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A new species of the genus *Dermanyssus* DE GEER, 1778 (Acari: Dermanyssidae) from the nest of a bird *Apus affinis* in Rwanda

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Summary

Description of a new species of Dermanyssus, D. rwandae n. sp., found in several nests of the bird Apus affinis, in Rwanda.

Résumé

Description d'une nouvelle espèce de Dermanyssus, D. rwandae, trouvée dans des nids de Apus affinis, au Rwanda.

Introduction

The mites of the genus *Dermanyssus* DE GEER (Mesostigmata, Dermanyssidae) are obligatory blood-sucking parasites of birds. The most important species is *D. gallinae* DE GEER, it is a cosmopolitan and very common parasite of domestic poultry, including the cage birds (canari and others). This mite may also produce an itching dermatitis in man. Another cosmopolitan species is *D. hirundinis* (HERMANN), well known to occur in Japan where it bites man frequently (UCHIKAWA & TAKAHASHI, 1985).

In 1960, EVANS & TILL revised the genus *Dermanyssus*. They listed a total of 12 valid and 2 dubious species. Among these species 6 were also represented in the British Isles (EVANS & TILL, 1966).

A series of new species were described subsequently by several authors, i.e. MOSS (1966, 1978), NELSON & FURMAN (1967), DUSBABEK & CERNY (1971) and UCHIKAWA & KITAOKA (1981).

Including the new species that we described herein, the total of valid species in this genus is now 18.

The new species which is described in this paper was collected in Berlese funnels from 4 nests of *Apus affinis*, in Butare, Rwanda.

All the measurements used herein are in micrometers.

Genus *Dermanyssus* DE GEER, 1778*Dermanyssus rwandae* n. sp.

Female (holotype) (Figs 1-2): Body in a short ovoid, distinctly dilated in its posterior half. Maximum length and width of idiosoma 762 x 564. Length and width in 4 paratypes: 780 x 552, 720 x 540, 696 x 480, 654 x 498. *Dorsum*: scutum 558 long and 275 wide (= its maximum width in anterior third of the shield). Length and width of scutum in 4 paratypes: 585 x 285, 522 x 258, 546 x 252 and 528 x 267. The scutum is abruptly narrowed in its posterior sixth where it is very narrow and more or less parallel-sides, its posterior extremity is truncate. The scutum bears a complicated network of lines and carries 9 pairs of setae of which the anterior setae are distinctly longer (the *j2* and *z2* 60 and 30 long respectively) than the other scutal setae which are very short (6 long). Some specimens have an additional seta (*J2*) at one side, and in one specimen the *J3* is present only at one side. The scutum bears 3 pairs of small pores. There is one

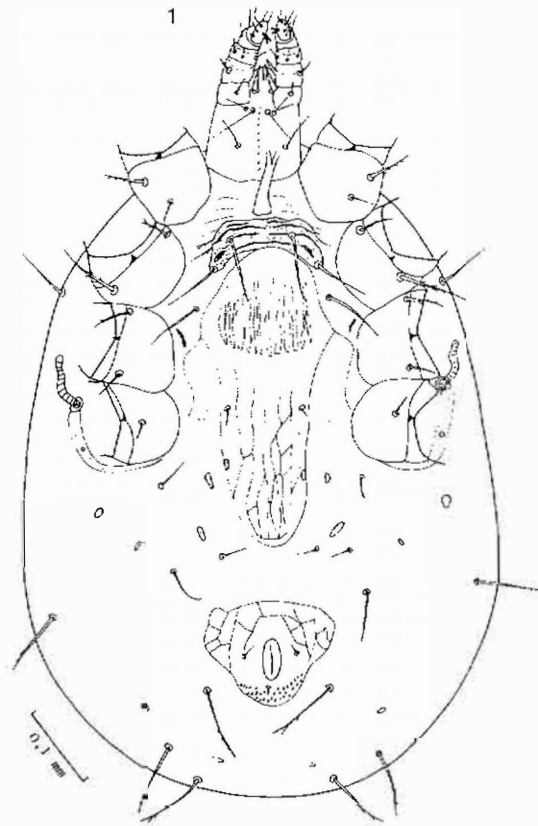


Fig. 1. *Dermanyssus rwandae* n. sp. Female in ventrale view.

pair of large humeral pores, with sclerotized structure in the depth. Soft cuticle of the dorsum bearing the *j1* setae, 11 pairs of strong barbed setae 79 to 90 long and 7 pairs of small pores. *Venter*: sternal shield short (27 long in midline) and relatively narrow (maximum width 104), it bears 4 to 5 transverse striations thickened laterally. The postero-lateral corners of this shield are generally poorly sclerotized and indistinct. This shield bears the two anterior pairs of sternal setae and one pair of lyrifissures. Lengths of sternal setae I to III: 60, 70 and 80 respectively. Genital shield slightly tapering posteriorly, 82 wide at level of genital setae, its anterior membranous lip extends to the sternal shield. Soft cuticle of opisthogaster with 3 pairs of anterior short setae and 5 pairs of more posterior and lateral much longer and slightly barbed setae 40 to 80 long. Anal shield 129 wide and 102 long (including the cribrum). *Gnathosoma*: palpcoxal setae 32 long;

