

First Description of the Hypopial Stage of *Thyreophagus entomophagus* (LABOULBÈNE, 1852) (Acari Acaridae)

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Summary

The heteromorphic deutonymph of *Thyreophagus entomophagus* (LABOULBÈNE) (Acari Acaridae) is described and depicted for the first time.

Keywords : Taxonomy. First description deutonymphs *Thyreophagus entomophagus* (LABOULBÈNE) Acari. Acaridae.

Résumé

La deutonymphe hétéromorphe de *Thyreophagus entomophagus* (LABOULBÈNE) (Acari Acaridae) est décrite pour la première fois.

Introduction

FAIN (1982), reviewed the genera *Thyreophagus* RONDANI, 1874 and *Michaelopus* FAIN & JOHNSTON, 1974 (= *Monieziella* BERLESE, 1897) (Acari: Acaridae) and described 9 new species. Two other new species were described later in the genus *Michaelopus* (FAIN & LUKOSCHUS, 1986 and FAIN & RACK, 1987)

The genus *Thyreophagus* includes now three species which are known either from females and males, i.e. the type species *T. entomophagus* (LABOULBÈNE) and *T. odyneri* FAIN, 1982, or from only the female (*T. cooremani* FAIN, 1982).

Among the 14 species included in the genus *Michaelopus*, only the type species *M. corticalis* (MICHAEL, 1885) is known from all its developmental stages, i.e. egg larva, protonymph, heteromorphic deutonymph, tritonymph and adults, male and female. All the other species are only represented either by females and/or males (eight species) or only by heteromorphic deutonymphs (five species).

Until now, all the species represented only by their hypopial stages were assigned to the genus *Michaelopus* rather than to the genus *Thyreophagus*, owing to the great resemblance existing between all these hypopi. The discovery of the hypopus of *Thyreophagus entomophagus* by W.K. leads us to reconsider our opinion about the generic status of these deutonymphs and we think now that some of them could actually belong to the genus *Thyreophagus* rather than to the genus *Michaelopus*.

The deutonymphs of *T. entomophagus* that we describe here, had been reared in the laboratory by W.K. from adult mites that had been collected in a sparrow nest in the suburban district of Berlin (Berlin Dahlem). The mites were bred at a temperature of 20°C and a relative humidity of 85%. The food used by the mites consisted of dried baker's yeast.

All the measurement are in micrometers (µm). We follow, here, the setal nomenclature of the idiosoma proposed by A. FAIN (1963).

Genus *Thyreophagus* RONDANI, 1874

Thyreophagus entomophagus
(LABOULBÈNE, 1852)

The male and female of this species have been redescribed and redepicted by FAIN (1982). The deutonymph was still unknown and we describe it here for the first time.

DEUTONYMPH (= hypopus) (Figs 1-9) : Body distinctly widened at the level of the sejugal furrow. Maximum length (L) and width (W) in 5 specimens : 243 x 180, ratio L : W = 1.39; 242 x 172 (1.40); 234 x 168 (1.39); 232 x 169 (1.37); 225 x 159 (1.41). The ratio L : W varies between 1.35 and 1.41. *Dorsum* finely punctate except at the level of the sejugal furrow where the cuticle

bears numerous very short and very thin transverse striations. The area situated between the two eye-lenses is densely mamillated. Eye-lenses with a distinct basal retina, 11 wide and separated by a distance of 79 to 84. Dorsal setae very thin, from 6 to 12 long, except *d5* 15 to 18. Setae *sce* situated on or close to the eye lenses. *Venter* : Epimera II curved outside, longer than the sternum. Epimera III not reaching the midline. Setae *ga* situated on epimera III. Oil glands apertures situated ventrally, behind setae *h*. Genital region with a pair of conoides (setae *gp*) and a pair of thin setae (setae *gm*). Setae *l5* 25 long. *Suctorial plate* as long (38-40) as wide. Anterior suckers circular, diameter 7.6 to 8.5, posterior suckers slightly ellipsoidal and longer (10 - 11) than wide (9.3 to 9.6). *Palposoma* 12 to 14 long, 12 to 13

