

***Aulonastus paridus* spec. nov. –  
a parasite of two bird species of the genus *Melaniparus*  
in Kenya and Tanzania**

(Acari, Prostigmata, Syringophilidae)

**Bozena Sikora, Markus Unsöld & Maciej Skoracki**

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A new species of syringophilid quill mites, *Aulonastus paridus* spec. nov. is described based on the material collected from the African tits (Aves: Passeriformes: Paridae): *Melaniparus fringillinus* Fischer & Reichenov from Tanzania and *M. albi-ventris* (Shelley) from Kenya. Among 14 species of the genus *Aulonastus* Kethley, it differs from the closely related species *A. prunellae* Bochkov & Mironov, 1999, by the lateral punctations of the propodonal shield (vs. the propodonal shield punctate on the whole surface in *A. prunellae*), the length ratio of setae *ag2*:*ag3* 1: 1.2 (vs. 1: 1.4–1.5), and lengths of setae *c1* and *d2* 125 and 85–90, respectively (vs. 140–180 and 110–120). It is the first record of the genus *Aulonastus* in the Afrotropical region as well as from the hosts of the family Paridae.

Bozena Sikora & Maciej Skoracki, Department of Animal Morphology, Faculty of Biology, Adam Mickiewicz University, Umultowska 89, 61 614 Poznan, Poland; e-mail: boszka@amu.edu.pl, skoracki@amu.edu.pl

Markus Unsöld, Zoologische Staatssammlung München, Sektion Ornithologie, Münchhausenstr. 21, 81247 München, Germany; e-mail: markus.unsoeld@zsm.mwn.de

### Introduction

The genus *Aulonastus* Kethley, 1970 (Acari: Prostigmata: Syringophilidae) comprises small-sized syringophilids inhabiting quills of secondaries, coverts and body feathers (Skoracki 2011). The genus includes 14 species associated exclusively with passeriform birds of the families Cardinalidae, Emberizidae, Fringillidae, Icteridae, Laniidae, Motacillidae, Muscicapidae, Prunellidae, Rhinocryptidae, Troglodytidae, and is recorded from Nearctic, Neotropical and Palaearctic regions (Skoracki 2011, Sikora et al. 2012, Glowska et al. 2015, Skoracki et al. 2016).

In this paper, we describe a new *Aulonastus* species collected from two avian representatives of the family Paridae (new host family for the genus *Aulonastus*) from the Afrotropical region (new dis-

tribution for the genus). Is worth noting, that up to now, only two syringophilid species have been described from this taxonomically specious host family (60 species; Clements et al. 2014): *Syringophiloidus jackowiaki* Bochkov, Skoracki, Hendricks & Spicer, 2011 from *Poecile carolinensis* in the United States and *Syringophilopsis pari* Skoracki & Mironov, 2013 from *Poecile palustris* in Russia (Bochkov et al. 2011, Skoracki & Mironov 2013).

### Material and methods

The material used in the present study was collected in the ornithological collection of the Zoologische Staatssammlung München, Germany from dry bird skins. Mites were removed from body feathers and before mounting were softened and cleared in Nesbitt's

