

**A TAXONOMIC NOTE ON THE FEATHER MITE SPECIES  
PTEROLICHUS DIGAMUS MÉGNIN AND TROUESSART, 1884  
(ACARIFORMES: ASTIGMATA: PTEROLICHIDAE)**

**S. V. Mironov**

Zoological Institute, Russian Academy of Sciences, Saint Petersburg, 199034, Russia;  
e-mail: sergei.mironov@zin.ru

**ABSTRACT:** The original description of the feather mite *Pterolichus digamus* Mégnin et Trouessart, 1884 (Pterolichidae) from the Eurasian coot *Fulica atra* Linnaeus (Gruiformes: Rallidae) was based on two different species. When this matter was found, Trouessart (1885) ignored the name *Pterolichus digamus* and proposed new names for these two species: *Pterolichus fulicae* Trouessart, 1885 and *Pterolichus proctogamus* Trouessart, 1885, — currently *Grallobia fulicae* (Trouessart, 1885) and *Grallolichus proctogamus* (Trouessart, 1885), respectively. This taxonomic action was accepted by all subsequent investigators of feather mites, despite the existence of the senior name *P. digamus*, which can render either *P. fulicae* or *P. proctogamus* a junior synonym, and hence invalid. Therefore, to maintain the stability of zoological nomenclature is necessary to treat the senior name, *P. digamus*, as a *nomen oblitum*. This action would require satisfying the conditions of two articles of the ICZN Code. One of them is met: a senior synonym has not been used as a valid name after 1899 (Article 23.9.1.1); but because the junior synonyms have not been mentioned in a sufficient number of works (Article 23.9.1.2), the second condition can not be met. Under these circumstances (Article 23.9.3) we will apply to the Commission for a ruling under the plenary power to maintain the current use of the junior synonyms and suppress the older name *P. digamus*. The junior synonyms, *Pterolichus fulicae* Trouessart, 1885 and *Pterolichus proctogamus* Trouessart, 1885, will be treated as valid names (*nomina protecta*) and the name *Pterolichus digamus* Mégnin et Trouessart, 1884 as a *nomen oblitum*.

**KEY WORDS:** feather mites, Pterolichidae, *Pterolichus digamus*, taxonomic note

When describing a feather mite species *Pterolichus digamus* (Pterolichidae) from the Eurasian coot *Fulica atra* Linnaeus (Gruiformes: Rallidae) (type host), Mégnin and Trouessart (1884: 382) recognized in this species two “forms” of females and only one form of males. The first form, *1re forme de femelle fécondée*, had a bluntly rounded opisthosoma (Mégnin and Trouessart, 1884: fig. 48e), and the second form, *2me forme de femelle fécondée*, had a conical median extension (Mégnin and Trouessart, 1884: fig. 48c, d). One year later, Trouessart (1885: 117) realized that he actually dealt with two different species and proposed new names for both. The mite species corresponding to the *1re forme de femelle fécondée* was given a name *Pterolichus fulicae* Trouessart, 1885; the mite corresponding to the *2me forme de femelle fécondée* and the only form of male was named *Pterolichus proctogamus* Trouessart, 1885. Currently, these species belong to two different genera: *Grallobia fulicae* (Trouessart, 1885) and *Grallolichus proctogamus* (Trouessart, 1885) (Gaud and Mouchet 1963; Gaud 1968).

Trouessart (1885) did not retain the oldest name “*digamus*” for any of the two species, creating nomenclatorial instability, because one of the two names proposed in 1885 should be a junior synonym of *digamus*. Nevertheless this nomenclatorial action has been accepted by all subsequent investigators (e.g. Berlese 1898; Canestrini and Kramer 1899; Dubinin 1956; Gaud and Till, 1961;

Gaud 1968). The name *digamus* has never been used as a valid name since its original proposal (Mégnin and Trouessart 1884) for any of the two species, thus the condition of Article 23.9.1.1 of the acting Code (ICZN 1999) is met, while the names *fulicae* and *proctogamus* were used in all subsequent publications since 1885 (Radford 1953; Dubinin 1956; Gaud 1960, 1968; Gaud and Till 1961; Gaud and Mouchet 1963). However, the number of published works, where the names *fulicae* and *proctogamus* were used, did not in exceed 25 works of 10 different authors in the immediate preceding 50 years, and therefore the conditions of Article 23.9.1.2 are not met. The low number of citations reflects the limited number of feather mite experts who was working in this area in the past 50 years. However, in two past decades, general interest in feather mites grows, as many of them are economically important parasites (Coll-off et al. 1997; Buim et al. 2013) and are of evolutionary interest, were extolled as model organisms in coevolutionary studies (Dabert 2005; Klimov and OConnor 2008) and offering important clues for reconstruction of the early evolutionary history of house dust mites as their relatives (Klimov and OConnor 2013). The stability of zoological nomenclature is threatened because of the existence of the valid older name *digamus*, which can be chosen for the name of one of the currently used names, *fulicae* and *proctogamus*, by the action of a first reviser.