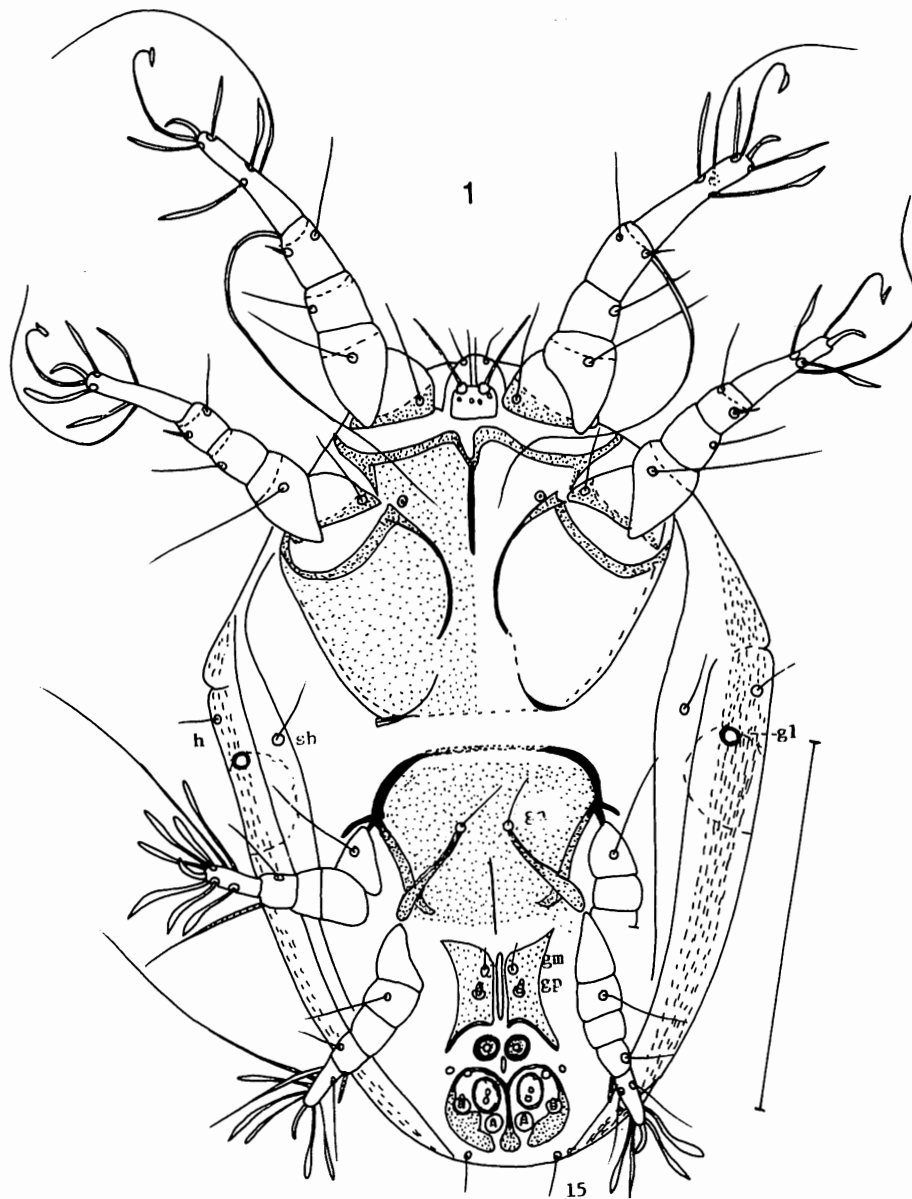
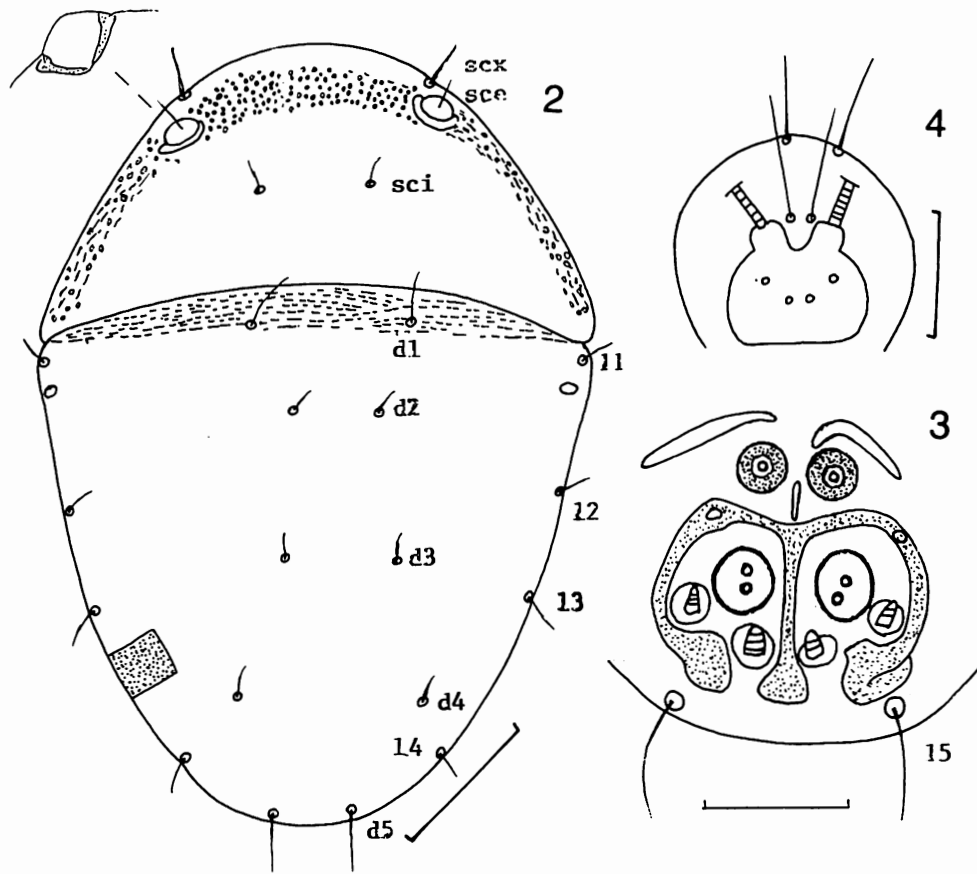


