Pacific Insects Monograph 23: 89–106 **September 1970**

ACARINA: EUPODIFORM PROSTIGMATA OF SOUTH GEORGIA[1]

By R. W. Strandtmann[2]

Abstract: Reported for the first time from South Georgia are *Eupodes minutus* (Str., 1967), *Stereotydeus reticulatus* n. sp., *S. longipes* n. sp., *Rhagidia gerlachei* (Trsst., 1903), *R. leechi* Str., 1963, *Tydeus tilbrooki* Str., 1967, *Ereynetes macquariensis* Fain, 1962.

During 1961 and 1963–64 fairly extensive collections of free-living mites were made in South Georgia by N. V. Jones and H. B. Clagg, respectively. The expeditions were sponsored by the British Antarctic Survey and Bishop Museum, the latter with financial assistance from the National Science Foundation's Office of Antarctic Programs.

Free-living mites collected included Mesostigmata, Cryptostigmata, Astigmata, and Prostigmata. Families of Prostigmata were Bdellidae, Tetranychidae, Pyemotidae, Trombidiidae, Erythraeidae, Ereynetidae, Tydeidae, Eupodidae, Penthalodidae, and Rhagidiidae. Only the last 5 families are reported on in this paper.

I take this occasion to thank Miss Sharyn Wong for executing figures 2, 5, 8, 9 & 10 and Mrs Helen Hurd for figures 3, 4, 6, 7, 11 & 12.

Eupodes minutus (Strandtmann) n. comb. Fig. 1.

=*Protereunetes minutus* Str., 1967.

Length: 250 μm long (225–320).

This mite was originally described from the Antarctic Peninsula and has been previously recorded from South Georgia as well as the South Sandwich Is. The original description applies except for a few minor corrections and additions. It can now be said definitely that tibia I has both an apical and a medial rhagidiform seta, *and tibia II has the same*, which was not mentioned in the original description. It was originally stated that femur III was partially divided; it is actually completely divided, similar to femur IV, in the majority of cases. In the original illustration, the setae of trochanters I & II were shown as being similar to those of III & IV. Actually those on trochanters I & II are nude or very nearly so.

MATERIAL EXAMINED. SOUTH GEORGIA: 2 ♂♂, 1 ♀, Bay of Isles, ex moss and lichens on moss drier, 22.I.1961, N. V. Jones; 2 ♂♂, Bay of Isles and Husvik, ex moss sample on moss drier, I.1961, Jones; 1 ♂, Bird I, Wanderer Valley, 4.I.1963, H. B. Clagg; 1 ? BI-319R, ex nest material, wandering albatross, 24.IV.1963, Clagg; 5 ♂♂, 5 ♀♀, Grytviken Peninsula, King Edward Point, nest material of Shoemaker, *Procellaria aequinoctialis*, 12–14.II.1963, Clagg; ? ♂, ? ♀, Leith and Stromness, ex moss sample from moss drier, III.1961, Jones: 1 ♂, 1 ♀, 2 ?, Moltke Harbor area, ex moss sample on moss drier, 7.III.1961, Jones; 4 ♀♀, Stromness Peninsula, 0–150 m ex moss, 20–30.XII.1963, Clagg; 2 ♀♀, unknown source, 1961, Jones.

Dr. Fain (1964a: 99) has shown that *Protereunetes* as originally described by Berlese is actually an ereynetid and not a eupodid as it was interpreted by Thor & Willmann (1941). It therefore becomes necessary to reassign the eupodid mites which have appeared under *Protereunetes* to a new combination. Rather than create a new generic name, I have chosen the conservative view and

[1]This study supported by a National Science Foundation Grant (GA-1165). Results of fieldwork supported by grants (G-23720, GA-166) to Bishop Museum from the Office of Antarctic Programs, U.S. National Science Foundation.

