A NEW SPECIES OF *FELICOLA* (PHTHIRAPTERA: ISCHNOCERA: TRICHODECTIDAE) FROM THE FOREST GIANT Pouched RAT (*CRICETOMYS EMINI*) IN CAMEROON, AFRICA AND A REDESCRIPTION OF *FELICOLA HOPKINSI* BEDFORD, 1936

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Of the 56 described species in the genus *Felicola*, 55 are parasites of carnivores and 1 has been described from a primate (Perez and Palma, 2001). To date, no representative of this genus has been reported from a rodent. Such high host specificity is not uncommon among chewing lice, especially the trichodectids. As pointed out by Hopkins (1949), “each species of Trichodectidae occurs normally as a rule, on only one species of host, but occasionally on several hosts which, though very closely related, are not conspecific.”

In the present study, 1 of 15 Forest Giant Pouched Rats (*Cricetomys emini* Wroughton 1910) from Bawa, West Province, Cameroon (approx. 5°20'N, 9°54'E), purchased as food items by the first author during May 2007, was infested with 10 chewing lice, 6 females (5 adults and 1 juvenile) and 4 males (2 adults and 2 juveniles). This region constitutes a montane tropical forest lying along a volcanic ridge in western Cameroon. Tchuinkam et al. (2010) described the geography and climate of the region. Exceedingly little information is available on the ectoparasitic fauna of *C. emini*. Cook and Richardson (2010) reported on epifaunistic earwigs associated with these individual rats. No other ectoparasites were observed on the rat infested with chewing lice.

Lice were collected with watchmaker’s forceps and fixed in 70% ethanol. Soft tissues were dissolved with a 20% aqueous solution of potassium hydroxide. Specimens were stained with acid fuchsin, cleared in clove oil, and mounted in Canada balsam as described by Palma (1978). Preliminary study revealed the lice to represent a previously undescribed species in the genus *Felicola*. Comparison to descriptions of all previously described species of *Felicola* (Price, 2003) revealed the new species to be most morphologically similar to *Felicola hopkinsi* Bedf ord, 1936. The original description of *F. hopkinsi* was based on 2 individuals, a male and female collected from an African Palm Civet (*Nandinia binotata arborea*) in Kampala, Uganda in 1933. Although Bedford (1936) did not reference deposition of type specimens in his original description of *F. hopkinsi*, specimens designated in writing on the original slide labels as the male holotype and

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female allotype of *F. hopkinsi* were located in the collection of the Natural History Museum of London. Subsequently, a critical comparison of the new material to the type series of *F. hopkinsi* was conducted. A redescription of *F. hopkinsi* is given, providing new, more detailed information and the new species is described. All measurements are given in mm and terminology for plane shapes follows Clopton (2004). The holotype and allotype of the new species were deposited in the Natural History Museum of London (BNMH ENT). Paratypes were deposited in the Natural History Museum of London, Sam Houston State University, Entomology Collection at Sam Houston State University, Huntsville, Texas (SHSU) and the Peabody Museum of Natural History, Yale University, New Haven, Connecticut (YPM ENT).

**Felicola hopkinsi** Bedford 1936

Type host: *Nandinia binotata arborea*—African Palm Civet

Type locality: Kampala, Uganda, Africa

**Holotype male:** As in Figure 1. Total length, 1.15. Head very broadly ovoid, 0.32 long by 0.38 wide at widest point. Cephalic index (head length/head width) 0.80. Osculum absent but pulvinus attains margin. Dorsal preantennal sulcus absent. Medial broadening of clypeal marginal carina. Anterolateral margin of head slightly sinuate. Scape slightly expanded. Flagellomeres fused. No flagellar basal teeth on antennae. Short setae on head, sparsely distributed, most numerous on anterior portion of head and margins. Sitophore sclerite obtrulate. Thorax shallowly ovoid, 0.17 long by 0.29 wide. Prothorax with pronounced spiracles, the diameter of each exceeding 1/2 the length of the prothorax. Lateral trullate projections of mesothorax bearing 2 coarse setae at apex. Abdomen 0.71 long by 0.49 wide. Corporal index (total length/abdominal width) 2.3. Abdominal spiracles absent. Abdominal setae very short as shown in Figure 1. Terga I-VIII broadly obovoid. Tergum IX projected posteriorly, very deeply obtrullate. Genitalia length 0.368. Genitalia width 0.069 at widest point. Width of parameral arch 0.060. Parameres fused at base, tapering anteriorly, 0.127 long. Endomeres relatively straight and slender, 0.264 long.

**Allotype female:** As in Figure 2. Total length, 1.37. Head very broadly ovoid, 0.36 long by 0.44 wide at widest point. Cephalic index 0.82. Osculum absent but pulvinus attains margin. Dorsal preantennal sulcus absent. Medial broadening of clypeal marginal carina. Anterolateral margin of head slightly sinuate. Scape slightly expanded. Flagellomeres fused. No flagellar basal teeth on antennae. Short setae on head, sparsely distributed, most numerous on anterior portion of head and margins. Sitophore sclerite obtrulate. Thorax shallowly ovoid, 0.24 long by 0.38 wide. Prothorax with pronounced spiracles, the diameter of each exceeding 1/2 the length of the prothorax. Lateral trullate projections of mesothorax bearing 2 coarse setae at apex. Abdomen obovoid, 0.86 long by 0.63 wide. Corporal index 2.17. Abdominal spiracles absent. Abdominal setae very short as shown in Figure 2. Curvature of gonopophyses conforming to shape of distal
Fig. 1. Holotype male of *Felicola hopkinsi* Bedford 1936. Scale bar = 0.2 mm.
Fig. 2. Allotype female of *Felicola hopkinsi* Bedford 1936. Scale bar = 0.2 mm.
abdomen, very narrowly semifalciform, 0.129-0.148 long. Irregular rounded lobe at base of gonopophyses bearing 4 setae. Subgenital lobe present, apically deeply bifurcate, lateral margins weakly sigmoidal. Each posterior apex of subgenital lobe bearing 4 coarse setae.

