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Two new Tydeinae mites (Acari: Actinedida, Tydeidae) from Kenya

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(With 4 figures)

A b s t r a c t

Two new species of mites of the subfamily Tydeinae, *Lorryia tragelaphus* sp. n. and *L. oryx* sp. n. from Kenya are described.

I n t r o d u c t i o n

To date more than 40 species of mites of the family Tydeidae were recorded from Africa and almost half of them belong to the genus *Lorryia* Oudemans (sensu Kaźmierski 1989b). They are known from Egypt, Algeria, Morocco, Libya, Zaire and South Africa. Two new species of this genus from Kenya are described below.

I use here the systematic classification and nomenclatural terms of André (1979, 1980) and Kaźmierski (1989a, 1989b). All measurements are given in micrometers (µm). The stases are abbreviated as follow: L-larva, PN-protonymph, DN-deutonymph, TN-tritonymph, AD-adult.

D e s c r i p t i o n o f n e w t a x a

Lorryia Oudeman, 1925

Lorryia Oudemans, 1925; Baker 1965, 1968a,b (in part); Kaźmierski 1989b.
Diagnosis: as in Kaźmierski (1989b).
Type species: *Lorryia superba* Oudemans, 1925.

Lorryia tragelaphus sp. n.
(Figs 1 A-C, 2 A-L)

Holotype, ♀: length 319/width 229. Paratypes (♀): 269-332/171-191; TN: 250/165, PN: 138-164/95-120, L: 127/80. All measurements below are those of the holotype.

DESCRIPTION OF ADULT FEMALE. Idiosoma, dorsal side. Striation type "*Paralorryia*" sensu Baker (Fig. 1C). Reticulation only on a small area

on the front of the aspidosoma (Fig. 1A). Striae with stout, short and distally rounded rods (Fig. 2G). Eyes occur.
Sensory setae (= trichobothria) in the form of thin rods. They are similar in shape to the common dorsal setae, but more slender and shorter (Fig. 2E). Only setae *ro* are approximately equal in length compared to the sensory ones. Other dorsal idiosomal setae are longer, stick-like, slightly broadened and rounded distally (Fig. 2F). The surface of the setae is rough (the setae are slightly serrated). Length of the setae: *bo* = 35, *ro* = 40, *la* = 42, *ex* = 48, *c1* = 42, *c2* = 49 (in the holotype *c2* are broken; thus their lengths are those of the paratype), *d1* = 43, *e1* = 42, *f1* = 51.5, *f2* = 50, *h1* = 49, *h2* = 50, *ps1* = 50. Distances between the setae: *c1* = 67, *d1* = 53, *e1* = 130, *f1* = 55, *h1* = 26, *ps1* = 36, *f1* = 35. Lyrifissura *ia* lies posteriorly to *c2* at the distance equal to 2/5 of section between *c2* and *e1*, medially to line betwen *c2* and *e1*. Lyrifissura *im* lies anteriorly to *e1* at the distance subequal to 1/4 of section between *c2* and *e1*, and laterally to *c2-e1* line.

Ventral side: finely striated, between setae *mt* ∝ and between *mt* ß the striae lie longitudinally (Fig. 1B). Coxal organ (*cg*) "8"-shaped. Genital organotaxy: AD (0.4-6-4), TN (4-4). Epimeral formulae: AD, TN (3-1-4-2).

Gnathosoma. In the "normal" position it protrudes before the aspidosomal anterior edge (Fig. 1A). Cheliceral stylets slightly shorter than palpal tarsus. Palpal eupathidium (*p* ζ) curved only at the end and minimally shorter than half length of the palpal tarsus. The top of the eupathidium is "T"-shaped. Seta *d* is unique in shape. It is forked already at the very base, so that the basal part of the fork is several times shorter than its branches (Fig. 2C). Seta *ba* distinctly developed, much longer than half width of palpal tarsus. Measurements: stylets = 22.5, palpal femur-genu = 30/12.5, seta *df* = 25.5, *dg* = 21.5, *t'* = 16.5, *t''* = 5, palpal tarsus: 27/6, solenidion *p* ζ = 11.7.