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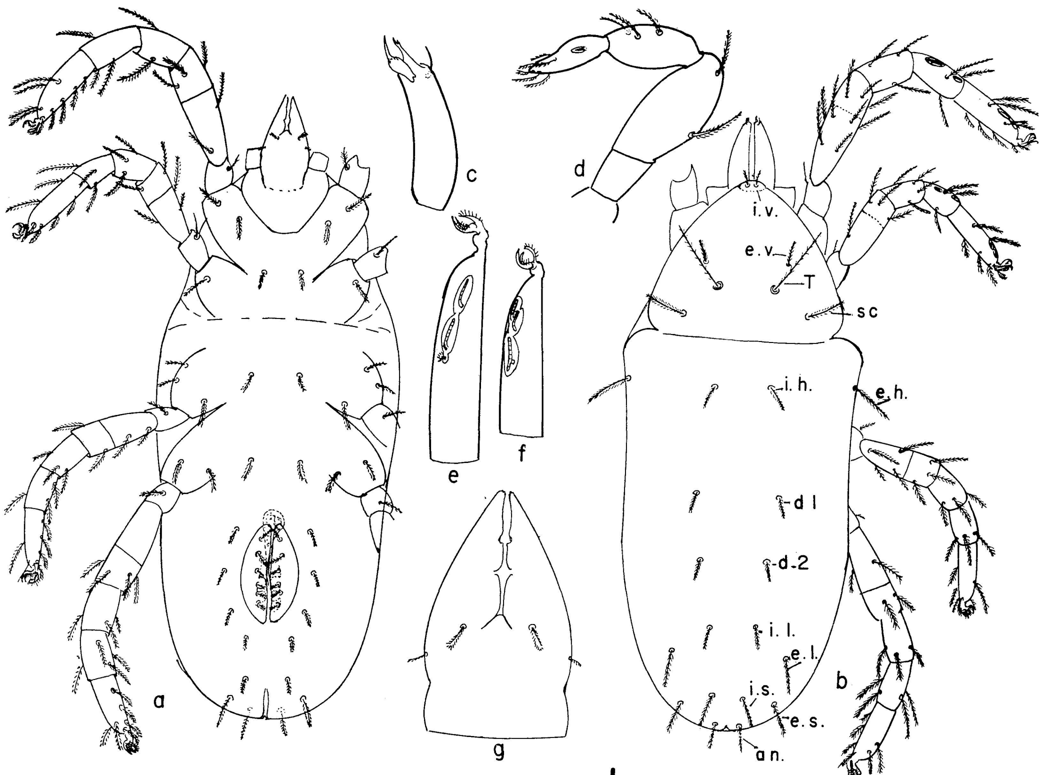

Fig. 1. *Eupodes minutus* (Str.). a and b, ventral and dorsal views of ♂; c, ventrolateral view of chelicera; d, outer view of left pedipalp; e and f, dorsolateral view of tarsi I and II respectively; g, ventral view of the hypostome, showing the 4 hypostomal setae.

have placed *Protereunetes* of authors, *nec* Berlese, in synonymy with *Eupodes*. The truth of the matter is that *Linopodes*, *Eupodes* and *Protereunetes* of authors are very likely all the same thing anyway.

Stereotydeus reticulatus Strandtmann, new species Fig. 2, 3, 4.

Length: ♂, 660 μm (600–700); ♀, 675 μm (625–725).

A pretty mite—heavily sclerotized—with both dorsal and ventral sides covered with reticulations, or more exactly, with pubescent polygons. All femora divided. Terminal (*4th*) segment of pedipalp less than 1/2 the length of 3rd segment. Rhagidial setae of tarsi I & II lie in separate fields. Tibia IV with a basal solenidion; genua I & II each with a tiny, apical sensory seta in addition to the normal, basal solenidion.

Dorsal side. (Fig. 2a). Hysteronotum with 2 prominent longitudinal lines or grooves extending almost to internal lumbar setae. Propodonotum with a single, rather indistinct, arch. The dorsolateral slit-pores very indistinct and may in fact be lacking. Lateral lobes of epirostrum angulate, medial lobe rounded to obtusely pointed.

Ventral side. (Fig. 2b). Uniformly reticulated but not as coarsely or prominently as the dorsum. Coxal setae: 3-1-4-3. Paragenital setae, 10 to 18 pairs. Genital covers each with 6 setae, the *4th* more lateral. Anal setae subequal, closely surrounding the anal pore.

