First record of bat flea *Thaumapsylla breviceps* Rothschild, 1907 (Siphonaptera: Ischnopsyllidae) on Bicol Region, Luzon Island, Philippines

Ace Kevin S. Amarga¹,²,³, Michael W. Hastriter⁴

(1) Biodiversity Program, Taiwan International Graduate Program, Biodiversity Research Center, Academia Sinica, Taipei, Taiwan, ace_amarga061@yahoo.com; http://orcid.org/0000-0002-9776-6576
(2) School of Life Science, National Taiwan Normal University- Gongguan, Taipei, Taiwan
(3) Member, International Union for Conservation of Nature Species Survival Commission (IUCN SSC) Parasite Specialist Group
(4) Monte L. Bean Life Science Museum, Brigham Young University, 290 MLBM, P.O. Box 20200, Provo, Utah 84602-0200, U.S.A.

Abstract: *Thaumapsylla* Rothschild is a small genus of Old World ischnopsyllid fleas parasitic only on the family Pteropodidae (fruit bats). Despite its widespread record in the Philippines, it has never been reported in the Bicol Region, southern Luzon. In this account, we report the first record of *Thaumapsylla breviceps* Rothschild in the Bicol Region. It was collected from *Eonycteris spelaea* (Dobson), a nectarivorous fruit bat native to Southeast Asia. Also, this paper represents the first record of the genus *Thaumapsylla* on Bicol Region, Luzon Island.

Keywords: Albay, Chiroptera, ectoparasite, flea

Introduction

Bicol Region is the southernmost region of Luzon Island and well known for its high volcanic activity (Andal et al., 2005). This region is composed of four provinces situated within the Bicol Peninsula (Camarines Norte, Camarines Sur, Albay, and Sorsogon) and two island provinces (Catanduanes and Masbate). The mountainous landscapes and remaining forest cover of Bicol Region is home to many Philippine native vertebrates (Goodman & Gonzales, 1990; Heaney et al., 2016; Binaday et al., 2017) and invertebrate fauna (Zolotuhin et al., 1997; Hong & James, 2009; Amarga & Mercado, 2022). In addition, this region is also home to several Bicol endemics, many of which are forest-dwelling species (Balete et al., 2015; Siler et al., 2017; Bollino et al., 2019).

Published records of bat ectoparasites in the Bicol Region are relatively limited. Cuy (1980) reported the rare bat bug *Eoctenes spasmae* (Waterhouse, 1879) from specimens collected in Batan Island. In this paper, we present the first record of the bat flea *Thaumapsylla breviceps* Rothschild, 1907 in Bicol Region, Luzon Island, as well as the first documentation of the genus *Thaumapsylla* Rothschild in the area.

Material and methods

During a rapid biodiversity survey conducted on Batan Island, Albay (Fig. 1) in December 2015, *Thaumapsylla breviceps* specimens were obtained from an unnamed cave near the island’s coastline. Flea specimens were collected from *Eonycteris spelaea* (Dobson, 1871) using fine-tipped forceps and were preserved in 95% ethanol prior to identification and mounting. Identification of flea samples follow from the key of Amarga & Hastriter (2022), and host species were identified using Ingle & Heaney (1992).
Result and discussion

Class Insecta Linnaeus, 1758  
Order Siphonaptera Latreille, 1825  
Infraorder Ceratophyllomorpha in Medvedev, 1998  
Superfamily Ceratophylloidea Dampf, 1908  
Family Ischnopsyllidae Wahlgren, 1907  
Subfamily Thaumapsyllinae Jordan, 1947  
Genus Thaumapsylla Rothschild, 1907  
Thaumapsylla breviceps Rothschild, 1907

Thaumapsylla breviceps: Rothschild, 1907: 329. Type locality: South Africa (Cape Colony). Type host: Rousettus collaris [now R. aegyptiacus (Geoffroy, 1810)].


Thaumapsylla breviceps is one of the four recorded species bat fleas (Ischnopsyllidae) occurring in the Philippines (Amarga & Hastriter, 2022). This is a widely distributed species occurring in Afrotropical, Australasian, and Oriental faunal region (Hastriter & Bush, 2013). It has been reported in different areas including the Afrotropics, India, mainland Southeast Asia, Philippines, and Indonesia (Beaucournu & Kock, 1994; Amarga & Hastriter, 2022).

In terms of host associations, T. breviceps is primarily parasitic on pteropodid bats and in the Philippines, it has been reported on Eonycteris spelaea (Dobson) (cave nectar bat), E. robusta Miller, 1913 (Philippine dawn bat), and Rousettus aegyptiacus Geoffroy, 1810 (Geoffroy’s rousette) (Beaucournu &
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Kock, 1994; Hastriter & Bush, 2013; Amarga et al., 2017; Amarga & Hastriter, 2022). Host species such as *E. spelaea* and *R. amplexicaudatus* have been known to co-exist in caves and roost in large numbers (Heane et al., 2010). Furthermore, due to its strict host associations, presence of *T. breviceps* on microbats can be regarded as a facultative occurrence and/or accidental host record.

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