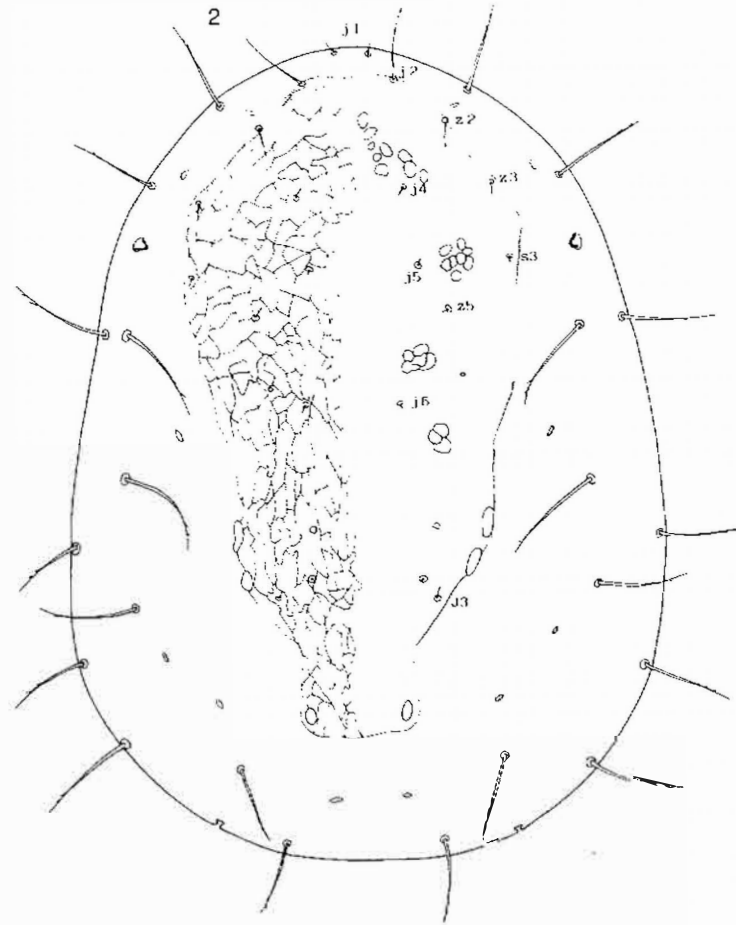


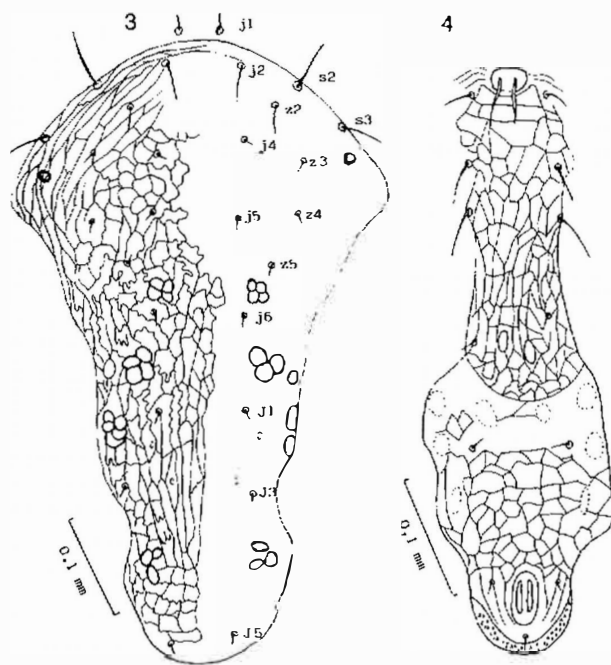
Fig. 2. *Dermanyssus rwandae* n. sp. Female in dorsal view.

anterior hypostomal setae very thick, spinous (4 wide at their base and 25 long) and very finely attenuated at their apex. Posterior hypostomal setae thin, the external 18, the internal 42 long. Deutosternal groove with a single row of 12 denticles. Chelicerae 290 long (dilated part included). Legs relatively short and thick, leg I 375, leg IV 365 long in a paratype (from base of coxa to apex of tarsus, pretarsus not included). Chaetotaxy of legs: tibia I: 2-1/2-1/1-2; tibiae II to IV: 1-1/2-1/1-1; genu I: 2-3/2-1/1-2; genu II: 2-2/2-1/0-1; genua III and IV: 1-2/2-1/0-1.

Male (Figs 3-4): Idiosoma in a paratype 620 long and 420 wide (maximum width). Dorsal shield with the same type of network as in female, 540 long and 320 wide. It bears 13 pairs of setae and a pair of large and sclerotized humeral pores. Soft cuticle as in female. Sternigenitoanal shield 420 long with a well-developed pattern of lines and bearing 5 pairs of setae and 3 anal setae. Peritreme extending slightly behind the middle of coxa III. Spermatodactyl 75 long. Legs: tarsi III and IV with a ventral prepal spur, tibiae and genua III and IV with a ventral barbed spine very finely attenuated at apex.