Fig. 1. *Thyreophagus entomophagus* (LABOULBÈNE). Hypopus in ventral view. Scale line 100 μ m.



Figs 2-4. *Thyreophagus entomophagus* (LABOULBÈNE). Hypopus in dorsal view (2), suctorial plate (3), pal-posoma (4). Scale lines 50 μm (fig. 2), 25 μm (fig. 3) and 10 μm (fig. 4).

wide, ending into 2 very small palps bearing a solenidion *alpha* 40 to 45 long. *Legs*: Lengths of tarsi I 33-36, II 27-28, III 16-17, IV 15-16. Lengths of claw I 9-9.8, II 9-10, III and IV 8-8.4. *Leg chaetotaxy*: Tarsus I with 7 setae of which the setae *la*, *ra*, *f*, *q* and *p* are narrowly foliate; *d* is the longest (60); *e* is spoonlike. Tarsus II as tarsus I but seta *ba* is present near solenidion ωI . Tarsus III with 8 setae of which 7 are foliate. Tarsus V with 8 setae of which 5 foliate, 2 thin simple and thick and forked. Tibiae with 2-2-1-1 setae. Tibia I with a thin and short hT (5) and a thin gT 12-13 long. On tibia II hT is a narrow spine 6 long and gT is thin and 16-20 long. Genua I-IV with 2-2-0-0 setae. Genu I with mG and cG thin and 18 long. Genu II with mG and cG 18 and 12 long respectively. *Solenidia*: Tarsus I with $\omega 1$ 13; $\omega 3$ 17; $\omega 2$ 6. The $\omega 1$ and $\omega 3$ are both set in the same depressed oval area, the latter also bearing a thin and short famulus ϵ . Tarsus II with $\omega 1$ 3 long. Tibia I bearing φ 95. Tibia II with φ 27. Genu 1 with σ 13. Genu II with σ 4.

