ЗООЛОГИЧЕСКИЙ ЖУРНАЛ, 2020, том 99, № 1, с. 13–23

УДК 595.4

A NEW SPECIES OF *DOLICHEREMAEUS* JACOT 1938 (ACARI, ORIBATIDA, OTOCEPHEIDAE) FROM ZANZIBAR, WITH A KEY TO THE KNOWN SPECIES OF THE GENUS FROM THE ETHIOPIAN REGION

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Received October 17, 2018
Revised November 14, 2018
Accepted December 11, 2018

A new species of the oribatid mite genus *Dolicheremaeus* (Oribatida, Otocepheidae) is described from Zanzibar, Tanzania. *Dolicheremaeus zanzibarensis* sp. n. differs from *D. furcatus* (Balogh 1961), *D. pseudofurcatus* Mahunka 1988, *D. trimucronatus* Mahunka 1973, *D. renukae* Sanyal 1990 and *D. elisabethae* Balogh 1970 by the following morphological traits: body size, the structure of exobothridial and notogastral setae, the formula of leg setae *u*, the ornamentation of the notogaster. An identification key to the known species of *Dolicheremaeus* from the Ethiopian Region is provided.

Keywords: oribatid mites, morphology, systematics, Africa

DOI: 10.31857/S0044513419110047

Dolicheremaeus (Acari, Oribatida, Otocepheidae) is an oribatid mite genus that was proposed by Jacot (1938) with *Dolicheremaeus rubripedes* Jacot 1938 as type species. The genus is very large: it comprises 184 species and 9 subspecies, which are distributed in the tropical and subtropical regions (Subías 2004, updated 2018).

Among the oribatid mite material collected from Zanzibar (Tanzania), we found one new species of *Dolicheremaeus*. The main goal of our paper is to describe this new species and to present an identification key to known species of the genus from the Ethiopian region.

At present, the oribatid mite fauna of Tanzania is barely known (for example, Mahunka, 1988, 1988a; Starý, 1988, 1992; Niedbała and Starý, 2015; Niedbała, 2017). Furthermore, it is entirely unknown for the administrative region of Zanzibar.

METHODS

Samples were collected by hand method and extracted into 70% ethanol using Berlese's funnels during seven days in the laboratory.

Specimens were mounted in lactic acid on temporary cavity slides for the identification of all taxa and for measurement and illustration of the new species. Body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the notogaster. Notogastral width refers to the maximum width of notogaster in dorsal view. Lengths of body setae were measured in lateral aspect. All body measurements are presented in micrometers. Formulas for leg setation are given in parentheses according to the sequence trochanter–femur–genu–tibia–tarsus (famulus included). Formulas for leg solenidia are given in square brackets according to the sequence genu–tibia–tarsus.

Drawings were made with a camera lucida using a Leica transmission light microscope "Leica DM 2500".

General morphological terminology used in this paper mostly follows that of F. Grandjean (see Travé & Vachon (1975) for references, Norton (1977) for leg setal nomenclature, and Norton & Behan-Pelletier (2009) for overview).

The following abbreviations are used on the figures: *cos* – costula; *pc* – posterior carina of prodorsum; *ro*, *le*, *in*, *bs*, *ex* – rostral, lamellar, interlamellar, bothridial and exobothridial setae, respectively; *co.pm*, *co.pl* – medial and lateral prodorsal condyles, respectively; *co.nm*, *co.nl* – medial and lateral notogastral condyles, respectively; *c*, *la*, *lm*, *lp*, *h*, *p* – notogastral setae; *cs* – circumgastric scissure; *ia*, *im*, *ip*, *ih*, *ips* – notogastral lyrifissures; *gla* – opisthonotal gland opening; *h*, *m*, *a* – subcapitular setae; *v*, *l*, *d*, *cm*, *acm*, *ul*, *sul*, *vt*, *lt* – palp setae; ω – palp and leg solenidion; *cha*, *chb* – cheliceral setae; *Tg* – Trägårdh's organ; *Pd I*, *Pd II* – pedo-

tecta I, II, respectively; *1a*, *1b*, *1c*, *2a*, *3a*, *3b*, *3c*, *4a*, *4b*, *4c* – epimeral setae; *dis* – discidium; *g*, *ag*, *an*, *ad* – genital, aggenital, anal and adanal setae, respectively; *iad* – adanal lyrifissure; *p.o.* – preanal organ; *cvr* – circumventral ridge; σ, φ – leg solenidia; ε – leg famulus; *v*, *ev*, *bv*, *l*, *d*, *ft*, *tc*, *it*, *p*, *u*, *a*, *s*, *pv* – leg setae; Tr, Fe, Ge, Ti, Ta – trochanter, femur, genu, tibia, tarsus, respectively.

The following abbreviations of collections are used: SMNH – Senckenberg Museum of Natural History, Görlitz, Germany; TSUMZ – Tyumen State University Museum of Zoology, Tyumen, Russia.

SYSTEMATICS

Genus *Dolicheremaeus* Jacot 1938

Type species: *Dolicheremaeus rubripedes* Jacot 1938

Dolicheremaeus zanzibarensis Ermilov et Khaustov sp. n. (Figs 1–6)

M a t e r i a l. Holotype (♂) and 4 paratypes (2 ♀♀, 2 ♂♂): Tanzania, Zanzibar, litter in the mixed forest, 06°16′46.2″ S, 039°25′41.0″ E, 8 m.a.s.l., 2.II.2018 (A.A. Khaustov, S.G. Ermilov).

The holotype (ethanol with drop of glycerol) is deposited in SMNH; 4 paratypes (ethanol with drop of glycerol) are deposited in TSUMZ.

D i a g n o s i s. Body size: 614–697 × 282–315. Body ratio: 2.1–2.2. Body surface densely microgranulate, notogaster and anogenital region sparsely foveolate. Rostral and lamellar setae setiform, barbed, interlamellar setae long, rod-like, barbed. Exobothridial setae short, thin, slightly barbed. Bothridial setae with well-developed elongate head, having two long, setiform branches distally. Lateral prodorsal and lateral notogastral condyles tubercle-like. Medial prodorsal and medial notogastral condyles broadly rounded. Notogaster with 10 pairs of long, setiform, barbed setae. Distance ad_3–ad_3 longer than ad_2–ad_2. Adanal lyrifissures located in paraanal position. Leg setae *u* setiform on tarsi I, II and thorn-like on tarsi III, IV.

