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Two new syringophilid mites from the Greenfinch *Carduelis chloris* (*Passeriformes: Fringillidae*) from Kirghizia (*Acari*: *Syringophilidae*)

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ABSTRACT. Two new syringophilid mites, *Picobia chloris* sp. n. and *Syringophilopsis kirgizorum,* are described from *Carduelis chloris* (*Passeriformes*: *Fringillidae*) from Kirghizia.

Key words: acarology, taxonomy, *Syringophilidae*, *Picobia*, *Syringophilopsis*, new species, *Carduelis chloris.*

INTRODUCTION

The mites of the family *Syringophilidae* (*Acari*: *Cheyletoidea*) are permanent avian ectoparasites, living in quills of feathers. The world fauna of these mites as well as the fauna of the former USSR is poorly investigated (JOHNSTON & KETHLEY 1973, BOCHKOV & MIRONOV 1998, 1999). Only 4 syringophilid species have been recorded from Kirghizia to date (CHIROV & KRAVTSOVA 1995, BOCHKOV & MIRONOV 1998): *Mironovia phasiani* CHIROV et KRAVTSOVA, 1995 from *Phasianus colchicus* (*Galliformes*: *Phasianidae*), *Syringophilopsis sturni* CHIROV et KRAVTSOVA, 1995 from *Sturnus vulgaris* (*Passeriformes*: *Sturnidae*), *Syringophiloidus presentatus* CHIROV et KRAVTSOVA, 1995 from *St. vulgaris* and *Niglarobia chirovi* BOCHKOV et MIRONOV, 1998 from *Cuculus canoris* (*Cuculiformes*: *Cuculiidae*).

The present paper gives descriptions of two new syringophilid mites, *Picobia chloris* sp. n. and *Syringophilopsis kirgizorum* sp. n., collected from quills of the Greenfinch *Carduelis chloris* (*Passeriformes*: *Fringillidae*) from Kirghizia.

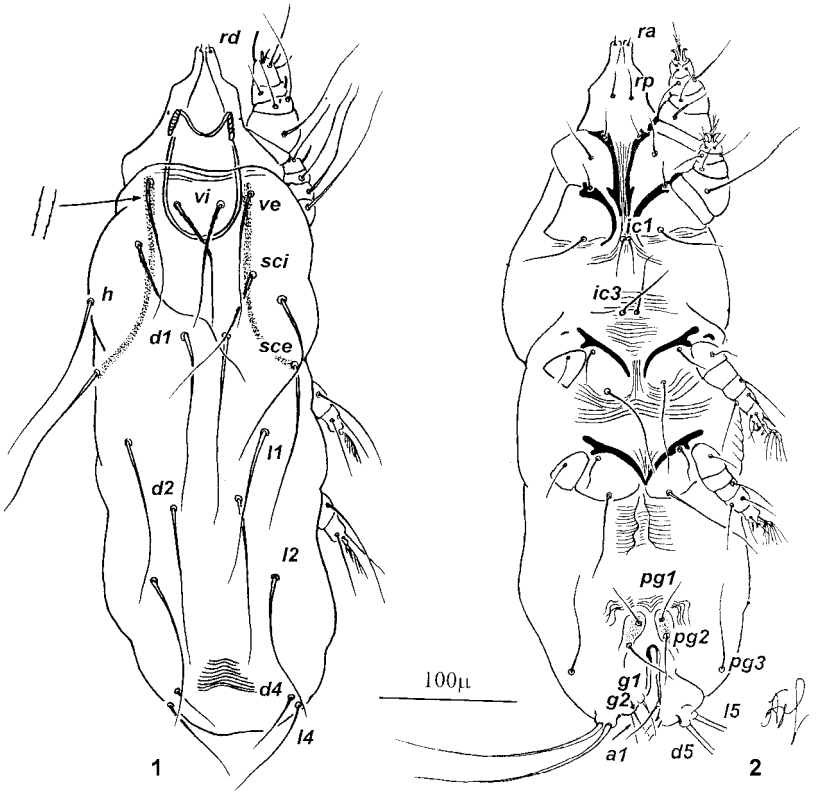
All measurements are given in micrometers (μm). The nomenclature of idiosomal chaetotaxy follows that of FAIN (1979) originally proposed for the family *Cheyletidae*. This nomenclature can be applied to all families of the *Cheyletoidea*. The terminology and leg chaetotaxy follows that of KETHLEY (1970).