Pedipalps (2c) with usual number of setae, 0-2-3-7 (base to apex). Apical (4th) segment short and with a prominent rhagidial seta on the outer side. 2nd segment large, angulate.

Legs: Fig. 3a-d. Slender, I & IV as long as the body; II & III shorter. All femora divided at apical

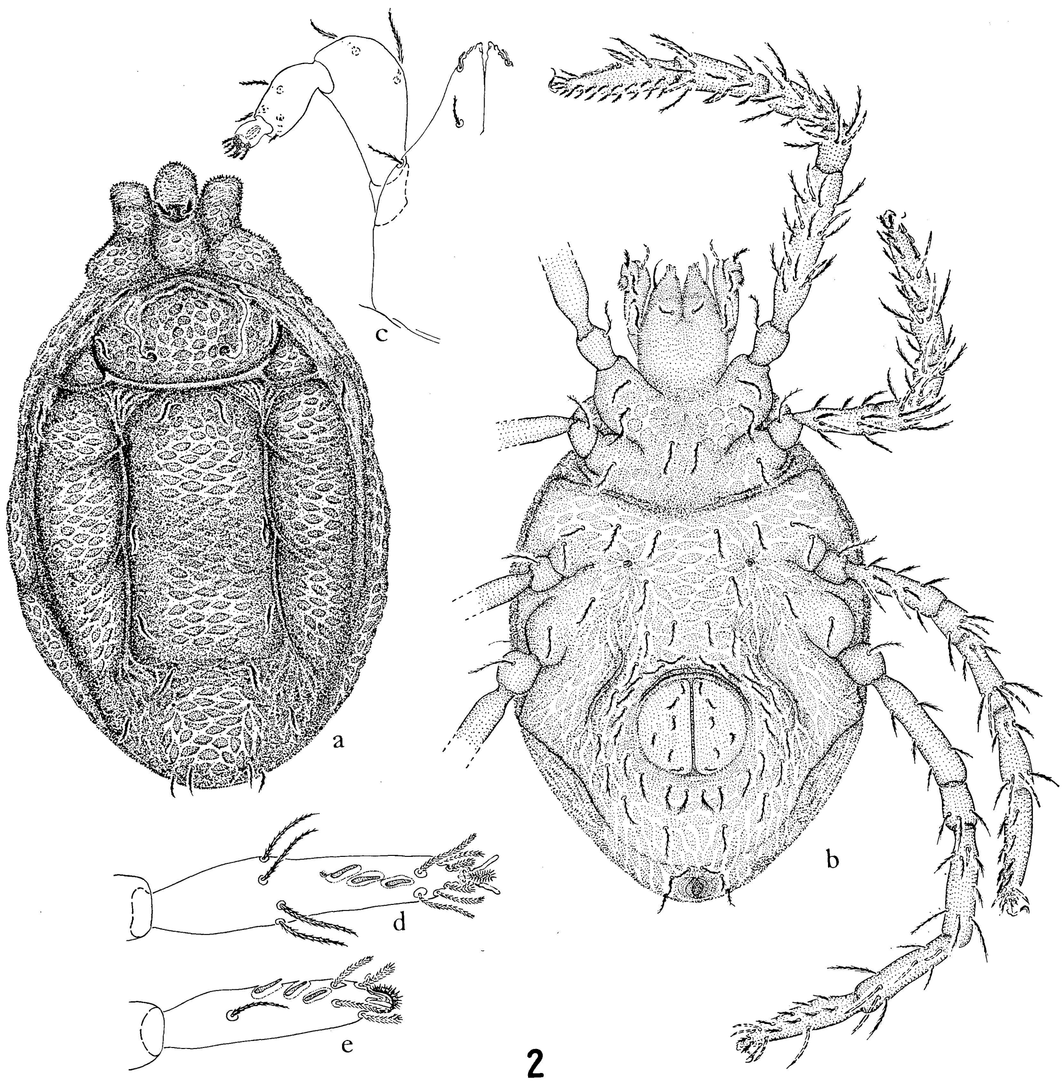

Fig. 2. *Stereotydeus reticulatus*, n. sp. a and b, dorsal and ventral views of adult; c, ventral view of hypostome with left pedipalp; d and e, dorsal views of tarsi I and II respectively.