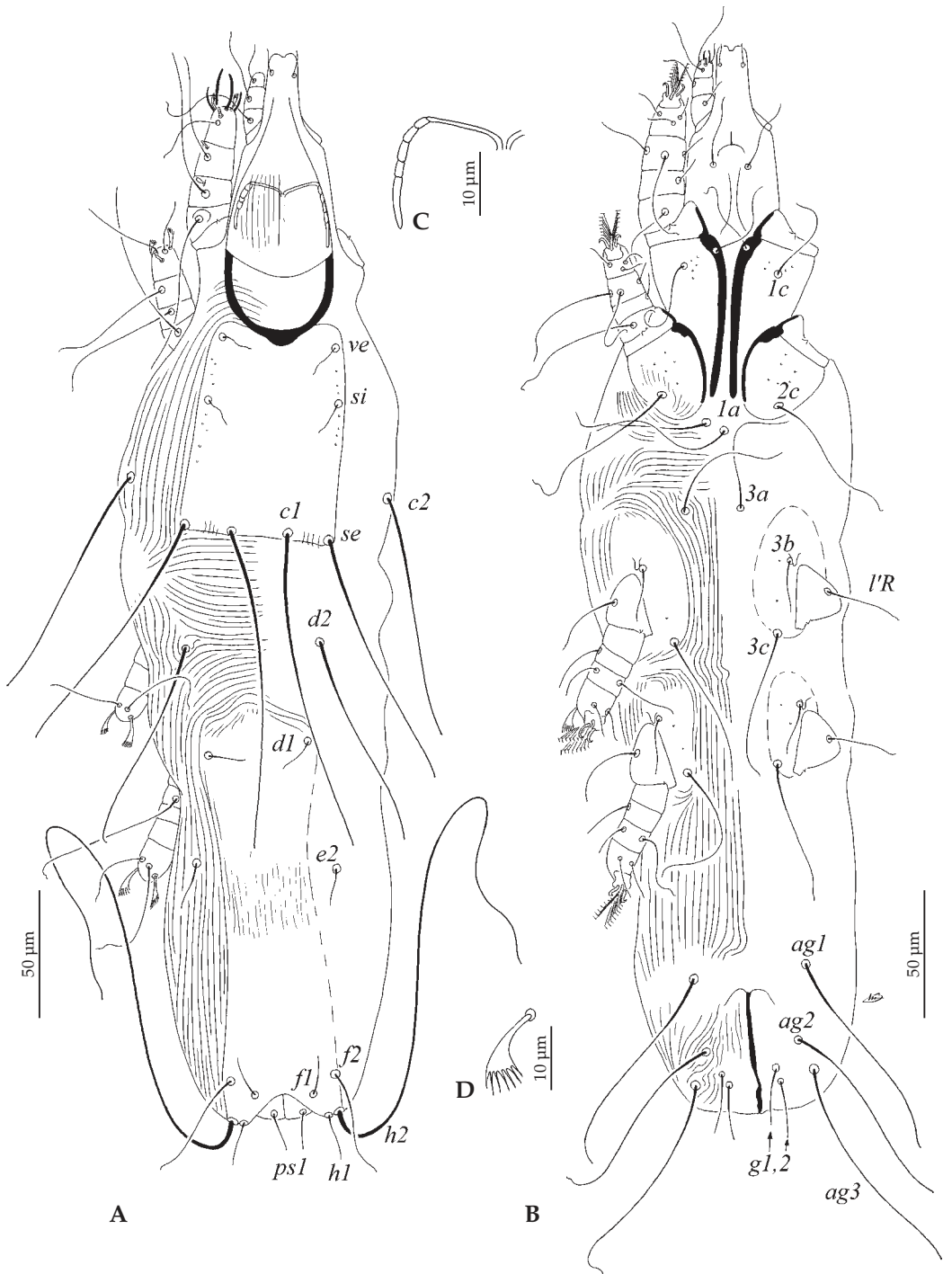


Fig. 1. *Aulonastus paridus* spec. nov. Female: A. dorsal view; B. ventral view; C. peritreme; D. fan-like seta p'III.

solution at 40 °C for ca. 10 hours. Identification of mite specimens and drawing preparations were carried out with a ZEISS AxioScope2™ light microscope with DIC optics and a camera lucida. All measurements are given in micrometres with ranges for paratypes in parentheses following the data for the holotype. The terminology for idiosomal setation follows Grandjean (1939), as adapted for Prostigmata by Kethley (1990), for leg setation it follows Grandjean (1944) and the morphological terminology follows Skoracki (2011). The scientific names of the birds follow Clements et al. (2014).

Specimen depositories and reference numbers are cited using the following abbreviations:

AMU A. Mickiewicz University, Department of Animal Morphology, Poznan, Poland

ZSM Zoologische Staatssammlung München, München, Germany

### Taxonomy

Family Syringophilidae Lavoipierre, 1953

Subfamily Syringophilinae Lavoipierre, 1953

Genus *Aulonastus* Kethley, 1970

*Aulonastus paridus* spec. nov.

Figs 1, 2

**Type material.** Female holotype, 8 female and 3 male paratypes from quills of body feathers of the Red-throated Tit *Melaniparus fringillinus* Fischer & Reichenov (Passeriformes: Paridae), TANZANIA, 80 mi. S. Arusha, 28 June 1960, coll. J. Popp.

**Type deposition.** All type material is deposited in the ZSM (Reg. No. ZSM20112069), except 2 female paratypes which are deposited in the AMU (Reg. No. AMU-SYR.527).

**Additional material.** Eleven females from quills of body feathers of the White-bellied Tit *Melaniparus albi-ventris* (Shelley) (Paridae), KENYA, Masailand, 1893, coll. O. Neumann. All specimens are deposited in the ZSM (Reg. No. 20112070), except 2 females which are deposited in the AMU (Reg. No. AMU-SYR.528).

**Etymology.** The specific name “*paridus*” is taken from the family name of the host, Paridae.

### Description

Female, holotype and 8 paratypes. Total body length 405 (410–440) µm.

Gnathosoma. Infracapitulum apunctate. Stylophore with striae ornament, apunctate, 125 (120–125) long. Each medial branch of peritremes with 1 chamber, each lateral branch with 5 chambers.