The holotypes and a part of paratypes are deposited at the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZIN), other paratypes - at the Kirghizian State National University, Bishkek, Kirghizia (KNU).

Picobia chloris sp. n.

DESCRIPTION

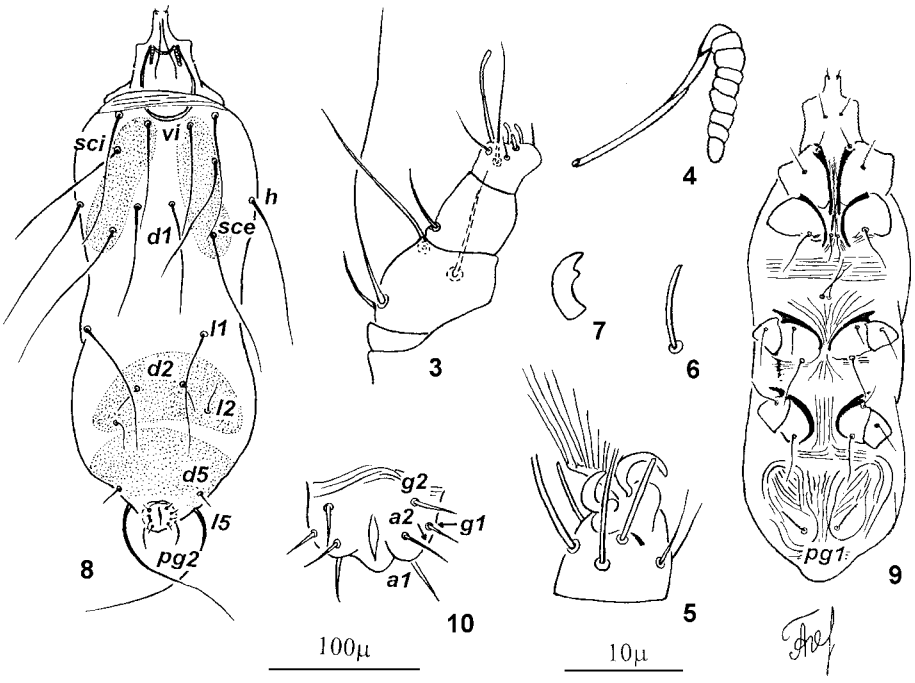
Female (holotype) (Figs 1-7). Length 596, width at level of setae *h* 180. Gnathosoma. Hypostomal apex truncate, unornamented. Peritremes (Fig. 4): lateral branch with 3 chambers; longitudinal branch with 8 chambers. Dorsal idiosoma (Fig. 1). Propodosomal shield divided into a pair of narrow sclerotized