**Remarks:** *Felicola hopkinsi*, described based on 2 specimens, has not been reported since its original description in 1936 underscoring the need for faunistic survey of lice in central sub-Saharan Africa. We detected a few setae that were not originally figured by Bedford (1936) (compare Fig. 1 to Fig. 24 of Bedford (1936)).

*Felicola rodentestris* Richardson and Cook, sp. nov.

**Type host:** *Cricetomys emini* Wroughton 1910—Forest Giant Pouched Rat

**Type locality:** Bawa, West Province, Cameroon, Africa (approx. 5°20’N, 9°54’E)

**Female (n=5):** As in Figure 3. Total length, 1.25-1.35. Head very broadly ovoid, 0.32-0.35 long by 0.39-0.43 wide at widest point. Cephalic index (head length/head width) 0.81-0.87. Osculum absent but pulvinus attains margin. Dorsal preantennal sulcus absent. Medial broadening of clypeal marginal carina. Anterolateral margin of head slightly sinuate. Scape slightly expanded. Flagellomeres fused. No flagellar basal teeth on antennae. Short setae on head, sparsely distributed, most numerous on anterior portion of head and margins. Sitophore sclerite obtrulate. Thorax shallowly to very broadly ovoid, 0.17-0.22 long by 0.37-0.39 wide. Prothorax with pronounced spiracles, the diameter of each exceeding 1/2 the length of the prothorax. Lateral trullate projections of mesothorax bearing 2 coarse setae at apex. Abdomen obovoid, 0.84-0.88 long by 0.59 to 0.64 wide. Corporal index (total length/abdominal width), 1.95-2.25. Abdominal spiracles absent. Abdominal setae very short as shown in Figure 3. Curvature of gonopophyses conforming to shape of distal abdomen, deeply to narrowly semicrescentic, 0.146-0.155 long. Irregular rounded lobe at base of gonopophyses bearing 3 or 4 setae. Subgenital lobe present, apically deeply bifurcate, lateral margins sigmoidal. Each posterior apex of subgenital lobe bearing 4 coarse setae.

**Male (n=2):** As in Figures 4 and 5. Total length, 1.10-1.18. Head very broadly ovoid, 0.32-0.33 long by 0.37 wide at widest point. Cephalic index 0.86-0.89. Osculum absent but pulvinus attains margin. Dorsal preantennal sulcus absent. Medial broadening of clypeal marginal carina. Anterolateral margin of head slightly sinuate. Scape slightly expanded. Flagellomeres fused. No flagellar basal teeth on antennae. Short setae on head, sparsely distributed, most numerous on anterior portion of head and margins. Sitophore sclerite obtrulate. Thorax shallowly ovoid, 0.17-0.18 long by 0.31-0.32 wide. Prothorax with pronounced spiracles, the diameter of each exceeding 1/2 the length of the prothorax. Lateral trullate projections of mesothorax bearing 2 coarse setae at apex. Abdomen 0.67-
Fig. 3. Holotype female of *Felicola rodentestris* n. sp. Scale bar = 0.2 mm.
Fig. 4. Allotype male of *Felicola rodentestris* n. sp. Scale bar = 0.2 mm.
0.70 long by 0.47 to 0.50 wide. Corporal index 2.2-2.5. Abdominal spiracles absent. Abdominal setae very short as shown in Figure 4. Terga I-VIII broadly obovoid. Tergum IX projected posteriorly, very deeply obtrullate. Genitalia length 0.326, width 0.061. Width of parameral arch 0.048. Parameres fused at base, tapering anteriorly 0.120, long. Endomeres relatively straight and slender, 0.244 long. Male genitalia shown in Figure 5.

**Etymology:** The specific epithet *rodentestris* refers to the unique host association exhibited by this species.

**Specimens deposited:** Holotype female, allotype male, and 1 female para-type (BMNH ENT 2014-38). Additional paratypes (YPM ENT 830591 and YMP ENT 830592; SHSUE024653 and SHSUEO24654). Three immature topotype specimens not utilized in the description are retained in the collection of DJR.

**Remarks:** The most distinctive feature of *F. rodentestris* is its host association, occurring on a rodent. This is only the second report of lice of the genus *Felicola* on a host other than a carnivore. Stobbe (1913) described *Felicola mjöbergi* from a Slow Loris, *Nycticebus coucang* (Boddaert, 1785) from Malaysia.

Morphologically, *F. rodentestris* is most similar to *F. hopkinsi*, both of which conform to the subgenus *Felicola* as prescribed by Lyall (1985); however, in addition to its unique host association, it differs from *F. hopkinsi* in the shape of the gonopophyses and subgenital lobes. The gonopophyses of *F. rodentestris* are more strongly recurved than those of *F. hopkinsi*. Likewise, margins of the sub-
genital lobes of *F. rodentestris* are more strongly sigmoidal than those of *F. hopkinsi*. *Felicola rodentestris* and *F. hopkinsi* also exhibit minor differences in chaetotaxy (Figs. 2 and 4).

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**LITERATURE CITED**