1/4. Tarsi I & II each with 3 rhagidial setae, each in a discreet field. Tibiae and genua I to IV each with a basal solenidion; tibiae I & II each with an apical sensory seta lying in a pit, that on tibia I with an accessory spine at apex of depression (fig. 3); *genua I & II each with a very small, apical sensory seta.* Tarsus I has 2 pairs of setae laterad of the 2 ventral rows. Chaetotaxy of the legs:

	Tarsus	*Tibia*	*Genu*	*Telo-Basi Femur*	*Trochanter*
I	28 + 3	12 + 2	12 + 2	5; 16	1
II	16 + 3	8 + 2	7(8) + 2	5; 11	1
III	15(16)	6 + 1	6(7) + 1	4; 8(10)	1
IV	15	7 + 1	6 + 1	3; 5	1

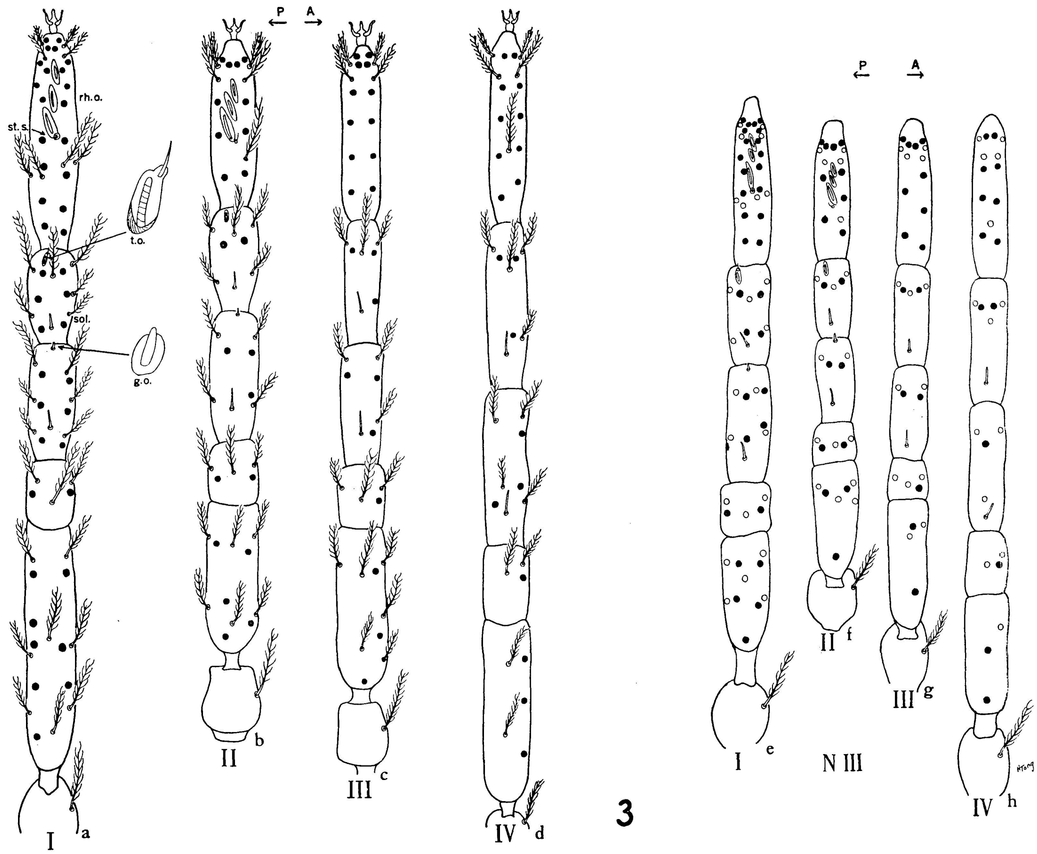

Fig. 3. *Stereotydeus reticulatus* n. sp. Chaetotaxy of legs, –a, b, c, and d, adult; e, f, g and h, tritonymph. g.o. = genual organ; rh.o. = rhagidial organ; sol. = solenidion; t.o. = tibial organ; st.s. = stellate seta.

