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Vassilevascus gen. nov., a new genus of the family Ascouracaridae Gaud & Atyeo, 1976 (Astigmata; Pterolichoidea)

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Kurzfassung: Auf der Grundlage einer Milbe aus Touessarts Sammlung wird die Vogelfedermilbe *Dermoglyphus monstrosus* vom Blauwangenlori *Trichoglossus haematodus cyanogrammus* (Aves; Psittaciformes) übertragen in die neue Gattung *Vassilevascus* gen. nov. (Astigmata; Pterolichoidea).

Abstract: On the basis of a specimen from Trouessart's collection, the feather mite species *Dermoglyphus monstrosus* from *Trichoglossus haematodus cyanogrammus* (Aves; Psittaciformes) is reassigned to the new genus *Vassilevascus* gen. nov. (Astigmata; Pterolichoidea).

Key words: Taxonomy, feather mites, feather quills, Ascouracaridae

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1 Introduction

The mites of the family of Ascouracaridae Gaud & Atyeo belong to one of the most specialized families of the feather mites. They parasitize in the big feathers (mostly flight feathers and wing coverts) of birds from various orders. The majority of these mites is associated with non-Passeriformes, commonly with parrots (Psittaciformes). Ascouracarid mites feed on spongy substance from the calamus and cause great damage to the plumage. The invasion form is the highly sclerotized larval stage. The adults are soft, sack-like and very big (often over 1 mm). At present the family Ascouracaridae includes 6 genera (Dabert & Ehrnsberger 1993).

Studying the Trouessart collection we have found a slide with the single ascouracarid male specimen from the parrot *Trichoglossus cyanogrammus* (= *Trichoglossus haematodus cyanogrammus*). This mite was designated and described by Trouessart (1898) as a morphological variation of *Dermoglyphus* (*Sphaerogastra*) *monstrosus*. In 1976, Gaud & Atyeo have reassigned Trouessart's species *Sphaerogastra monstrosa* from the parrot *Eclectus* (=*Lorius*) *polychlorus* to the type species of the new genus *Ascogastra*. They have noted that the second specimen from *Tr. haematodus* is in fact a different species, but to the present day the new taxon has never been described.

In the present paper we established a new genus on the basis of the above mentioned species. The signatures for idiosomal chaetotaxy follow Griffiths et al. (1990). Measurements are given in micrometers.

2 Einleitung

Die Milben der Familie Ascouracaridae Gaud & Atyeo gehören zu den am besten spezialisierten Familien der Vogelfedermilben. Sie parasitieren in den großen Konturfedern (meistens in den Schwung- und Deckfedern) von Vögeln verschiedener Ordnungen, wobei sie nur sehr selten auf Sperlingsvögeln vorkommen, auf Papageien (Psittaciformes) jedoch relativ häufig. Die Milben der Familie Ascouracaridae besiedeln häufig die leeren Innenräume der Federn, also die Spulen und den basalen Teil des Schaftes. Von hier aus fressen sie lange Korridore in die schwammartige Substanz des Federschaftes und können dabei große Schäden im Gefieder anrichten, wodurch die Stabilität der Deckfedern geschwächt wird. Die stark sklerotisierten Larven stellen das Verbreitungsstadium dar. Die erwachsenen Milben sind dagegen weichhäutig, sackförmig und groß. Zur Familie Ascouracaridae gehören zur Zeit sechs Gattungen (Dabert & Ehrnsberger 1993).

Bei der Untersuchung von Trouessarts Vogelfedermilben, die uns dankenswerterweise Herr Dr. Michael Naudo vom Museum d'Histoire Naturelle, Paris, zu Verfügung stellte, haben wir ein mikroskopisches Präparat mit einem Männchen der Familie Ascouracaridae gefunden, das von dem Blauwangenlori „*Trichoglossus cyanogrammus*" (= *Trichoglossus haematodus cyanogrammus*) stammt. Diese Milbe ist von Trouessart (1898) als morphologische Variation von *Dermoglyphus* (*Sphaerogastra*) *monstrosus* benannt und beschrieben worden. 1976 haben Gaud & Atyeo Trouessarts Art *Sphaerogaster monstrosa* vom Papagei *Eclectus (=Lorius) polychlorus* in die Typus-Art für die neue Gattung *Ascogastra* überführt. Dabei haben sie auch festgestellt, daß die zweite Milbe vom Blauwangenlori (*Trichoglossus haematodus)* eine andere Milbenart ist. Allerdings wurde das neue Taxon bis heute noch nicht beschrieben.