D e s c r i p t i o n. *Measurements*. Body length: 664 (holotype), 614–697 (paratypes); notogaster width: 298 (holotype), 282–315 (paratypes). Body ratio: 2.1–2.2. No clear differences between females and males in body size.

Integument. Body color light brown, but legs, apodemes, genital plates and subcapitular genae and rutelli dark brown. Body surface densely microgranulate (except genital plates and subcapitular rutelli), granules rounded in dorsal view and slightly elongate in lateral view (their diameter and length less than 1). Additionally, notogaster and anogenital region sparsely foveolate (diameter foveoles up to 2). Lateral parts of body (between bothridia and acetabula I–III) densely tuberculate (diameter tubercles up to 8).

Prodorsum (Figs 1, 3*a*). Rostrum broadly rounded. Costulae long, parallel, reaching insertions of lamellar setae. Tutorial and anterolateral carinae absent, posterolateral carinae present. Rostral and lamellar setae (77–86) setiform, barbed, directed anteromedially. Interlamellar setae (102–106) rod-like, barbed. Exobothridial setae (24–32) setae setiform, thin, slightly barbed. Bothridial setae bifurcate, roughened, with long stalk (32–41), well-developed elongate head (16–24), having two setiform branches (36–45) distally (and with very small cilium between branches in some specimens), one branch slightly longer than the other. Lateral prodorsal condyles tubercle-like. Medial prodorsal condyles broadly rounded.

Notogaster (Figs 1, 3). Lateral notogastral condyles tubercle-like. Medial notogastral condyles broadly rounded. Notogaster with 10 pairs of rod-like, barbed setae (p_1, h_3, 86–94, others 114–123). Lyrifissures and opisthonotal gland openings distinct, *ia* located posterolaterally to *c*, *im* and *gla* close to each other, laterally to *lm*, *ip* between p_2 and p_3, *ips* between p_3 and h_3, *ih* anterior to h_3.Circumgastric scissure developed.

Gnathosoma (Fig. 4). Subcapitulum longer than wide (143–147 × 106–110). Subcapitular setae setiform, barbed, *a* (20–24) shorter than *m* and *h* (41–45). Adoral setae and their alveoli absent. Palps (102–110) with setation 0–2–1–3–8(+ω). Postpalpal setae (6) spiniform, smooth. Chelicerae (143–147) with two setiform, barbed setae, *cha* (45–49) longer than *chb* (20–24). Trägårdh's organ of chelicerae narrowly triangular.

Epimeral and lateral podosomal regions (Figs 2, 3*a*). Apodemes I, II, III and sejugal apodemes distinct. Epimeres with typical setal formula 3–1–3–3. Setae setiform, slightly barbed (except *1c* heavily barbed), *1b* (57–65) longer than *1c*, *3b*, *3c*, *4a* (41–53) and *1a*, *2a*, *3a*, *4b*, *4c* (16–20). Pedotecta I represented by large lamina, pedotecta II represented by small lamina. Discidia triangular, with rounded tip.

Anogenital region (Figs 2, 3). Aggenital lyrifissures present, but poorly visible. Three pairs of genital setae (16) setiform, thin, roughened. One pair of aggenital (36–41), three pairs of adanal (ad_1, ad_3, 69–77; ad_2, 86–94) and two pairs of anal (36–41) setae setiform, barbed. Adanal setae ad_1 posterolateral, ad_2 lateral, ad_3 anterolateral to anal aperture. Distance ad_3–ad_3 longer than ad_2–ad_2. Adanal lyrifissures located paraanal, close and parallel to anal plates. Circumventral ridge present. Ovipositor is typical for Otocepheidae (Ermilov et al. 2010): elongated (192 × 57), blades (82) shorter than length of distal section (beyond middle fold; 110). Each of the three blades with four thickened, erect, smooth setae, $\psi_1 \approx \tau_1 \approx \psi_2 \approx \tau_a \approx \tau_b \approx \tau_c$ (16). Coronal setae absent.

Legs (Figs 5, 6). Claw of each leg strong, slightly barbed on dorsal side. Dorsal sides of tarsi without teeth. Dorsoparaxial porose areas on all femora and