1-2 - *Picobia chloris* sp. n., female. 1 - dorsal view, 2 - ventral

bands; only bases of setae *ve* and *sce* deposited on these bands. Hysterosomal and pygidial shields absent. Length of setae: *vi* 94, *ve* 105, *sci* 114 - all with fine denticles, *sce* 168, *h* 141, *d1* 179, *d2* 112, *d4* 33, *d5* 170, *l1* 132, *l2* 96, *l4* 78, *l5* 202 - all smooth. Distances between setae *d2-d2* 54; distances *l1-d2* and *d2-l2* subequal. Setae *vi* set behind level of *ve.* Ventral idiosoma (Fig. 2). Cuticular striations as in Fig. 2. All setae smooth. Length of setae: *pg1* 40, *pg2* 38, *pg3* 67, *g1* 36, *g2* 34, *a1* 34. Setae *g1* hair-like, ventral hysterosomal lobes absent. Distances between setae: *pg1-pg1* 18, *pg2-pg2* 29; distance *g1-g1* longer than distance *pg1-pg1*. Legs. Claw pair I with incision (Fig. 7); antaxial and paraxial members of claw pair III-IV dissimilar. All setae smooth. Setae *a'*, *a"* of tarsi I-II with 2 points (Fig. 6), *a', a"* of tarsi III-IV rod-like; setae *sc3* 56, *sc4* 65, not extending beyond genua III, IV respectively; setae *tc', tc"* of tarsi III-IV subequal.

Male (paratype) (Figs 8-10). Length 382-405, width 135-157. Propodosomal shield (Fig. 8) bears setae *vi*, *sci, sce*. Hysterosomal shield divided transversally, anterior part of shield bears setae *d2* and *l2*, posterior part of shield bears setae *d4* and *l5*. All setae smooth. Length of setae: *vi* 65, *ve* 74, *sci* 83, *sce* 116, *h* 112, *d1* 130, *d2* 13, *d4* 11, *l1* 67, *l5* 128. Genital complex as in Fig. 10. Paragenital series with 2 pair of short setae. Legs. Leg chaetotaxy as in female.



3-10 - *Picobia chloris* sp. n., female (3-7): 3 - palp, dorsal view, 4 - peritreme, 5 - tarsi III, lateral view, 6 - seta *a"* of tarsi I, 7- claw of tarsi I; male (8-10): 8 - dorsal view, 9 - ventral view, 10 - genital complex

DIFFERENTIAL DIAGNOSIS

The female of the new species resembles *Picobia khushalkhani* (KIVGANOV et SHARAFAT, 1995) from *Columba livia* (*Columbiformes*: *Columbidae*) from Afghanistan. Only in these species setae *d5* are long. The new species differs from *P. khushalkhani* in the following characters: in *P. chloris* sp. n., setae *vi* and *ve* are subequal, and lengths of setae *pg1*, *pg2* and *pg3* are 40, 38 and 67, respectively, in *P. khushalkhani*, setae *vi* 3-4 times shorter than setae *ve*, setae *pg1-pg3* longer than 130.

It is possible, that one more species, *Picobia anthi* (FRITSCH, 1958) **comb. n.**, may also have long setae *d5*. This species was described as *Syringophilus anthi* from *Anthus trivialis* (*Passeriformes*: *Motacillidae*) from Germany (FRITSCH 1958), but has never been re-collected. All external characters of this species indicate that it belongs to the genus *Picobia*. It is difficult to ascertain from the original figure how many pairs of long setae are actually located on opisthosoma, one or two (*d5, l5*). The new species differs from *P. anthi* in the length of dorsal setae and their positions. For example, the length of setae *vi* and *ve* in *P. chloris* sp. n. is subequal, but in *P. anthi*, setae *ve* are 4-5 times shorter than setae *vi*.

ETYMOLOGY

The name "*chloris*" refers to the host name - *Carduelis chloris*.