Legs. Tarsus + apotele I: length = 57.5, width = 16, height = 16 (left leg in the holotype slightly dwarfish). Length of ωI = 14.8, length of ωII = 7. Length of narrowly goblet-shaped famulus *k''* = 4.3, *ft''*ζ = 46.5, *ft'* = 27.3. Empodial claws (*om*) present, although rather weakly developed: their final curved part (blade) is not longer than the empodial chetoids.

PROTONYMPH. Leg chaetotaxy "typical" (= the most common) for the protonymph of the genus *Lorrya* Oudemans (sensu Kaźmierski 1989b). Trochanteral pattern: (0-0-1-0). Epimeral formula: (3-1-3-0). Genital organotaxy: (0-1).

LARVA: Simple anabasis on tarsus I with vestigials (*tc*). Seta *tc'* in the form of a small, triangular tooth. Seta *tc''* similar to *tc'*, but it is set in a common areola with a large eupathidium *p''*ζ.

ETYMOLOGY. The species name is derived from the generic name of antelope.

LOCUS TYPICUS: Kenya, Mount Kenya. Very close to the border of the park. Dry litter beneath an eucalyptus wood, 1 March 1974, coll. J. Michejda. Holotype ♀, 3 paratypes (♀), 1 TN, 2 PN, 1 L.

TYPE REPOSITORIES. The holotype (ZMH No. A39/93) is deposited in the Zoological Museum Hamburg (ZMH), paratypes in the Department of Animal Morphology, Adam Mickiewicz University, Poznań, Poland (DAM).

REMARKS. The main differences between *L. tragelaphus* sp. n. and similar species, *L. mali* (Oudemans, 1929) (see Baker 1968) are given below.

L. mali (Oudemans)	*L. tragelaphus* sp. n.
1. Sensory setae (*bo*) longer than simple dorsal setae.	1. Dorsal setae longer than *bo*
2. Cheliceral stylets and palpal tarsus subequal in length.	2. Cheliceral stylets distinctly shorter than palpal tarsus.
3. ωI much shorter than the width of tarsus I, more or less equal to half width of the segment, not reaching with the apex to the base of seta *tc* ζ.	3. ωI long, only slightly shorter than the width of tarsus I, reaching with the apex to the base of seta *tc* ζ.
4. Seta *d* on the palpal tarsus forked only on the top.	4. Seta *d* on the palpal tarsus forked at its base.

Lorryia oryx sp. n.
(Figs 3 A-D, 4 A-L)

Holotype, ♀: length 289/width 151. Paratypes (♀): 265/129, (♂): 249-271 /128-142, TN: 195-258/97-135, DN: 180-185/90-100, L: 117-132/80-85.

DESCRIPTION OF ADULT FEMALE. Idiosoma, dorsal side. Idiosoma strongly elongated, its length to width ratio is nearly 2 : 1. All measurements given below relate to the holotype. Dorsal ornamentation: striation type "*Paralorryia*" sensu Baker (Fig. 3C). No reticulated pattern. Striae slender, lying closely to each other and finelly dotted. Under high magnification the dots show to be like tiny triangles, very small cones or small pyramids. Eyes are present.
Sensory setae whiplike, hairy, nearly 1.5 times longer than the longest "normal" dorsal setae. The latter ones are long, but different in length, sharply pointed and covered by barbs (hairs) longer that those of *bo* setae. Length of the setae: *bo* = 59, *ro* = 26, *la* = 20, *ex* = 31, *c1* = 27, *c2* = 31, *d1* = 29, *e1* = 29, *f1* = 35, *f2* = 38, *h1* = 35, *h2* = 41, *ps1* = 32. Distances between the setae: *c1* = 46, *d1* = 40, *e1* = 77, *f1* = 22, *h1* = 21.5, *ps1* = 16, *f1* and *h1* = 35. Lyrifissura *ia* lies posteriorly to *c2* at the distance subequal to 2/5 of *c2-e1*, very closely and laterally to the line *c2-e1*. Lyrifissura *im* lies anteriorly to *e1* at the distance subequal to 1/10 of *c2-e1*, and laterally to *c2-e1*.