In dieser Arbeit begründen wir eine die Gattung *Vassilevascus* gen. nov. auf der Grundlage der oben erwähnten Art.

3 *Vassilevascus* gen. nov.

Diagnosis. Mites with general appearance typical of the family; sternum V-shaped; some dorsal setae long; openings of opisthosomal glands absent; all the four idiosomal cupulae present; all metapodosomal setae present; setae sR of trochanters III and setae kT of tibiae IV absent; on tarsi III-IV only setae l dilated, leaf-like; other setae of legs piliform; males without adanal discs.

Type-species. *Dermoglyphus* (*Sphaerogastra*) *monstrosus* (in part) Trouessart, 1898: 22, 320.

Etymology. Vassilev – for Dr. Ivan D. Vassilev (Zoological Institute and Museum, Bulgarian Academy of Sciences) in recognition of his contribution to the taxonomy of feather mites; ascus (Greek, sack).

4 *Vassilevascus trichosus* sp. nov. (Figs. 1–5)

Male. Gnathosoma big, rectangular (length including palpi, 175; width, 220; chelicerae huge (Fig.3); length, 230; width, 140; idioso-

ma sack-like, relatively short (Figs. 1–2); length, 750; width, 490; length/width, 1.5; pronotal shield covers the whole pronotum; posterior edge of the shield straight; hysteronotum without shields, striated; shields of coxal fields I-II well developed; between epimeres I small shield; genital organ between coxal fields IV; pregenital apodeme horseshoe-shaped; paragenital sclerites absent; all legs subequal; legs IV do not reach the idiosomal terminus; setae vi piliform, much shorter than setae si; scapular setae se and si set on the same level; distance se-si equal si-si; setae si (and se?) long; setae c1, c2, d1, d2, e2 and three pairs of terminal setae formed as macrochaetae; setae c1 and d1 set on the same level; setae 4a on the level or posteriorly to the genital acetabulae; setae s on tarsi I-II small, mushroom-shaped (Fig.4); setae l on tarsi III-IV leaflike, set apically near the setae s, setae r III-IV slightly broadened proximally (Fig.5).

Female and other stages unknown.

Type material. From *Trichoglossus haematodus cyanogrammus* (Psittaciformes, Loriidae). Holotype male, New Guinea, coll. M. Laglaize, No 32 C 14. The holotype is in the Trouessart collection in the Museum of National d'Histoire Naturelle, Paris, France.

Etymology. The specific epithet is derived from trichos (Greek, hair). This name indicates the number of macrochaetae in the idiosomal chaetotaxy.

Taxonomic remarks. The new genus seems to be most closely related to the genus *Orphanacarus* Gaud & Atyeo, 1976 because of the absence of the pori gla gl and setae kT on tibiae III. These two states of characters could be synapomorphies for both genera, but it is difficult to reject the possibility of homoplasy. On the other hand, the genus *Vassilevascus* gen. nov. posseses a unique character common with the genus *Cystoidosoma* Gaud & Atyeo, 1976, namely because of the absence of the setae sR on the trochanters III. But the possibility of homoplasy here is twice as high as in the previous case. Note should be taken of the fact that in the new genus and in most species of the genera *Orphanacarus* and *Cystoidosoma* hosts are parrots (Psittaciformes).

Acknowledgements

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Fig. 1 *Vassilevascus trichosus*, gen. nov., sp. nov., ventral aspects of the male.