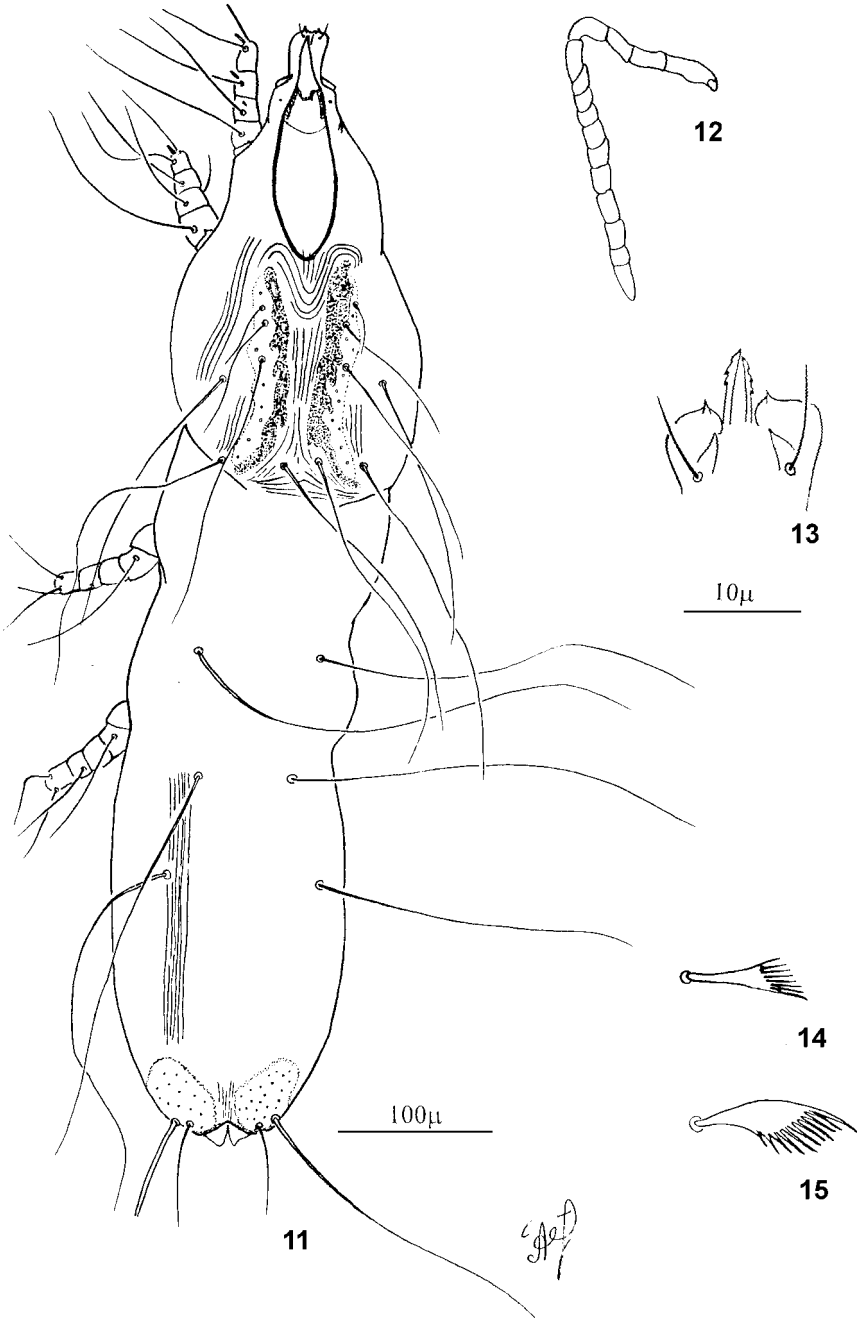
TYPE DATA

Holotype female (T-Sy-14), paratypes 1 female and 2 males ex *Carduelis chloris* (coverts of body), Bishkek city, Kirghizia, 28. 03. 1994, N.T. KRAVTSOVA coll. Holotype and all paratypes deposited at ZIN.

