.73 | 32.12 | – | – | – | – |
| CBL | 29.98 | 30.46 | 27.91–30.50 | 29.31 | 26.98–30.56 | 28.93 |
| MB | 17.34 | 16.94 | – | – | – | – |
| ZB | 19.08 | 19.56 | – | – | – | – |
| ZH | 1.9 | 2.05 | 1.83–1.91 | 1.88 | 1.40–2.03 | 1.65 |
| BB | 16.92 | 16.64 | 16.20–16.82 | 16.5 | 15.37–15.97 | 15.68 |
| BH | 11.62 | 11.58 | 10.09–11.02 | 10.5 | 9.79–10.92 | 10.39 |
| RB | 6.12 | 7.09 | 5.75–6.46 | 6.06 | 5.86–6.59 | 6.31 |
| NL | 6.94 | 7.58 | 7.23–7.83 | 7.48 | 6.99–7.98 | 7.36 |
| MWN | 4.59 | 4.26 | 4.45–4.94 | 4.63 | 3.82–4.67 | 4.28 |
| IOB | 6.88 | 7.07 | 6.59–6.89 | 6.75 | 6.19–6.61 | 6.41 |
| POB | 11.12 | 10.84 | 10.54–11.47 | 11.08 | 8.42–9.96 | 9.25 |
| LIF | 2.14 | 2.61 | 2.30–2.79 | 2.54 | 1.80–2.10 | 1.96 |
| LBP | 9.99 | 9.53 | 8.99–9.68 | 9.36 | 9.05–10.62 | 9.73 |

| | | | | | | |
|-------|-------|-------|-------------|-------|-------------|-------|
| LBP2 | 15.46 | – | – | – | – | – |
| PPL | 11.44 | 12.64 | 10.86–12.76 | 11.99 | – | – |
| LAB | 7.54 | 7.51 | 6.69–7.73 | 7.05 | 6.55–7.47 | 6.86 |
| IBG | 3 | 2.06 | – | – | – | – |
| P3–M3 | 5.66 | 5.66 | 5.47–5.79 | 5.6 | 5.08–5.43 | 5.29 |
| GPB | 7.94 | 7.65 | 7.24–7.51 | 7.38 | 7.27–7.89 | 7.53 |
| M1–M1 | 4.69 | 4.33 | 4.25–4.39 | 4.33 | 4.33–5.01 | 4.68 |
| ML | 17.99 | 17.84 | 16.99–17.41 | 17.2 | 16.25–17.66 | 17.19 |
| MH | 10.77 | 11.83 | 9.68–10.89 | 10.37 | 9.49–11.63 | 10.88 |
| p4–m3 | 5.55 | 5.68 | 5.33–5.58 | 5.47 | 5.23–5.46 | 5.34 |

Supplementary S3

Figure S1. Phylogenetic ML tree for the Pteromyini tribe reconstructed from alignment of the concatenated *cytb*, 12S, 16S and NADH genes. Numbers on tree nodes indicate bootstrap values.