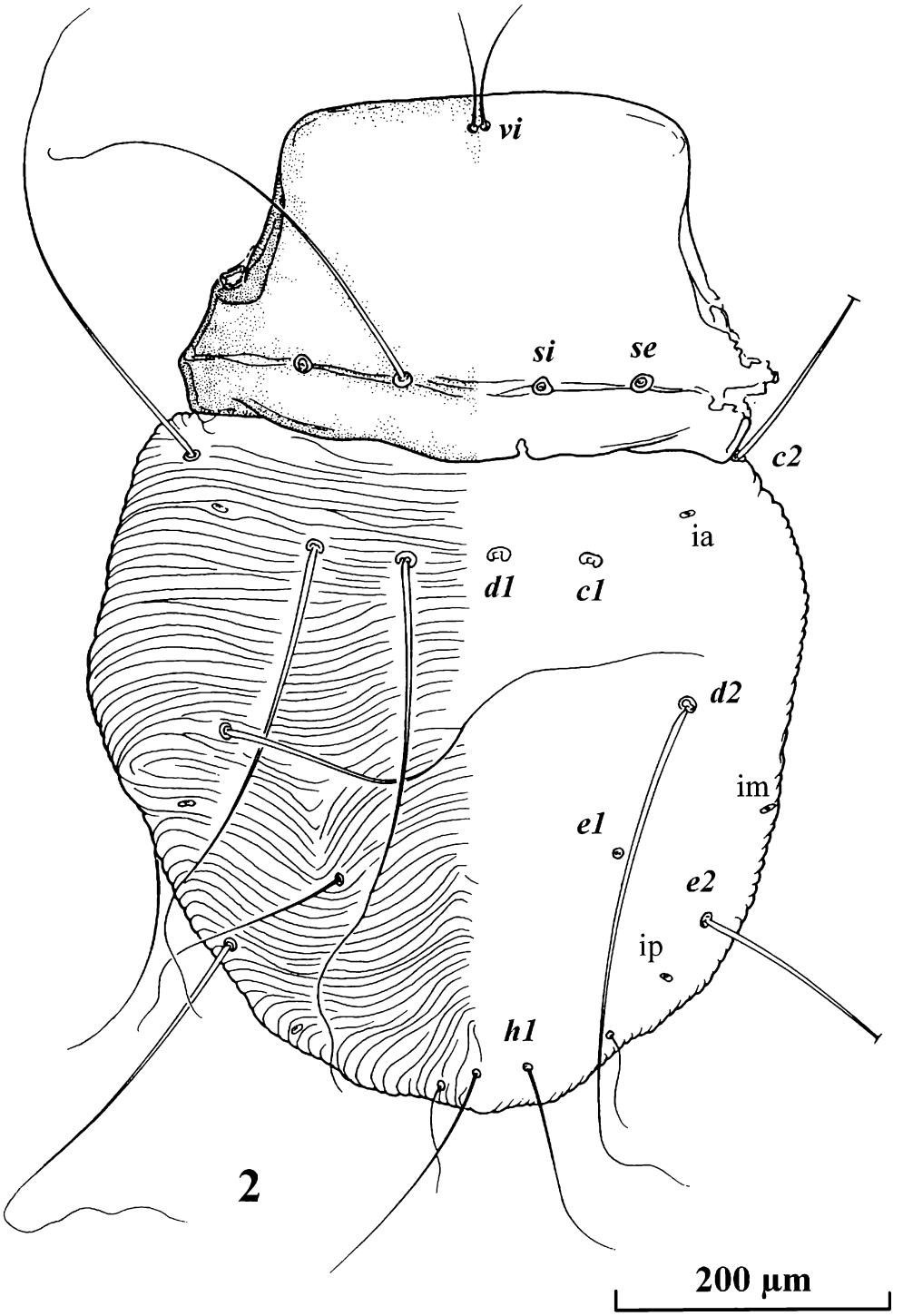
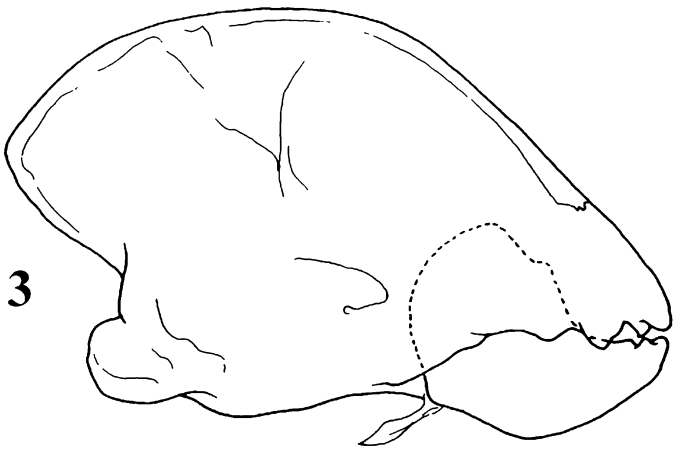
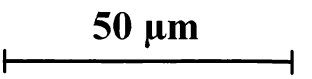


Fig. 2 *Vassilevascus trichosus*, gen. nov., sp. nov., dorsal aspects of the male.





Figs. 3, 4, 5 *Vassilevascus trichosus*, gen. nov., sp. nov. Chelicera (3), setae s of tarsi I-II (4) and tarsus IV (5) of the male.