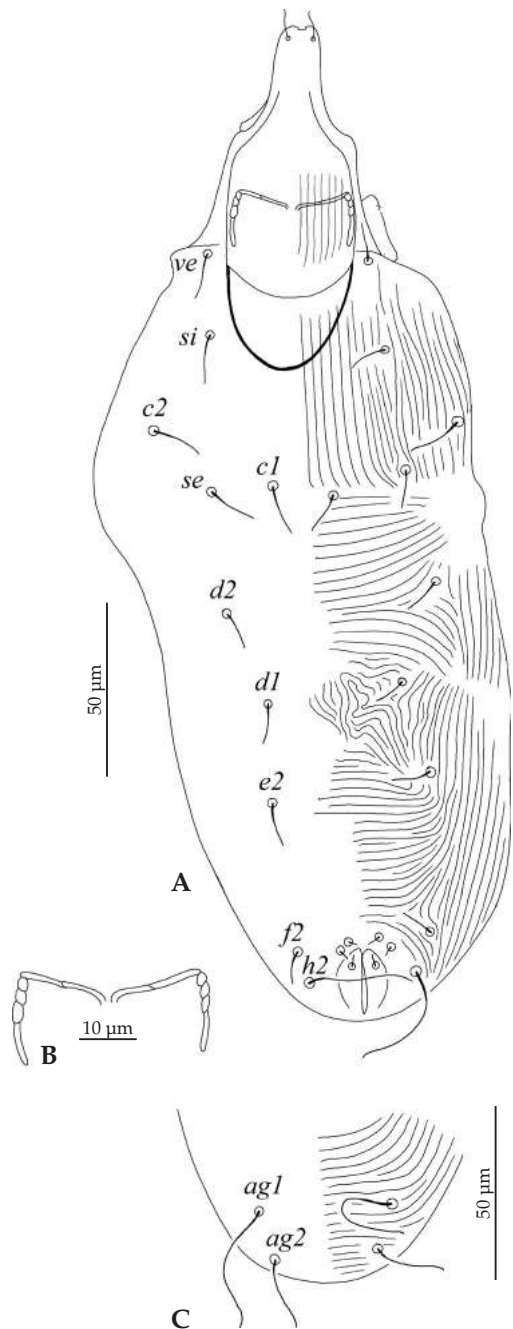


Fig. 2. *Aulonastus paridus* spec. nov. Male: A. dorsal view; B. peritremes; C. opisthosoma in ventral view.

Idiosoma. Propodonotal shield punctate at lateral margins, bearing bases of setae *ve*, *si*, *c1* and *se*. Bases of setae *se* and *c1* situated at same transverse level. Hysteronotal shield fused to pygidial shield, apunctate, weakly sclerotized in medial part, bearing bases of setae *d1*, *f1* and *f2*. Coxal fields of legs I-II sparsely punctate, III-IV apunctate. Genital plate absent.

Legs. Fan-like setae *p'* and *p''* of legs III-IV with 6-7 tines.

Lengths of setae: *ve* 15 (15), *si* 15 (15), *se* 105 (105-120), *c1* 125 (125), *c2* 95 (90-100), *d1* 15 (15), *d2* (85-90), *e2* 15 (15-20), *f1* 15 (15-20), *f2* 45 (45-50), *h1* 15 (15), *h1* 260 (230), *ag1* 85 (85-105), *ag2* 80 (70-85), *ag3* 95 (115), *ps1* 15 (15), *g1* 20 (20-25), *g2* 20 (20-25), *tc'''III-IV* 25 (25), *tc'''III-IV* 50 (50), *3b* (25), *3c* 60 (60-65), *4c* 50 (50-55), *l'RIII* 30 (25-30), *l'RIV* 25 (25).

Length ratios of setae: *vi:ve* 1:1, *se:c1* 1:1.2, *d1:d2* 1:5.7-6, *d2:c1* 1:1.4-1.5, *f1:f2* 1:3, *ag1:ag2:ag3* 1-1.2:1:1.2, *g1:g2* 1:1, *tc'''III-IV:tc'''III-IV* 1:2, *3b:3c* 1:2.4.

Male (3 paratypes). Total body length 285-290  $\mu$ m. Gnathosoma. Stylophore with striae ornament, apunctate, 95 long. Each medial branch of peritremes with 2 chambers, each lateral branch with 4 chambers.

Idiosoma. Propodonotal, hysteronotal and pygidial shields absent. Bases of setae *se* and *c1* situated at same transverse level.

Legs. Fan-like setae *p'* and *p''* of legs III-IV with 4 tines.

Lengths of setae: *ve* 10, *si* 10, *se* 15, *c1* 15, *c2* 10-15, *d1* 10, *d2* 10-15, *e2* 10, *f2* 10, *h2* 25-30, *ag1* 25-30, *ag2* 20.

Length ratios of setae: *vi:ve* 1:1, *se:c1* 1:1, *d1:d2* 1:1, *d2:c1* 1:1, *f2:h2* 1:2.5-3, *ag1:ag2* 1:1.3-1.5.

## Remarks

*Aulonastus paridus* spec. nov. is morphologically similar to *A. prunellae* Bochkov & Mironov, 1999 described from *Prunella modularis* (Linnaeus) (Prunellidae) from Russia (Bochkov & Mironov 1999). In females of both species, setae *c1* are longer (1.2 times) than *se* and setae *h2* distinctly longer (2-4 times) than *f2*. This new species differs from *A. prunellae* by the following features: in females of *A. paridus*, the propodonotal shield is punctate only at lateral margins; the length ratio of setae *ag2:ag3* is 1:1.2; lengths of setae *c1* and *d2* are 125 and 85-90, respectively. In females of *A. prunellae*, the propodonotal shield is punctate on whole surface; the length ratio of setae *ag2:ag3* is 1:1.4-1.5; lengths of setae *c1* and *d2* are 140-180 and 110-120, respectively.

## Acknowledgements

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