Ventral side. Delicately striated, between setae *mt* ∝ and between *mt* ß the striae lie longitudinally (Fig. 3B). Coxal organ (*cg*) "8"-shaped. Genital organotaxy: AD (0.4-6-4), TN (4-4), DN (2-2). Epimeral formulae: AD, TN, DN (3-1-4-2).

Gnathosoma. In "normal" position it protrudes before the anterior edge of aspidosoma (Fig. 3A). Cheliceral stylets are a little shorter than the palpal tarsus. Eupathidium *p* ζ slightly bent, gradually narrowing towards the apex, terminated with a narrow wedgelike transversal cross-piece. Seta *d* forked at the end, seta *ba* distinctly developed and only slightly shorter than the width of palpal tarsus. Measurements: stylets = 19.5, palpal femur-genu: 30/14, seta *df* = 19, *dg* = 16, *t'* = 14, *t''* = 6, palpal tarsus: 23.5/4,5; solenidion *p* ζ = 8.

Legs. Tarsus + apotele I: length = 63, width = 14, height = 15. Solenidia (ω) in the Tydeidae are usually clublike (narrower at the base) or rodlike (not narrower at the base). The shape of both solenidia ω in *Lorryia oryx* sp. n. is thornlike and they are pointed (sharply ended) (Figs 4A, B). The solenidion ωI is 16.5 long, the length of ωII is 6. The famulus *k''* is widened and tri-cleft at the very end and 5 long. Seta *ft''*ζ = 36, *ft'* = 23. No empodial hooks (*om*).

LARVA: Pseudanal region as figured in Kaźmierski (1989a: Fig. 4C, "*Tydeus* sp. EAK-II"). Double anabasis on tarsus I, similar to type anabasis occurring in *Prelorryia* (see André 1981), *Lorryia woolleyi* (Baker), *L. subularoides* Kaźmierski, 1989 and *L. grandiinsignia* Kaźmierski, 1991. However, small vestigial seta *tc'* is set in its own individual areola, independent of eupathidium *p'*ζ situated next to it (Fig. 3D).

ETYMOLOGY. The species name originates from the generic name of antelope.

LOCUS TYPICUS: Kenya, Mount Kenya. Very close to border of the park. Dry litter beneath an eucalyptus wood. Holotype ♀. Other localities: (1) Mount Kenya, 4000 m a.s.l. Teleki Hut, exposition W. Open valley, dry terrain. Sample from tunic of *Lobellia* sp. The tunic with some moisture. Paratypes: 1 ♀, 3 ♂, 8 TN, 3 DN, 2 L; (2) as above, 3050 m a.s.l. Bent eucalyptus. From litter, moss and rotten wood. Paratype: 1 TN. All samples collected by J. Michejda (1 March 1974).

TYPE REPOSITORIES: The holotype (ZMH No. A40/93) is deposited in ZMH, paratypes in DAM (the author's own collection).

REMARKS. The diagnostic characters of *Lorryia oryx* sp. n. include elongated idiosoma, narrowly spaced setae *e1*, hairy sensory setae *bo* and thornlike solenidia ω. The differences between *Lorryia oryx* sp. n. and *Lorryia ocellata* (Kuznetzov, 1972) are as follow:

L. ocellata (Kuznetzov)	*L. oryx* sp. n.
1. Idiosoma average elongated.	1. Idiosoma strongly elongated: the length to width ratio is 2 : 1.

2. Dorsal idiosomal setae with sparsely distributed serration.

3. Length of dorsal body setae: 10 (*1a*) - 17 (*f2*, *h1*, *h2*). Setae *f1* only slightly longer than one half of the distance between *f1-h1*.

4. ωI are clublike (rounded distally) and distinctly shorter (7) than the width of tarsus I.