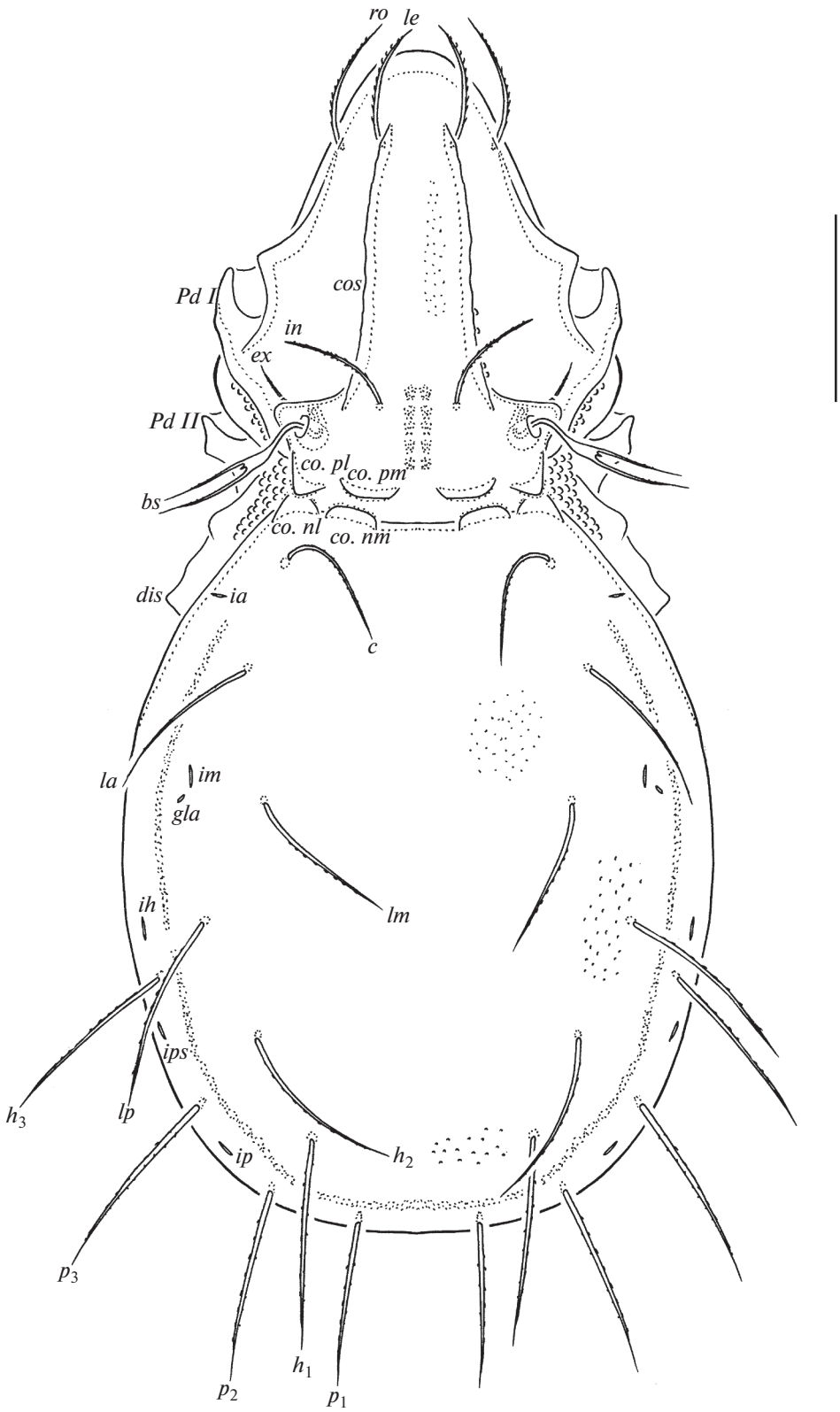

Fig. 1. *Dolicheremaeus zanzibarensis* sp. n., adult: dorsal view (legs not shown). Scale bar: Scale bar: 100 μm.

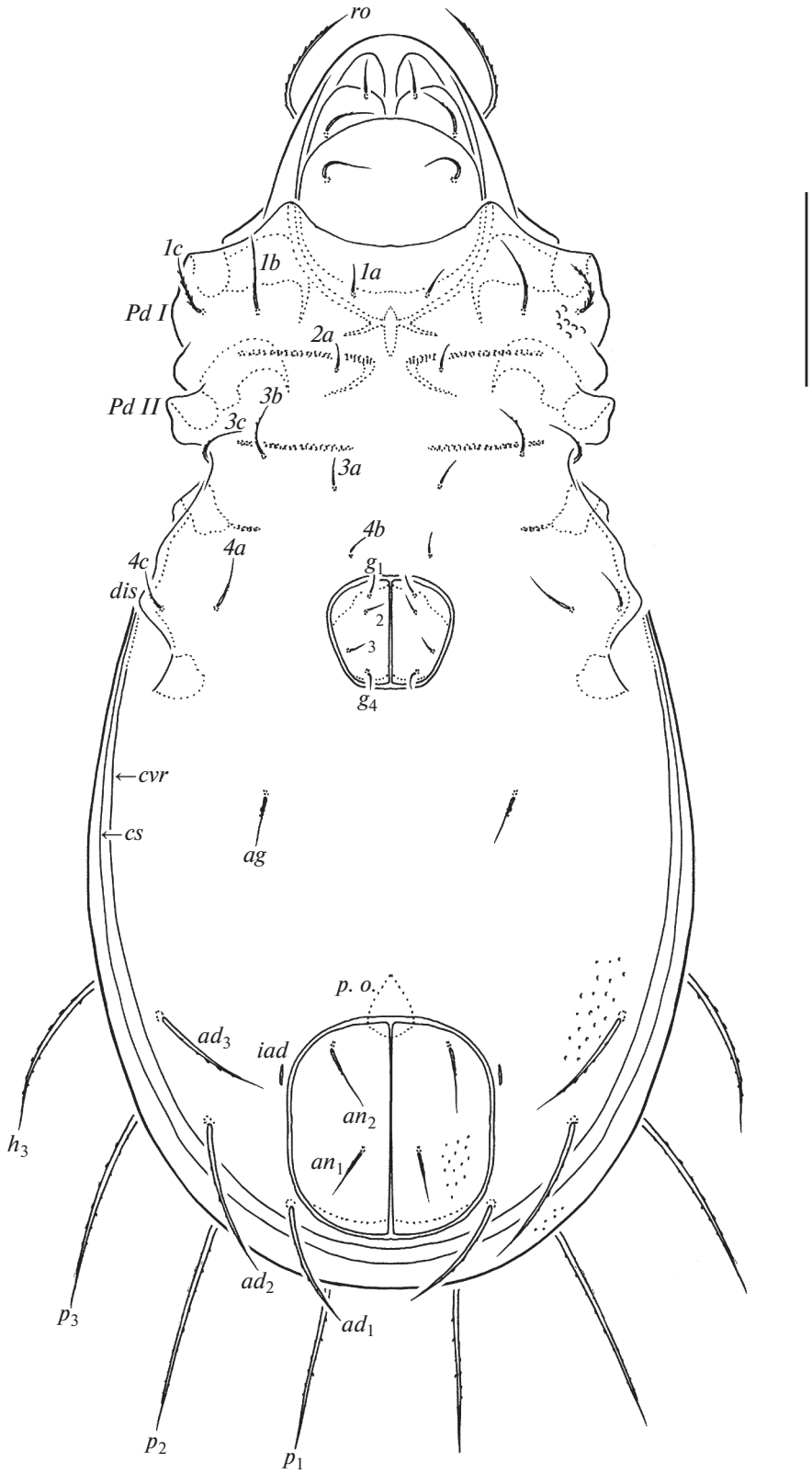

Fig. 2. *Dolicheremaeus zanzibarensis* sp. n., adult: ventral view (legs not shown). Scale bar: Scale bar: 100 μm.