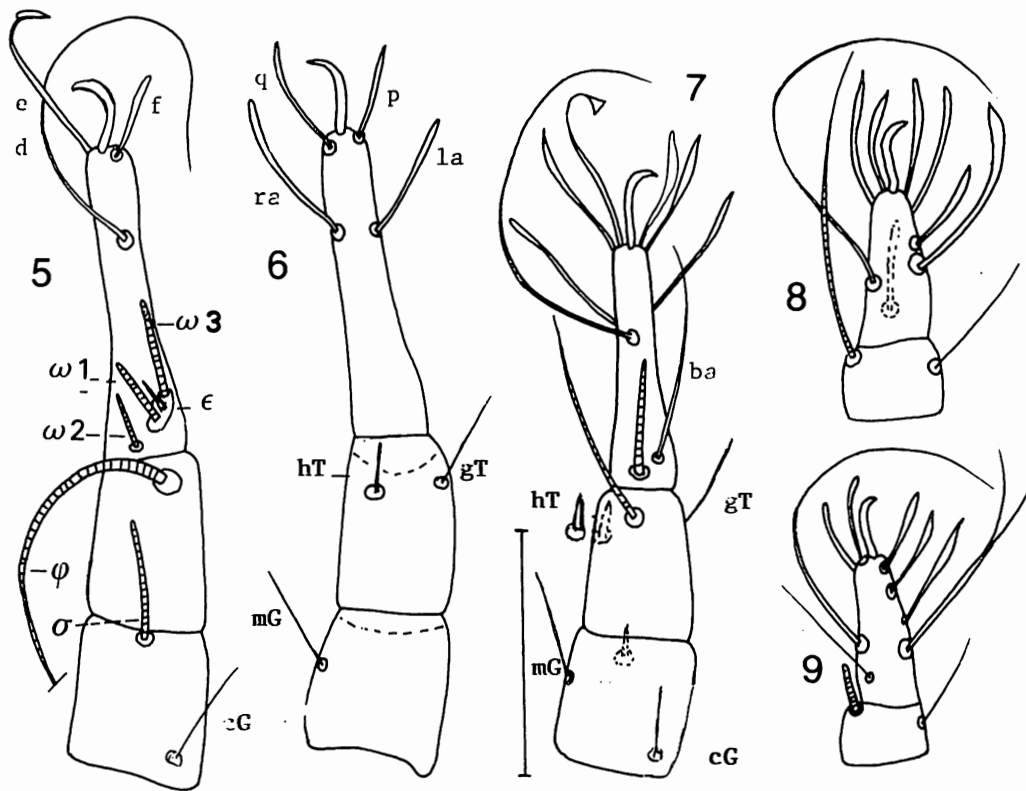
The deutonymphs that we describe here, as

well as their corresponding adults received from W.K. are deposited in the Institut royal des Sciences naturelles de Belgique.

Remarks:

The deutonymph of *T. entomophagus* that we describe here, is characterized mainly by the shape of the body which is abruptly widened at the level of the sejugal furrow. The ratio length: width of the body is 1.35 to 1.41. A second character, correlated with the widening of the body, is the great distance between the eyes (79 to 84). In all the other species where the deutonymph is known, except one (*M. leclercqi*), the body is more elliptical and much longer than wide (ratio length: width 1.79 to 2.1) and the distance between the eyes does not exceed 60. In *M. leclercqi* this ratio varies from 1.38 to 1.49 and the distance eye-eye is 75.

A reexamination of the typical series of deutonymphs of *M. leclercqi* has confirmed that both species are very close to each other and could be synonymous. This study has revealed that seta *ba* is also present on tarsus II of this species. More-



Figs 5-9. *Thyreophagus entomophagus* (LABOULBÈNE). Hypopus : Apical segments of legs : Leg I dorsally (5) and ventrally (6). Leg II dorsally (7). Leg III (8) and leg IV (9) laterally. Scale ligne 25 μ m.

over, the measurements of the setae of tibiae and genua in this species confirm this close relationship. In this species the tibia I bears thin setae hT and gT 10 and 17 long respectively. Tibia II with hT slightly to distinctly spinous and short (10); gT thin 12-14 long. Genu I with mG thin 12, cG thin 17. Genu II with mG thin 16 and cG thin 12. These lengths and widths do not differ markedly from those of *T. entomophagus*. In spite of these important similarities we prefer not to synonymize these two species at the present time and wait that new material becomes available.

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