5. Tubercles on the striae rectangular. The rectangles adhere to the striae by their longer sides.

2. Dorsal idiosomal setae thickly barbed (haired).

3. Length of the setae: 20 (*1a*) 41 (*h2*). Setae *f1* and section *f1-h1* are equal in length.

4. ωI are thornlike (sharply ended) and longer than the width of tarsus I.

5. Tubercles very small, similar to dots on lines.

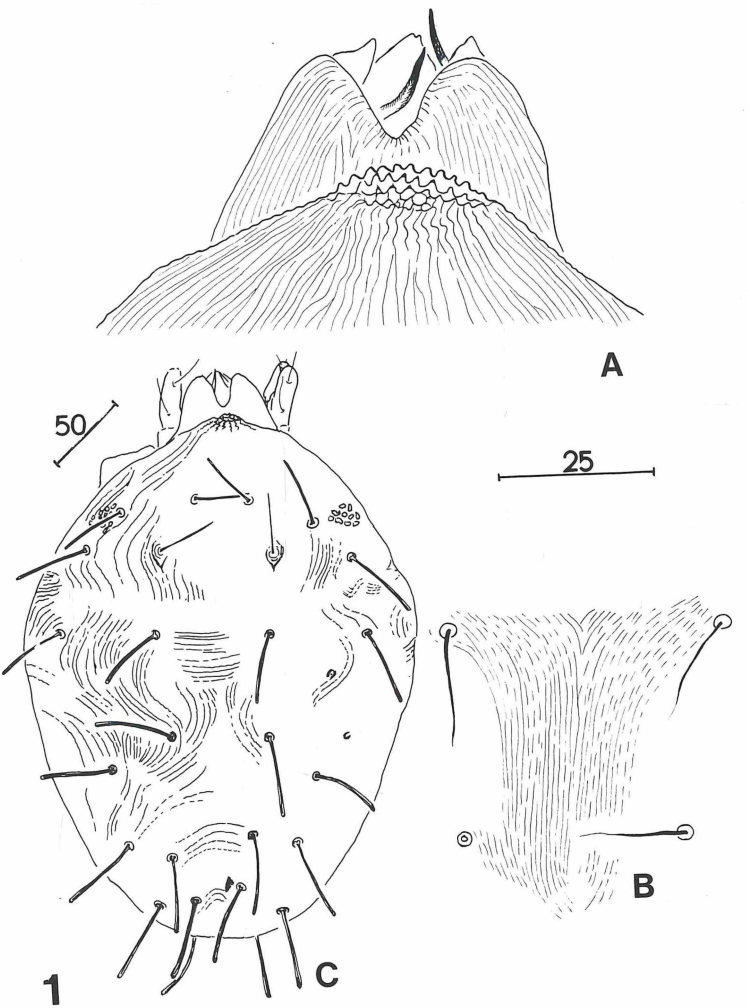

Fig. 1: *Lorryia tragelaphus* sp. n.: (A) - gnathosoma and anterior edge of aspidosoma; (B) - ventral side: region of setae *mt* ζ and *mt* ß; (C) - dorsal view of female.