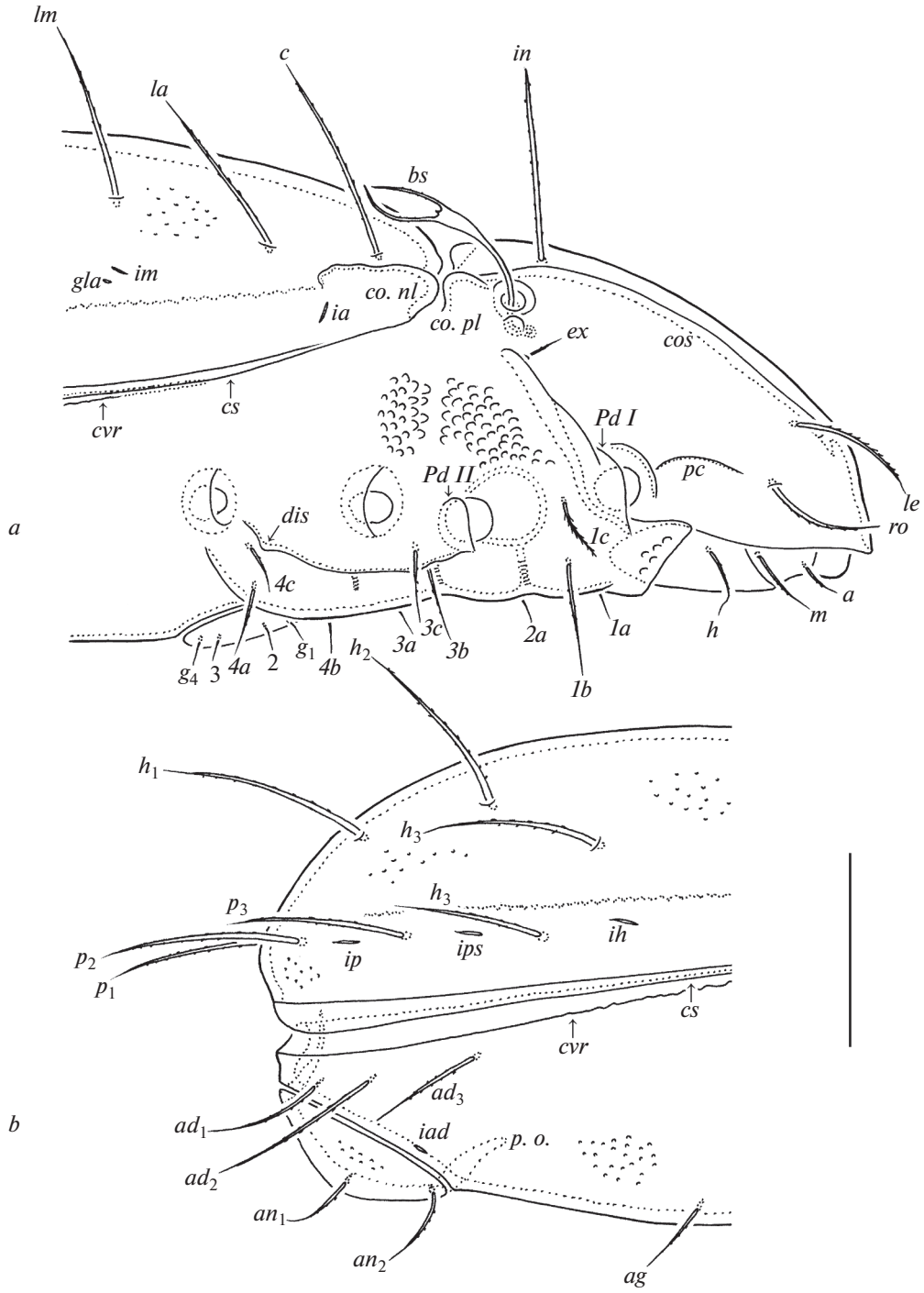

Fig. 3. *Dolicheremaeus zanzibarensis* sp. n., adult: *a* – anterior part of body, lateral view (legs not shown); *b* – posterior part of body, lateral view. Scale bar: Scale bar: 100 μm.

on trochanters III, IV well visible. Formulas of leg setation and solenidia: I (1–4–3–4–16) [1–2–2], II (1–4–3–3–15) [1–1–2], III (2–3–1–2–15) [1–1–0], IV (1–2–2–2–12[or 13]) [0–1–0]; homology of setae and solenidia indicated in Table 1. Solenidia ω_1 on tarsi I and ω_1, ω_2 on tarsi II bacilliform, other solenidia thickened or setiform, slightly blunt-ended. Setae *u* setiform on tarsi I, II and thorn-like on tarsi III, IV.

R e m a r k s. *Dolicheremaeus zanzibarensis* sp. n. is morphologically similar to *Dolicheremaeus furcatus* (Balogh 1961) (see Balogh, 1961, 1962) from the Ethiopian region and *D. pseudofurcatus* Mahunka 1988 (see Mahunka, 1988a) from Tanzania in having both-

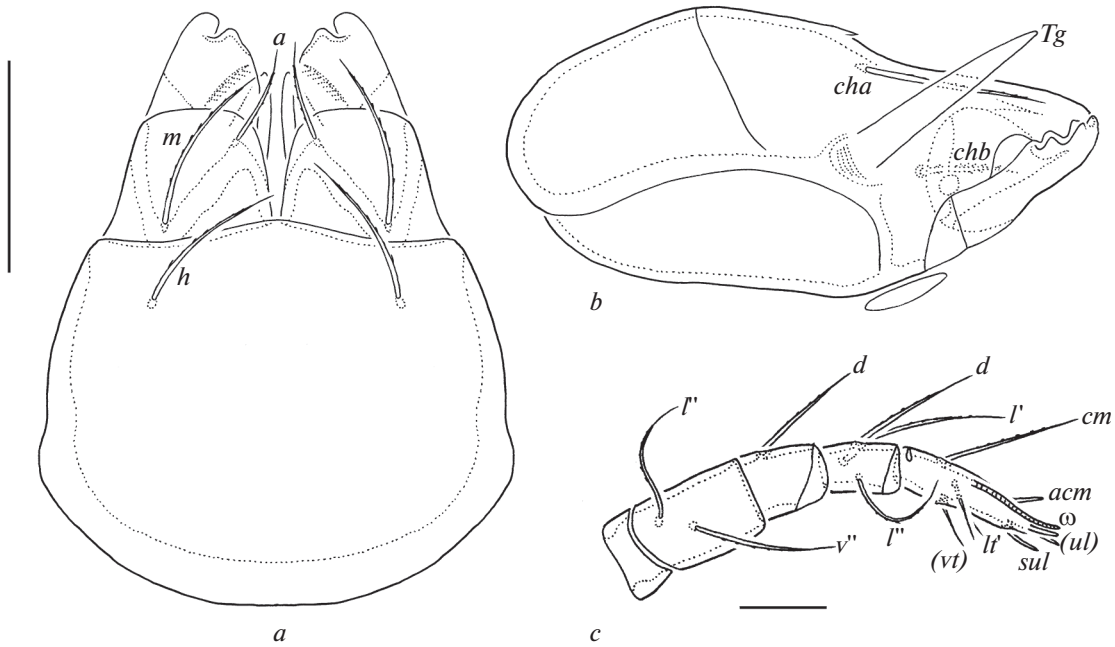

Fig. 4. *Dolicheremaeus zanzibarensis* sp. n., adult: *a* – subcapitulum, ventral view; *b* – chelicera, left, paraxial view; *c* – palp, right, antiaxial view. Scale bar (μm): *a*, *b* – 50; *c* – 20.