Syringophilopsis kirgizorum **sp. n.**

DESCRIPTION

Female (holotype) (Figs 11-16). Length 1113 (1147-1181 in 10 paratypes), width at level of setae *h* 225 (236-281). Gnathosoma. Hypostomal apices (Fig. 13) slightly ornamented, one pair of median protuberances present; lateral hypostomal teeth absent. Cheliceral digit with 3 teeth. Peritremes (Fig. 12): lateral branch with 4 chambers; longitudinal branch with 11 chambers. Dorsal idiosoma (Fig. 11). Hysterosomal and pygidial shields absent. All setae smooth. Setae *d2* 1.1-1.4 times closer to setae *l2* than setae *l1*. Length of setae: *vi* 67 (67-75), *ve* 140 (139-157), *sci* 283 (275-315), *sce* 315 (310-319), *h* 315 (315-337), *d1* 340 (335-380), *d2* 315 (300-320), *d4* 83 (81-85), *d5* 76 (70-78), *l1* 324 (283-337), *l2* 301 (288-343), *l5* 430 (398-450). Ventral idiosoma (Fig. 16). Cuticular striations as in Fig. 16. All setae smooth. Length of setae: *pg1* 211 (202-247), *pg2* 148 (130-202), *pg3* 274 (225-315), *g1* 67 (56-78), *g2* 59 (55-72), *a1*, *a2* approximately 30 (24-33). Legs. Coxae III-IV moderately sclerotized. All setae smooth,



11-15 - *Syringophilopsis kirgizorum* sp. n., female. 11 - dorsal view, 12 - peritreme, 13 - hypostomal apices, ventral view, 14 - seta *a"* of tarsi I, 15 - seta *a"* of tarsi III

16-18 - *Syringophilopsis kirgizorum* sp. n. 16 - female, ventral view, 17 - male, dorsal view, 18 - opisthosoma of male, ventral view

except *a', a".* Setae *a'*, *a"* of tarsi I-II subequal, with 8 tines (Fig. 14); *a'*, *a"* of tarsi III-IV with 11-12 tines (Fig. 15); *sc3* and *sc4* not extending beyond genua III, IV respectively.

Male (2 paratypes, Figs 17-18). Length 675-701, width 213-221. Hypostome without hyaline lips and chelicerae edentate. Idiosoma: hysterosomal shield absent (Fig. 17). All setae smooth. Length of setae: *vi* 23-33, *ve* 26-38, *sci* 121-125, *sce* 180-225, *h* 207-215, *d1* 171-180, *d2* 27-33, *d4* 29-33, *l1* 70-101, *l5* 165-187, *pg1* 112-123, *pg2* 78-90, *pg3* 78. Leg chaetotaxy as in female.

Differential diagnosis

The new species is closely related to *Syringophilopsis turdus* (Fritsch, 1958) from *Turdus pilaris* (*Passeriformes*: *Turdidae*) from Germany (Fritsch 1958). In both species, setae *vi, d4, d5, g1* and *g2* are relatively short in females, and 3 pairs of setae *pg* are present in males (Fig. 18). The new species differs from *S. turdus* in the following characters: in females of *S. kirgizorum* sp. n. , only one pair of median protuberances is present, setae *pg2* are 130-202, and approximately 1.5 times shorter than setae *pg1* while in females of *S. turdus,* two pairs of median protuberances are present, setae *pg2* are 58-70 and are 3-4.5 times shorter than setae *pg1* (10 specimens from the type host from Novgorod Prov., Russia). In males of *S. kirgizorum* sp. n., setae *l1* are 70-101; in males of *S. turdus*, setae *l1* are 170-184.

Remark

The specimens identified by Fritsch (1958) as *S. turdus* from *Carduelis chloris* from Germany, are probably *S. kirgizorum* sp. n.

Etymology

The name "*kirgizorum*" refers to the type locality.

Type data

Holotype female (T-Sy-15), paratypes 31 females and 2 males from *Carduelis chloris* (primary feathers), Bishkek city, Kirghizia, 28. 03. 1994, N.T. Kravtsova coll. Holotype, paratypes 5 females and 2 males are deposited in ZIN, paratypes 26 females in - KNU.

Additional material

11 females, 2 males from *Rhodospiza obsoleta* (*Passeriformes*: *Fringillidae*), Bishkek city, Kirghizia, 19. 06. 1992. N.T. Kravtsova coll.

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