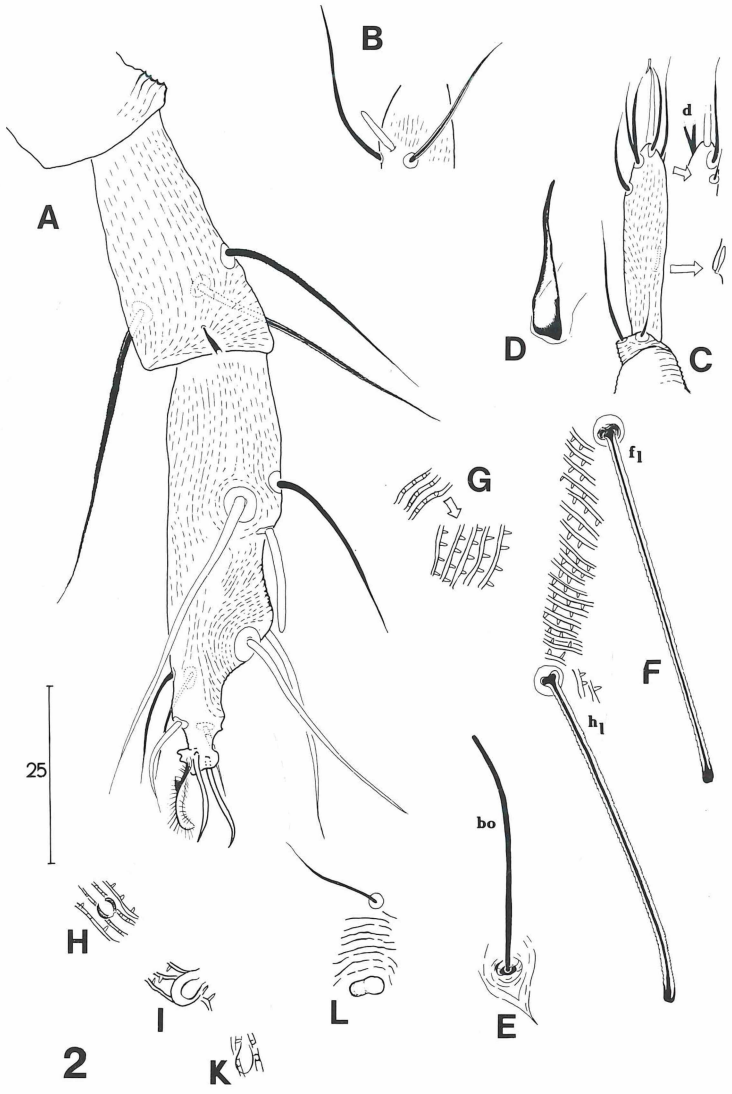

Fig. 2: *Lorryia tragelaphus* sp. n.: (A) - tibia + tarsus + apotel I; (B) - tarsus II (fragment); (C) - palpus; (D) - cheliceral stylet; (E) - sensory seta; (F) - setae *f1* and *h1*; (G) - details of dorsal striation; (H) - lyrifissura *ia*; (I) - lyrifissura *im*; (K) - lyrifissura *ih*; (L) - coxal organ.