ridial setae with well-developed head, bearing two branches distally, but this species differs from the other two species by rod-like notogastral setae (in the other two species the majority of notogastral setae flagellate).

Also, in the morphology of bothridial setae, *Dolicheremaeus zanzibarensis* sp. n. is similar to the following species: *Dolicheremaeus trimucronatus* Mahunka 1973 (see Mahunka, 1973) from Sri Lanka, *D. renukae* Sanyal 1990 (see Sanyal, 1990) from India, and *D. elisabethae* Balogh 1970 (see Balogh, 1970) from Sri Lanka. The new species differs from *D. trimucronatus* by its exobothridial setae being short and thin (*vs*. it being medium size and strong in *D. trimucronatus*). Also, the formula of leg setae *u* is L-L-S-S in the former species (*vs*. L-S-S-S in the latter species). The new species differs from *D. renukae* by having a clearly smaller body size (614–697 × 282–315 vs. 809 × 282–457) and by having short, thin exobothridial setae (*vs*. the setae being long and strong in the latter species). The new species differs from *D. elisabethae* by having rod-like notogastral setae (*vs*. some notogastral setae being of the flagellate type, with flexible tips in the latter species). Also, longitudinal ridges on notogaster are absent in the new species (*vs*. present in *D. elisabethae*). In addition, the formula of leg setae *u* is L-L-S-S in the former species (*vs*. L-S-S-S in the latter species).

E t y m o l o g y. The species name *zanzibarensis* refers to the place of origin of the new species, Zanzibar.

KEY TO SPECIES OF *DOLICHEREMAEUS* FROM THE ETHIOPIAN REGION[1]

1. Bothridial setae without developed head, rod-like or bacilliform ..... (2)

– Bothridial setae with developed head, clavate, lanceolate or fusiform, sometimes with one or several long, distal branches ..... (8)

2. Some notogastral setae flagellate, with flexible mediodistal part ..... (3)

– All notogastral setae not flagellate ..... (5)

3. Four pairs of notogastral setae (h_3, p_1–p_3) flagellate; adanal lyrifissures in inverse apoanal position; body size: 723 × 308 ... *Dolicheremaeus capillatus neonominatus* Subías 2004 (see Wallwork, 1962a – as *Tetracondyla capillata minor* Wallwork 1962; Subías, 2004). Distribution: Ghana.

– Less or more than four pairs of notogastral setae flagellate; adanal lyrifissures in paraanal position... (4)

4. One pair of notogastral setae (p_1) flagellate; bothridial setae longer than interlamellar setae; body size: 648–970 × 261–415 ... *Dolicheremaeus lucidus* (Wallwork 1962) (see Wallwork, 1962a). Distribution: Ghana.

– Nine pairs of notogastral setae (except *c*) flagellate; bothridial setae shorter than interlamellar setae; body size: 915–1186 × 434–466 ... *Dolicheremaeus*

[1] We exclude *Dolicheremaeus seychellensis* (Warburton 1912) (see Warburton, 1912) from Seychelles from the key because this species has been very briefly described.