To maintain the stability of Zoological nomenclature, I suggest, according to Article 23.9.3, to refer the described matter to the Commission for a ruling under the plenary power. In my opinion it would be justified to maintain the prevailing usage for both junior synonyms: to declare the name *Pterolichus digamus* Mégnin et Trouessart, 1884 as *nomen oblitum* and the names *Pterolichus fulicae* Trouessart, 1885 (current combination *Grallobia fulicae* (Trouessart, 1885)) and *Pterolichus proctogamus* Trouessart, 1885 (current combination *Grallolichus proctogamus* (Trouessart, 1885)) as *nomina protecta*. The code stipulates maintaining the current usage of these names, *P. fulicae* and *P. proctogamus*, while this case is pending in the Commission.

#### ACKNOWLEDGEMENTS

The study has been performed in the frames of the state theme of the General Biology Department of the Russian Academy of Sciences (Registration No 01201351187).

#### REFERENCES

- Berlese, A. 1898. Acari, Myriopoda et Scorpiones hucusque in Italia reperta. Padova and Portici. Fascicule, 86, Nos 1, 5.
- Buim, M.R., Leffer, A.M.C., Fava, C.D., Spinoso, H.S., Bueno, R.S. and Górnjak, S.L. 2013. The first report about *Allopsoroptoides galli* n. g., n. sp. (Acari: Analgoidea: Psoroptoididae) infected layer hens: hematological, serum chemistry, and histopathologic findings. *International Journal of Poultry Science*, 12: 261–263.
- Canestrini, G. and Kramer, P. 1899. *Demodicidae und Sarcoptidae*. *Das Tierreich. Lieferung 7*. H. Fiedländer und Sohn, Berlin. 193 pp.
- Colloff, M.J., Merrett, T.G., Merrett, J., McSharry, C. and Boyd, G. 1997. Feather mites are potentially an important source of allergens for pigeon and budgerigar keepers. *Clinical and Experimental Allergy*, 27: 60–67.
- Dabert, J. 2005. Feather mites (Astigmata; Pterolichoidea, Analgoidea) and birds as models for cophylogenetic studies. *Phytophaga*, 14: 409–424.
- Dubinin, V.B. 1956. Per'evye kleshchi (Analgesoidea). Chast' III. Semeistvo Pterolichidae [*Feather mites (Analgesoidea). Part III. Family Pterolichidae*]. Fauna SSSR, Paukoobraznye, Volume 6, Fascicle 7. Publisher: Akademiya Nauk SSSR, Moscow–Leningrad. 813 pp. [In Russian]
- Gaud, J. 1960. Quelques Sarcoptiformes plumicoles du Congo belge (Analgesoidea). *Revue de Zoologie et de Botanique africaines*, 61: 133–159.
- Gaud, J. 1968. Acariens sarcoptiformes plumicoles (Analgoidea) parasites sur les oiseaux Ralliformes et Gruiformes d'Afrique. *Annales du Musée royale de l'Afrique centrale, Séries in-8<sup>o</sup>, Sciences zoologiques*, 164: 1–101.
- Gaud, J. and Mouchet, J. 1963. Révision des genres *Grallobia* Hull et *Grallolichus* Gaud (Pterolichidae). *Acarologia*, 5: 628–643.
- Gaud, J. and Till, W.M. 1961. Suborder Sarcoptiformes. In: Zumpt, F. (Ed.). *The arthropod parasites of vertebrates in Africa south of the Sahara (Ethiopian Region)*. Volume I (Chelicerata). Publications of the South African Institute for Medical Research, No 1 (Volume IX), Johannesburg, p. 180–352.
- ICZN 1999. *International Code of Zoological Nomenclature. Fourth Edition*. The International Trust for Zoological Nomenclature, London, UK. 306 pp.
- Klimov, P. B. and OConnor, B.M. 2008. Origin and higher-level relationships of psoroptidian mites (Acari: Astigmata: Psoroptidia): evidence from three nuclear genes. *Molecular Phylogenetics and Evolution*, 47: 1135–1156.
- Klimov, P. B. and OConnor, B.M. 2013. Is permanent parasitism reversible? — Critical evidence from early evolution of house dust mites. *Systematic Biology*, 62: 411–423.
- Mégnin, P. and Trouessart, E.L. 1884. Les Sarcoptides plumicoles. *Journal de Micrographie*, 8: 92–101, 150–157, 211–219, 257–266, 331–338, 380–385, 428–436.
- Radford, C.D. 1953. The mites (Acarina: Analgesidae) living on or in the feathers of birds. *Parasitology*, 42: 199–230.
- Trouessart, E.L. 1885. Les Sarcoptides plumicoles. *Journal de Micrographie*, 9: 63–70, 109–117.
- Trouessart, E.L. and Mégnin, P. 1885. Les Sarcoptides plumicoles ou Analgésinés. Octave Doin, Paris. 84 p. + 2 pls. [Compilation of two previous papers]