No obvious sexual dimorphism except that the ♂ has an internal sperm sac extending forward from the cluster of internal genital setae.

Immature. All stages, from larva to tritonymph, were available for study. They all lacked the body reticulations but could be recognized as *S. reticulatus* by the short apical segment of the pedipalp and by the apical sensory setae of genua I & II. The leg chaetotaxy for each stage is:

Tritonymph (fig. 3e-h)

	Tarsus	*Tibia*	*Genu*	*Telo-femur*	*Basi-femur*	*Trochanter*
I	26 + 3	9 + 2	8 + 2	5	10	1
II	14 + 3	5 + 2	4 + 2	5	7	1
III	13	5 + 1	4 + 1	4	4	1
IV	13	5 + 1	4 + 1	3	3	1

Deutonymph (fig. 4a-d)

	Tarsus	*Tibia*	*Genu*	*Telo-femur*	*Basi-femur*	*Trochanter*
I	23(24) + 2	5 + 2	4 + 2	5 –	6	1
II	12 + 2	5 + 2	4 + 2	8(9)		1
III	11	4 + 1	4 + 1	6		1
IV	11	5 + 1	4 + 1	3 –	1	0

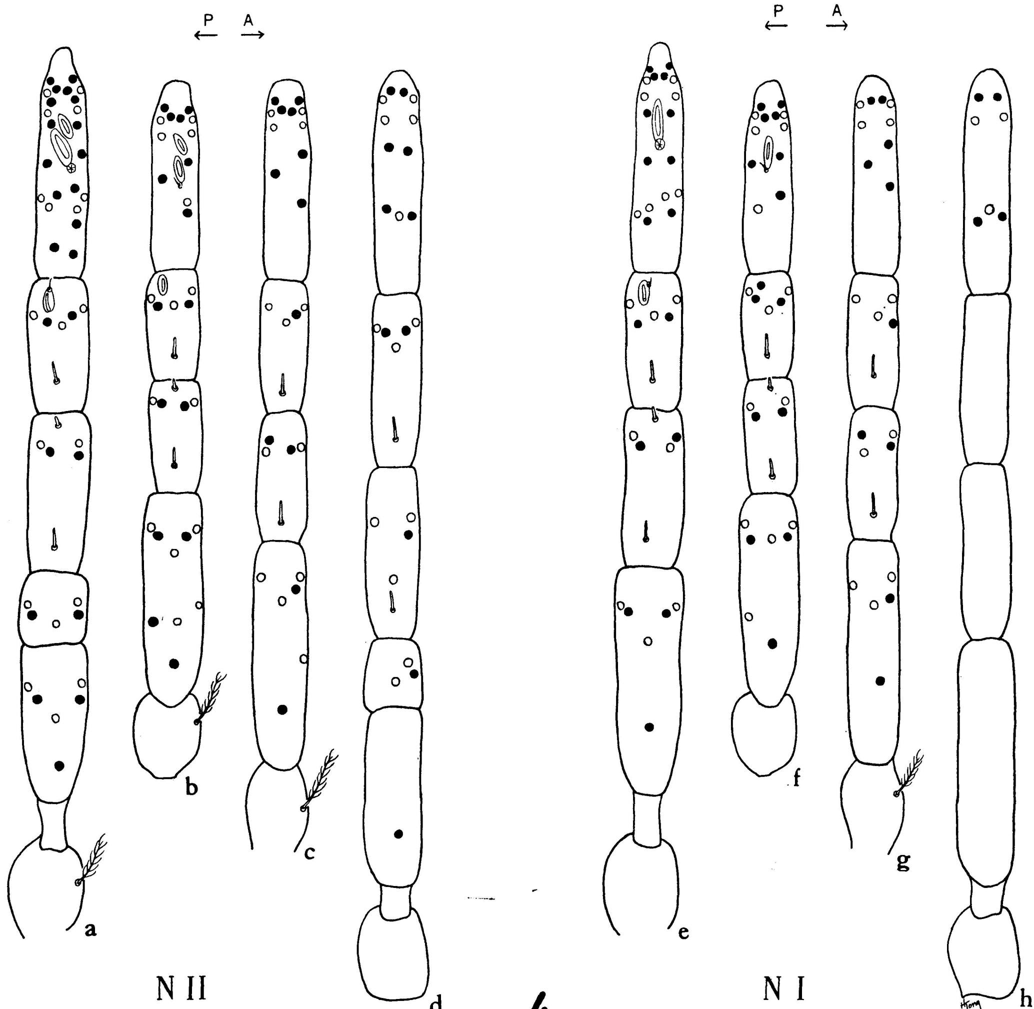

Fig. 4. *Sterotydeus reticulatus* n. sp. Chaetotaxy of legs: a-d, deutonymph; e-h, protonymph.