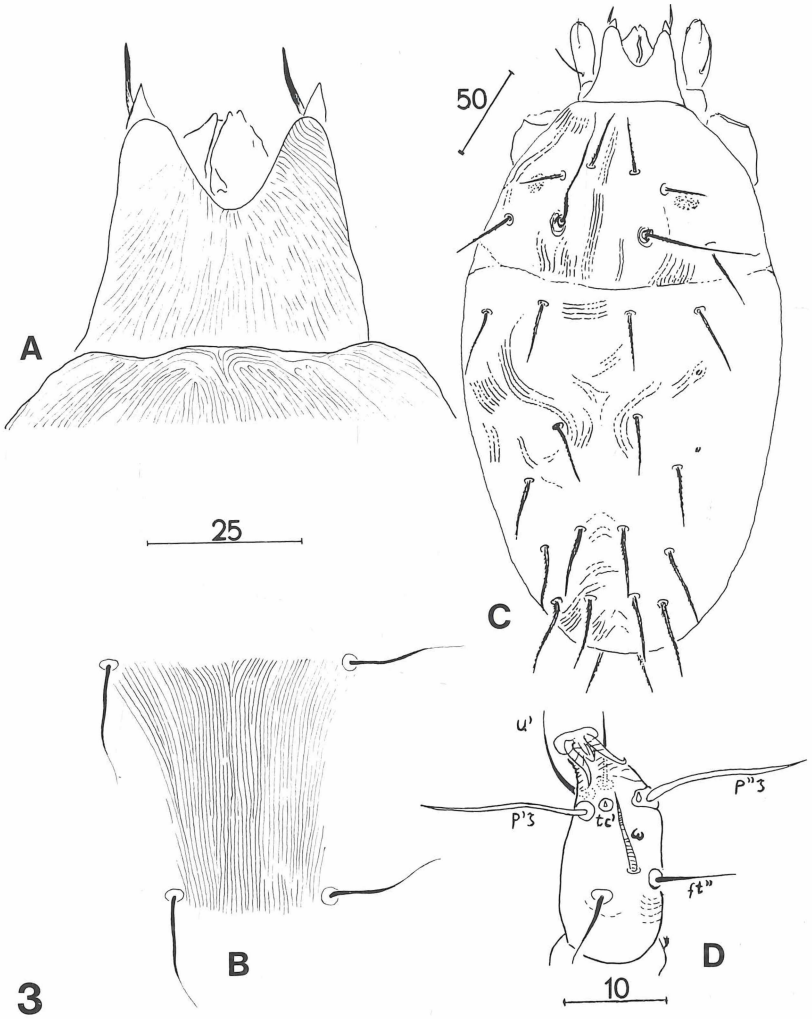

Fig. 3: *Lorryia oryx* sp. n.: (A) - gnathosoma and anterior edge of aspidosoma; (B) - ventral side; region of setae *mt* ζ and *mt* ß; (C) - dorsal view of female; (D) - tarsus + apotel I of larva.

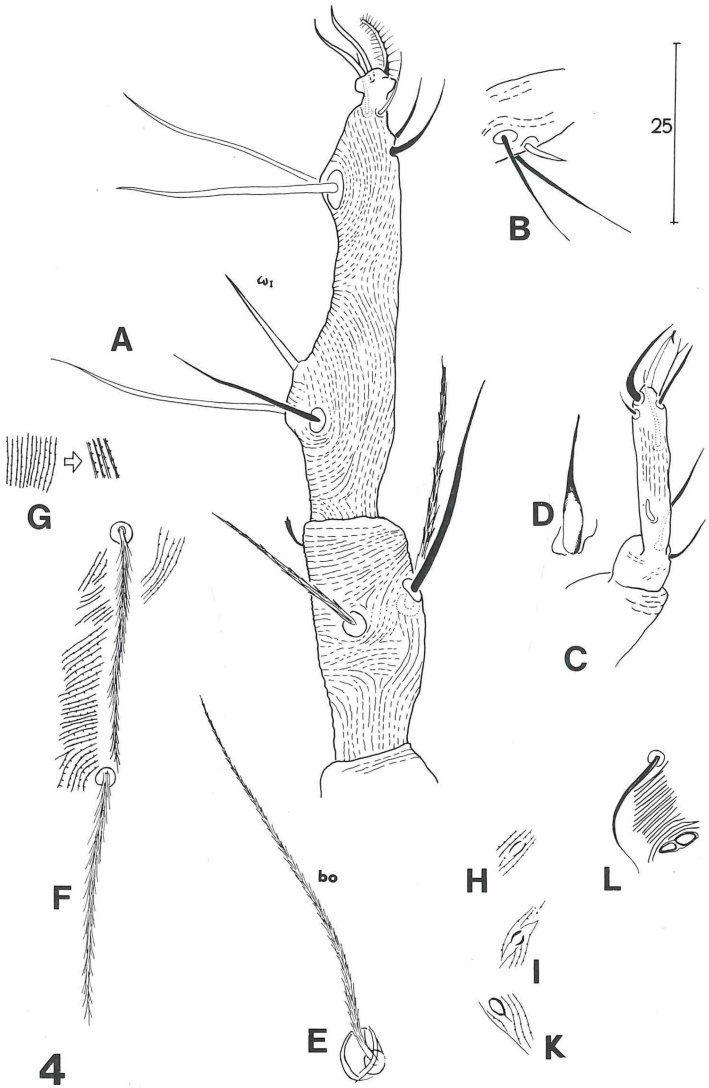

Fig. 4: *Lorryia oryx* sp. n.: (A) - Tibia + tarsus + apotel I; (B) - fragment of tarsus II; (C) - palpus; (D) - cheliceral stylet; (E) - sensory seta; (F) - setae *f1* and *h1*; (G) - details of dorsal striation; (H, I and K) - lyrifissures *ia*, *im*, *ih*, respectively; (L) - coxal organ.

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