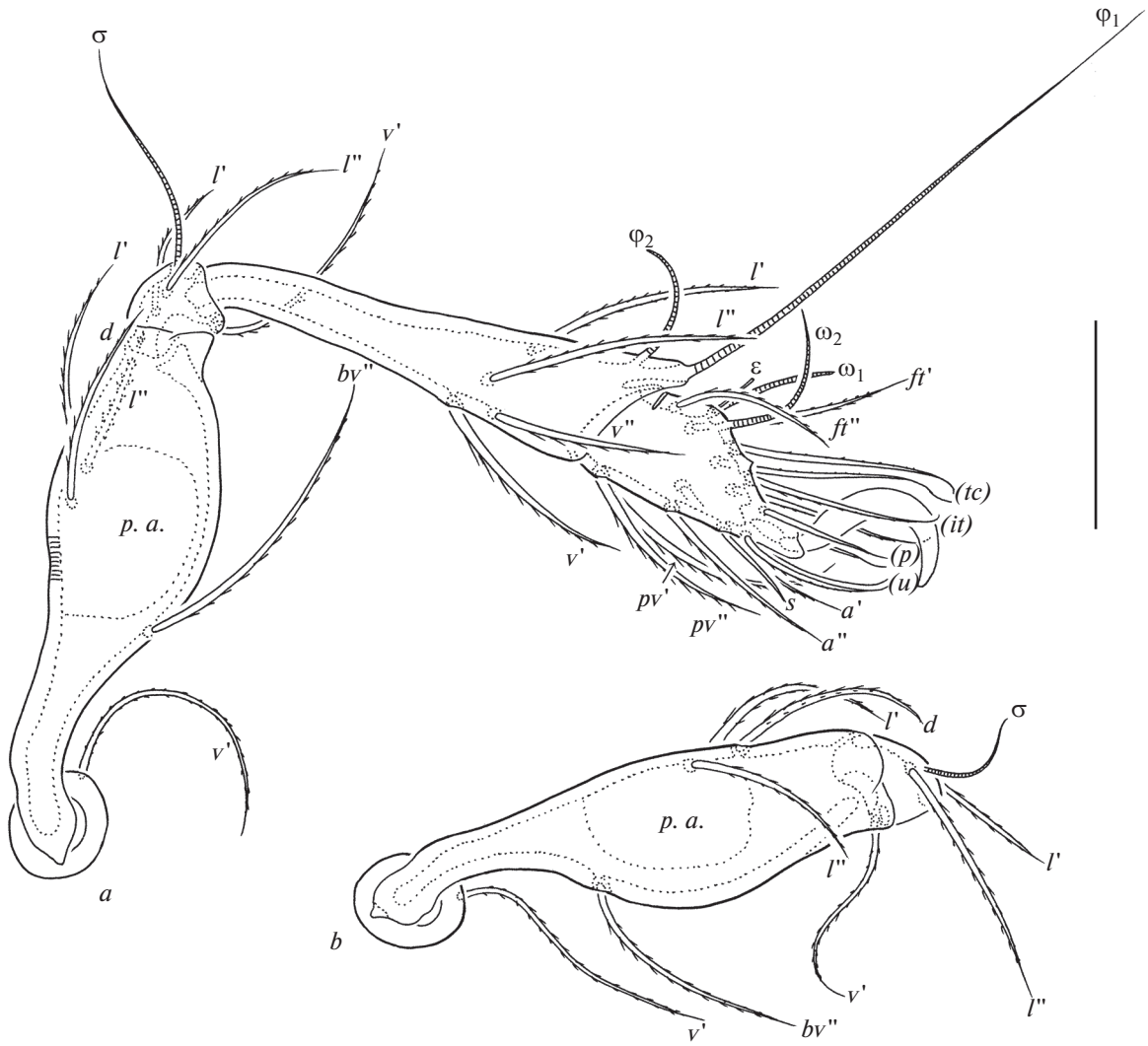

Fig. 5. *Dolicheremaeus zanzibarensis* sp. n., adult: *a* – leg I, right, antiaxial view; *b* – trochanter, femur and genu of leg II, right, antiaxial view. Scale bar: 50 μm.

machadoi (Balogh 1958) (see Balogh, 1958, 1960). Distribution: Congo.

5. Medial notogastral condyles located very close to each other (distance *co.nm–co.nm* distinctly shorter than *co.pm–co.pm*); medial epimeral setae slightly dilated, phylliform; body size: 1435–1517 × 705–800 ... *Dolicheremaeus phyllotrichus* Mahunka 1988 (see Mahunka, 1988a). Distribution: Tanzania.

– Medial notogastral condyles distanced (distance *co.nm–co.nm* not shorter than *co.pm–co.pm*); medial epimeral setae setiform ..... (6)

6. Interlamellar setae longer than bothridial setae; body size: 1108–1278 × 630–648 ... *Dolicheremaeus magnus longiseta* (Wallwork 1962) (see Wallwork, 1962a). Distribution: Ghana.

Table 1. Leg setation and solenidia of *Dolicheremaeus zanzibarensis* sp. n.

Leg	Tr	Fe	Ge	Ti	Ta
I	*v'*	*d*, (*l*), *bv''*	(*l*), *v'*, σ	(*l*), (*v*), φ_1, φ_2	(*ft*), (*tc*), (*it*), (*p*), (*u*), (*a*), *s*, (*pv*), ε, ω_1, ω_2
II	*v'*	*d*, (*l*), *bv''*	(*l*), *v'*, σ	*l'*, (*v*), φ	(*ft*), (*tc*), (*it*), (*p*), (*u*), (*a*), *s*, (*pv*), ω_1, ω_2
III	*v'*, *l'*	*d*, *l'*, *ev'*	*l'*, σ	(*v*), φ	(*ft*), (*tc*), (*it*), (*p*), (*u*), (*a*), *s*, (*pv*)
IV	*v'*	*d*, *ev'*	*d*, *l'*	(*v*), φ	*ft''*, (*tc*), *it'**, (*p*), (*u*), (*a*), *s*, (*pv*)

Roman letters refer to normal setae, Greek letters refer to solenidia (except ε = famulus). Single prime (') marks setae on the anterior and double prime (") setae on the posterior side of a given leg segment. Parentheses refer to a pair of setae. * – present or absent.

