

Short notes

New data on the species *Metacheyletia degenerata* Fain and Bochkov (Acariformes: Cheyletidae)

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ABSTRACT. *Metacheyletia degenerata* Fain and Bochkov, 2003 (Acariformes: Cheyletidae) is recorded for the first time from the quills of the European Bee-eater *Merops apiaster* L., 1758 (Coraciiformes: Meropidae). It is also the first record of *Metacheyletia* found on coraciiform birds. Moreover, the following localities: Macedonia, Italy, Azerbaijan, Russia and Tanzania, are new for *M. degenerata*.

Key words: Acari, birds, ectoparasites, *Merops apiaster*, *Metacheyletia*, quill mites

Introduction

Metacheyletia degenerata Fain and Bochkov, 2003 (Acariformes: Cheyletidae: Metacheyletiini) is one of the five described species in the genus [1]. To this time, this species was regarded as a monoxenous parasite inhabiting quills of *Serinus mozambicus* (St. Muller, 1776) (Passeriformes: Fringillidae) from Central Africa [2]. The other members of the genus *Metacheyletia* were recorded from parrots (Psittaciformes: Psittacidae): *M. obesa* Fain, 1972, *M. longisetosa* Atyeo et al., 1984, and *M. amazonae* Bochkov and O'Connor, 2003, and turacos (Cuculiformes: Musophagidae): *M. ngaii* Bochkov and Skoracki, 2011 (1,3–6). The key to all described species of the genus *Metacheyletia* was presented by Bochkov & Skoracki [1].

In the present paper, *Merops apiaster* Linnaeus, 1758 (Coraciiformes: Meropidae) is regarded as a new host species for *M. degenerata*, and the following localities: Macedonia, Italy, Azerbaijan, Russia and Tanzania are the new for this species.

Materials and Methods

The mite material used in the present study was collected from dry bird skins housed in the Ornithological Collection of the Bavarian State Collection of Zoology, Munich, Germany. During studies, 71 bird specimens of *M. apiaster* and about

~1400 feathers were examined (~20 feathers per host individual, representing contour feathers from bell, back, cloaca, and under-wing region as well as under- and upper-tail coverts). Mites, before mounting were softened and cleared in Nesbitt's solution at 40°C for c.a. 10 hours. Slide-mounted mites were examined under a light microscope (ZEISS Axioscope™) with differential interference contrast (DIC) optics. All specimens are deposited in the A. Mickiewicz University, Department of Animal Morphology, Poznan, Poland.

Results

Family Cheyletidae Leach, 1815

Tribe Metacheyletiini Fain, 1980

Metacheyletia degenerata Fain and Bochkov, 2003

One female from under-tail covert quill of *Merops apiaster* Linnaeus, 1758 (Coraciiformes: Meropidae), **Macedonia:** Sar-Planina, 27 June 1917, coll. L. Mueller [ZSM 17.3928]. One female from the same host species and habitat, **Tanzania:** Morogoro Region, Morogoro Urban District; 20 September 1952, coll. Th. Andersen [ZSM AH.1000]. Two females, one larva from the same host species and habitat, **Italy:** Sardinia, Cagliari, June 1907, coll. P. Bonomi [ZSM uncatalogued]. One female from lesser wing covert quill of the same host species, **Azerbaijan:** Nagorno-Karabakh Republic, Martakert Region, Talish, May 1909, coll.

Laubmann [ZSM 17.3400]. One female from under-tail covert quill of the same host species, **Russia**: Volga District, 17 May 1912, coll. Laubmann [ZSM 17.3419]. One female from the same host species and habitat, **Russia**: Northern Caucasus, Krasnodar Region, 11 June 1914, coll. M. Prager [ZSM 14.892].

During study, 71 individuals of European bee-eater were examined, and only 6 of them were infected *M. degenerata* (prevalence 8.5%). Its agree with the opinion of Atyeo et al. [5] that *Metacheyletia* is indeed very rare rather than simply poor collected mites. This low occurrence can be limited by weakly adaptation to disperse = high morality during vertical dispersion [5,6]. The examined specimens of *M. degenerata* were found in the two plumage microhabitats, i.e. in quills of under-tail coverts and in the lesser wing covert quill. Moreover, in all cases, individuals of this mite species co-existed with large population of syringophilid mites (more than 15 specimens/per quill). It seems that *M. degenerata* have no preferences to the type of habitat in the host plumage and its occurrence depends on the presence/absence of the syringophilid mites inside the quills. According to hypothesis of Bochkov and O'Connor [6], representatives of parasitic *Metacheyletia* use the orifices in quill walls made by syringophilids to reach soft tissue of the hosts.

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References

- [1] Bochkov A.V., Skoracki M. 2011. A new cheyletid mite *Metacheyletia ngaii* n. sp. (Acariformes: Cheyletidae) from quills of *Corythaixoides leucogaster* (Musophagidae) from Tanzania. *Acarologia* 51: 93-97. doi:10.1051/acarologia/20111996
- [2] Fain A., Bochkov A.V. 2003. A new species of the genus *Metacheyletia* Fain, 1972 (Acari: Cheyletidae) parasitizing *Serinus mozambicus* (Passeriformes: Fringillidae) in Central Africa. *International Journal of Acarology* 29: 119-121. <http://dx.doi.org/10.1080/01647950308683648>
- [3] Fain A. 1972. Notes sur les acariens des famines Cheyletidae et Harpirhynchidae producteurs de gale chez les oiseaux ou les mammiferes [Notes on acarines of the families Cheyletidae and Harpirhynchidae producing mange in birds and mammals]. *Acta Zoologica et Pathologica Antverpiensia* 56: 37-60.
- [4] Fain A. 1980. Notes on the genera *Samsinakia* Volgin, 1965 and *Metacheyletia* Fain, 1972 (Acari: Cheyletidae). *International Journal of Acarology* 6: 103-108. <http://dx.doi.org/10.1080/01647958008683204>
- [5] Atyeo W.T., Kethley J.B., Pérez T.M. 1984. Paedomorphosis in *Metacheyletia* (Acari: Cheyletidae), with the description of a new species. *Journal of Medical Entomology* 21: 125-131. <http://dx.doi.org/10.1093/jmedent/21.2.125>
- [6] Bochkov A.V., O'Connor B.M. 2003. New cheyletid mites (Acari, Cheyletidae) associated with birds. *Acta Parasitologica* 48: 265-279.

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