Deutonymph: Idiosoma in a paratype 510 long and 375 wide. scutum as in female, bearing 9 pairs of setae. Sternigenital shield 200 long, bearing 2 pairs of setae; two other pairs of setae are situated off the shield. Peritreme very short (20 long).

Protonymph and larva: not observed.



Figs 3-4. *Dermanyssus rwandae* n. sp. Male. 3: dorsal shield; 4: ventral sterni-genito-anal shield.

Remarks

Among the 17 valid species of *Dermanyssus* described so far, only 6 (in females) have a short peritreme not extending beyond the anterior margins of coxae III. Two of them (*D. alaudae* SCHRANK and *D. brevis* EWING) have short and thick legs and they lack metasternal setae as in *D. rwandae*.

D. rwandae differs from these two species by the following characters: setae on soft cuticle of dorsum and venter less numerous (20 pairs on total in *D. rwandae*, instead of at least 38 pairs in these species), dorsal shield abruptly narrowed in its posterior part (instead of regularly and slightly attenuated towards the posterior extremity of the shield in these two species), anal shield wider than long (either subcircular in *D. alaudae* or longer than wide in *D. brevis*), the presence of conspicuous humeral pores situated on soft cuticle far from the scutum (these pores are on the shield in these two species), the spinous aspect of the anterior hypostomal setae (not spinous in the two other species).

In addition to these characters, in *alaudae* the scutum bears an indistinct pattern of lines, the setae *z3* and *s3* are longer (60 and 45 respectively) and the sternal shield has the shape of a narrow transverse stripe bearing only the setae *st.1*.

Other characters separating *D. rwandae* from *D. brevis* are the absence in the former of *J1* and the shorter *z3* and *s3*.

D. rwandae is clearly distinguished from *D. transvaalensis* EVANS & TILL, 1962, described from South Africa and also recorded from swallows' nests in Lwiro, Kivu province in Zaire (Moss *et al.*, 1970). In this species the legs are much longer and thinner, the scutum is longer and bears much longer setae than in *D. rwandae*.

Host and locality

Holotype and 29 paratypes female, 5 paratypes male and 6 deutonymphs from a nest of *Apus affinis*, from Butare, Rwanda, 25.V.1968 (coll. R.F. AURÉLIEN, Groupe scolaire de Butare; 5 paratypes female with the same data as for holotype but collected on 30.V.1971; 6 paratypes female with same data as for holotype but on 11.VII.1971; 1 paratype female with the same data as for holotype but on 19.VII.1970.

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Les curieuses vicissitudes du genre *Platypsyllus* RITS. (Coleoptera)

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La bestiole dont je vais retracer l'historique est un insecte vivant dans le pelage des castors: c'est donc non seulement un épiparasite de mammifère, mais aussi, la plupart du temps, un animal aquatique. Les figures 1 à 6 en montrent l'habitus de l'adulte et de la larve, et quelques détails. On notera tout particulièrement l'aspect des antennes, dont le pédicelle est évasé en coupe et le flagelle, fusionné en une masse inarticulée: c'est une adaptation à la respiration aquatique, semblable, mais plus poussée encore, à celle des *Gyrinus* et des *Farnus*. Le corps et les appendices sont littéralement couverts de divers peignes et soies facilitant l'ancrage et les déplacements de l'adulte et de la larve dans la fourrure de leur hôte; le peigne au bord postérieur de la tête n'est pas le moins curieux des caractères de cette espèce. Certains faisceaux de soies retiennent certainement aussi une réserve d'air. On ignore encore le régime exact de cet insecte: on a supposé qu'il était prédateur d'acariens du pelage des castors et ainsi non pas un parasite de ce dernier mais un utile auxiliaire.

Les premières trouvailles

Au début de l'année 1869, le directeur du jardin zoologique de Rotterdam, le dr A. A. VAN BEMMELEN, fit parvenir à un entomologiste néerlandais, le dr Conrad RITSEMA Cz. (: Conrad zoon!) [1846-1929], un lot d'une dizaine de curieuses bestioles découvertes dans la fourrure d'un pensionnaire défunt du zoo: le castor (*Castor fiber* LINNÉ)¹. Curieuses, certes, et totalement inconnues: RITSEMA est persuadé d'avoir affaire à un type de puce tout à fait particulier: le corps est remarquablement déprimé (aplatis,

¹ Tel est le nom employé par RITSEMA; comme il s'agit du castor du Canada, d'après les diverses allusions ultérieures, il faut admettre qu'il s'agissait de *Castor fiber* L., 1758, sous-espèce *canadensis* KUHL, 1820. La sous-espèce nominale est scandinave; actuellement on distingue 10 sous-espèces, dont celle de la région rhonale, qui a fourni des exemplaires cités dans ce compte rendu.