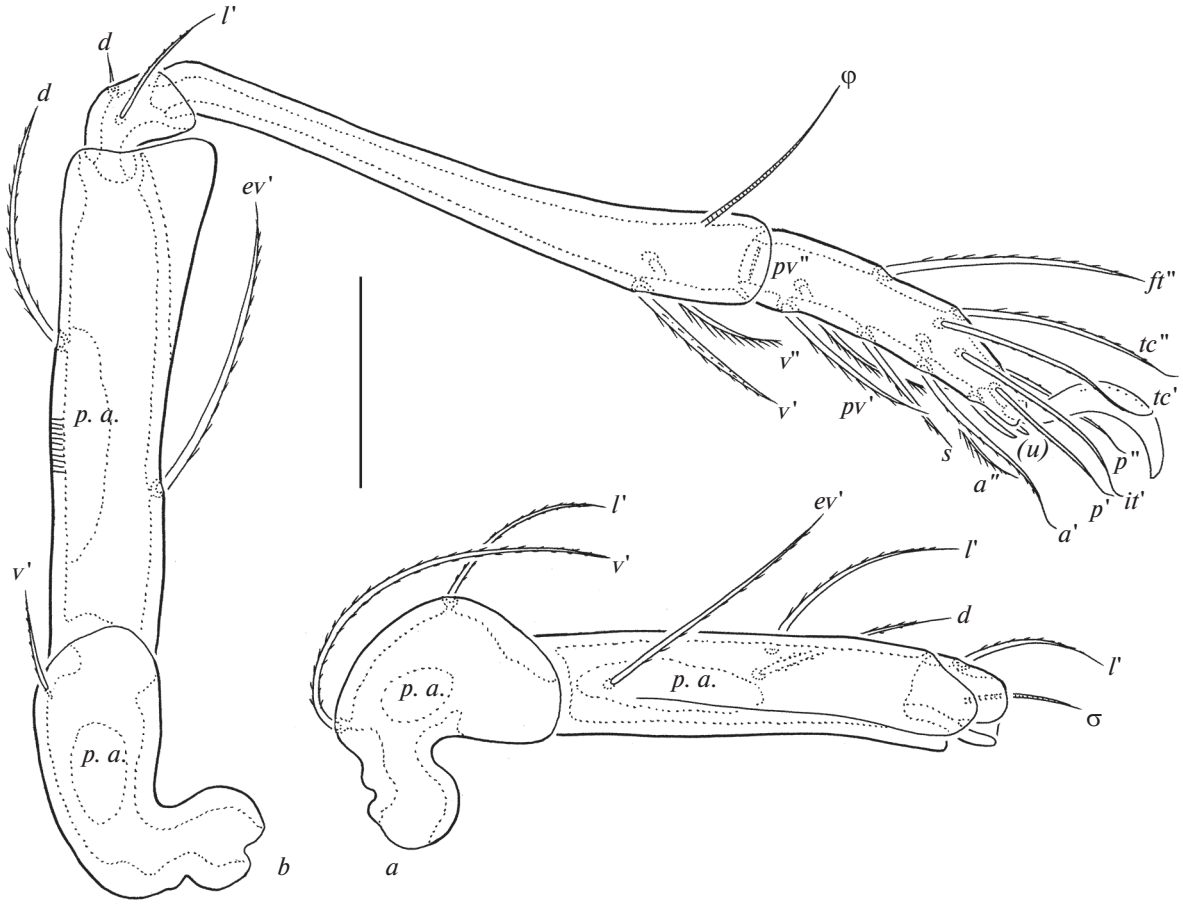

Fig. 6. *Dolicheremaeus zanzibarensis* sp. n., adult: *a* – trochanter, femur and genu of leg III, left, ventroantiaxial view; *b* – leg IV, left, antiaxial view. Scale bar: 50 μm.

– Interlamellar setae shorter than bothridial setae .....(7)

7. Lateral parts of prodorsum with strong tooth; body size: 1078–1278 × 462–662 ... *Dolicheremaeus magnus ghanensis* (Wallwork 1962) (see Wallwork, 1962a). Distribution: Ghana.

– Lateral parts of prodorsum without tooth ... Two very similar species: *Dolicheremaeus magnus magnus* (Balogh 1958) (see Balogh, 1958, 1960) [=*Dolicheremaeus magnus iteratus* Subías 2004 syn. n.[2] (see Wallwork 1962a – as *Tetracondyla magna minor* Wallwork 1962; Subías, 2004)] (body size: 862–1278 × 354–662; distribution: Tanzania, Ghana) and *Dolicheremaeus nimbus* Karppinen 1966 (see Karppinen, 1966) (body length: 930–1124; distribution: Guinea).

[2] Wallwork (1962) described this subspecies, which differs from *Dolicheremaeus magnus magnus* (Balogh 1958) by being "smaller in size, lighter in color and more slender in appearance". However, based on the morphological traits in some species of *Dolicheremaeus*, it is obvious that the listed traits fall within the morphological variability of *Dolicheremaeus magnus magnus* and *Dolicheremaeus magnus iteratus,* to the point where the species cannot be distinguished. Therefore, we offer a synonymy.

8. Bothridial setae with one or several long branches distally ..... (9)

– Bothridial setae clavate, lanceolate or fusiform ..... (16)

9. Bothridial setae with three branches distally; medial and lateral notogastral condyles fused on each side, forming two quadringular condyles; body size: 1108–1278 × 630–648 ... *Dolicheremaeus tricornutus* Mahunka 1982 (see Mahunka, 1982). Distribution: Ethiopia.

– Bothridial setae with one or two branches distally; medial and lateral notogastral condyles separated ..... (10)

10. Bothridial setae with two branches distally .... (11)

– Bothridial setae with one branch distally ..... (13)

11. All notogastral setae not flagellate; body size: 614–697 × 282–315 ... *Dolicheremaeus zanzibarensis* sp. n. Distribution: Tanzania.

– Some notogastral setae flagellate, with flexible mediodistal part ..... (12)

12. Notogastral setae *la* and *lm* and all adanal setae rod-like; body size: 618 × 270 ... *Dolicheremaeus furca-*

tus (Balogh 1961) (see Balogh, 1961, 1962). Distribution: Ethiopian region.

– Notogastral setae *la* and *lm* and all adanal setae flagellate; body size: 458–501 × 156–240 ... *Dolicheremaeus pseudofurcatus* Mahunka 1988 (see Mahunka, 1988a). Distribution: Tanzania.

13. All notogastral setae not flagellate; humeral regions of notogaster with longitudinal ridge lateral to setae *c* and *la*; body size: 614–697 × 282–315 ... *Dolicheremaeus vitraeus* (Balogh 1958) (see Balogh 1958, 1960). Distribution: Congo.

– Some notogastral setae flagellate, with flexible mediodistal part ..... (14)

14. Interlamellar setae flagellate; leg tarsi formula of setae *u*: L-L-S-S; body size: 616–785 × 277–308 ... *Dolicheremaeus hirsutus* (Wallwork 1962) (see Wallwork, 1962). Distribution: Ghana.

– Interlamellar setae rod-like; leg tarsi formula of setae *u*: L-S-S-S ..... (15)

15. Notogastral setae *c* and all adanal setae flagellate; body size: 692–914 × 332–414 ... *Dolicheremaeus mahnerti* Mahunka et Mahunka-Papp 2009 (see Mahunka, Mahunka-Papp, 2009a). Distribution: Kenya.

– Notogastral setae *c* rod-like, all adanal setae setiform; body size: 682–956 × 259–405 ... *Dolicheremaeus curvisetus* Mahunka 1974 (see Mahunka, 1974). Distribution: Cameroon.

16. All notogastral setae not flagellate ..... (17)

– Some notogastral setae flagellate, with flexible mediodistal part ..... (25)

17. Medial notogastral condyles absent; body size: 780–879 × 348–415 ... *Dolicheremaeus aethiopicus* Ermilov, Sidorchuk et Rybalov 2010 (see Ermilov et al., 2019). Distribution: Ethiopia.

– Medial notogastral condyles present ..... (18)

18. Bothridial setae lanceolate, with distinctly pointed head ..... (19)

– Bothridial setae clavate or fusiform, with narrowly or broadly rounded head ..... (21)

19. Notogastral setae comparatively short, *lm* and h_2 not reaching insertions of setae h_2 and h_1, respectively; adanal lyrifissures in paraanal position; body size: 720 × 240 ... *Dolicheremaeus vilhenarum vilhenarum* (Balogh 1958) (see Balogh, 1958, 1960). Distribution: Congo.

– Notogastral setae comparatively long, *lm* and h_2 reaching insertions of setae h_2 and h_1, respectively; adanal lyrifissures in inverse apoanal position ..... (20)

20. Humeral regions of notogaster with longitudinal ridge directed to insertions of setae *la*; leg tarsi formula of setae *u*: L-S-S-S; body size: 770–985 × 308–446 ... *Dolicheremaeus cuspidatus* (Wallwork 1962) (see Wallwork, 1962a). Distribution: Ghana.

– Humeral regions of notogaster without longitudinal ridge; leg tarsi formula of setae *u*: L-L-L-L; body size: 1201–1509 × 568–693 ... *Dolicheremaeus giganticus* (Wallwork 1962) (see Wallwork, 1962). Distribution: Ghana.

21. Medial notogastral condyles located very close to each other (distance *co.nm–co.nm* distinctly shorter than *co.pm–co.pm*); body size: 1080 × 540 ... *Dolicheremaeus borbolai* Mahunka et Mahunka-Papp 2009 (see Mahunka, Mahunka-Papp, 2009). Distribution: Kenya.

– Medial notogastral condyles distanced (distance *co.nm–co.nm* not shorter than *co.pm–co.pm*) ..... (22)

22. Head of bothridial setae several times longer than stalk; anterior part of notogaster with some short ridges laterally; body size: 506–525 × 246–262 ... *Dolicheremaeus mauritii* Mahunka 1978 (see Mahunka, 1978). Distribution: Réunion.

– Head of bothridial setae slightly longer than stalk; anterior part of notogaster without ridges .... (23)

23. Notogastral setae bacilliform, with blunted tip; body size: 943–968 × 426–460 ... *Dolicheremaeus obtusisetus* Mahunka 1988 (see Mahunka, 1988a). Distribution: Tanzania.

– Notogastral setae rod-like, with conical tip...(24)

24. Distance between medial notogastral condyles distinctly longer than width of these condyles; body size: 110 × 520 ... *Dolicheremaeus simplex* (Balogh 1962) (see Balogh, 1962). Distribution: Tanzania.

– Distance between medial notogastral condyles shorter than width of these condyles ... Two very similar representatives: *Dolicheremaeus vilhenarum barbatula* (Wallwork 1962) (see Wallwork, 1962) (body size: 847–924 × 369–415; distribution: Ghana) and *Dolicheremaeus perreti* Mahunka 1974 (see Mahunka, 1974) (body size: 685–769 × 356–389; distribution: Cameroon).

25. Medial notogastral condyles absent; body size: 620–645 × 265–285 ... *Dolicheremaeus perisi* Pérez-Íñigo 1969 (see Pérez-Íñigo, 1969). Distribution: Guinea.

– Medial notogastral condyles present ..... (26)

26. All notogastral setae very long, flagellate, with flexible mediodistal part; bothridial setae lanceolate, with distinctly pointed head; body size: 758 × 358 ... *Dolicheremaeus crispus* (Balogh 1962) (see Balogh, 1962). Distribution: Tanzania.

– Some notogastral setae not flagellate; bothridial setae clavate or fusiform, with narrowly or broadly rounded head ..... (27)

27. One pair of adanal setae (ad_2) flagellate, distinctly longer than others ..... (28)

– All adanal setae not flagellate, slightly differs in length ..... (29)

28. Notogastral setae *lm*, *lp* and h_3 rod-like; adanal setae ad_1 shorter than ad_3; body size: 992 × 446 ... *Dolicheremaeus semicapillatus* (Balogh 1962) (see Balogh, 1962). Distribution: Tanzania.

– Notogastral setae *lm*, *lp* and h_3 flagellate; adanal setae ad_1 not shorter than ad_3; body size: 837 × 418 ...

Dolicheremaeus capillatus capillatus (Balogh 1959) (see Balogh, 1959). Distribution: Ethiopian region, Vietnam.

29. Genital plates densely striate; body size: 734 × × 379 ... *Dolicheremaeus csuzdii* Mahunka et Mahunka-Papp 2007 (see Mahunka, Mahunka-Papp, 2007). Distribution: Kenya.

– Genital plates not striate ..... (30)

30. Humeral regions of notogaster with longitudinal ridge directed to setae *la*; posterior notogastral setae (h_3, p_1–p_3) similar in length; body size: 762 × 408 ... *Dolicheremaeus grafatus* Mahunka 1988 (see Mahunka, 1988a). Distribution: Tanzania.

– Humeral regions of notogaster without longitudinal ridge; posterior notogastral setae (h_3, p_1–p_3) not similar in length ..... (31)

31. Posterior notogastral setae p_2 distinctly longer than p_1, p_3, h_3; body size: 677–985 × 261–415 ... *Dolicheremaeus capreolatus* (Wallwork 1962) (see Wallwork, 1962). Distribution: Ghana.

– Posterior notogastral setae h_3 distinctly shorter than p_1, p_2, p_3; body size: 970 × 400 ... *Dolicheremaeus africanus* (Wallwork 1962) (see Wallwork, 1962). Distribution: Ghana.

ACKNOWLEDGEMENTS

We cordially thank anonymous reviewers for the valuable comments, and Dr. Denis V. Sharapov (Tyumen State University, Tyumen, Russia) for English language editing.

The reported study was funded by the Russian Foundation for Basic Research (RFBR), as part of the research project № 18-04-00096.

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НОВЫЙ ВИД *DOLICHEREMAEUS* JACOT 1938 (ACARI, ORIBATIDA, OTOCEPHEIDAE) ИЗ ЗАНЗИБАРА, ВКЛЮЧАЯ КЛЮЧ К ИЗВЕСТНЫМ ВИДАМ РОДА В ЭФИОПСКОЙ ОБЛАСТИ

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Описан новый вид панцирных клещей рода *Dolicheremaeus* (Oribatida, Otocepheidae) из Занзибара (Танзания). *Dolicheremaeus zanzibarensis* sp. n. отличается от *D. furcatus* (Balogh 1961), *D. pseudofurcatus* Mahunka 1988, *D. trimucronatus* Mahunka 1973, *D. renukae* Sanyal 1990 и *D. elisabethae* Balogh 1970 отдельными морфологическими чертами: размерами тела, морфологией экзоботридиальных и нотогастральных щетинок, формулой щетинок *u* на ногах, орнаментом нотогастра. Представлен идентификационный ключ к известным видам *Dolicheremaeus*, обитающим в Эфиопской области.

Ключевые слова: панцирные клещи, морфология, систематика, Африка