Protonymph (fig. 4e-h)

I	18 + 1	5 + 2	4 + 2	6	0
II	12 + 1	5 + 2	4 + 2	7	0
II	9	4 + 1	4 + 1	5	1
IV	7	0	0	0	0

Note that all the femora are divided in the tritonymph; only femora I & IV are divided in the deutonymph (which also lacks a seta on trochanter IV); and no femora are divided in the protonymph. The protonymph lacks a seta on trochanter I, II, & IV.

Holotype ♂ (Bishop 8835), South Georgia, Bird I., Macaroni Coulm, 200–230 m, under rocks and moss, 7.III.1963, H. B. Clagg.

Additional material examined: 86 ♂♂, 91 ♀♀, 2 NN III, 3 NN II, 1 N I, 1 larva. SOUTH GEORGIA: 1 ♂, 4 ♀♀, *Acaena*, P. J. Tilbrook; Bird I.: 1 ♂, Bandersnatch, 26.II.1963, Clagg;

3 ♂♂, 26.II.1963, Clagg; 5 ♂♂, Long Ridge, 0–150 m, rocks-crevices, 28.II.1963, Clagg; 2 ♂♂, 1 ♀, Macaroni Creek, 0–150 m, rocks-crevices, 5–7.III.1963, Clagg; 1 ♂, North Valley, XII.1962, Clagg; 1 ♂, 3 ♀♀, North Valley, 1–150 m, under rocks, 25.III.1963, Clagg; 2 ♀♀, Mountain Coulm, moss and rocks, 17.III.1962, Clagg; 1 ♂, 2 ♀♀, same data but 8.III.1963, 1 ♂, 4 ♀♀, same data but, 50–100 m, 7–8.III.1963; 4 ♂♂, 4 ♀♀, Wanderer Valley, 2.I.1963, Clagg; 1 ♂, 3 ♀♀, same data, but 4.I.1963: 1 ♂, 1 ♀, same data, but, sea level–300 m, under rocks, 26.III.1963. GRYTVIKEN PEN.: 3 ♀♀, Brown Mountain, 0–150 m, under rock, 14.XI.1963, Clagg; 3 ♂♂, 2 ♀♀, Gull Lake, 0–150 m, moss, 13.XI.1963, Clagg; 5 ♂♂, 3 ♀♀, Hestesletten, sea level to 150 m, under rocks, 12.XII.1963, Clagg; 1 ♂, 1 ♀, same data, but sea level to 160 m, 3.VI.1961, Jones; 1 ♂, 2 ♀♀, Hestesletten, 3. IV.1961, Jones; 1 ♂, Hestesletten, Penguin River, moss bank, 8.I.1961, Jones; 1 ♂, King Edward Cove, rock crevices, 14.XI.1963, Clagg; 1 ♂, 1 ♀, Maiviken, under stones, 31.I.1961, Jones; 2 ♂♂, 3 ♀♀, same data, but moss, 12.II.1961; 3 ♂♂, same data, but 150–300 m, moss and rocks, 11.XII.1963, Clagg. 2 ♂♂, 1 ♀, Bay of Isles, moss, 2.I.1961, Jones; 1 ♂, 10♀♀, Bay of Isles, Murphy Wall, moss (near pool, on scree, among tussock grass), 22.I.1961, Jones; 4 ♂♂, 1 ♀, Husvik, moss, 27.I.1961, Jones; 1 ♂, 1 ♀, Husvik-White City, 18.III.1961, Jones; 2 ♀♀, 1 N II, 1 N I, 1 larva, Husvik and Bay of Isles, moss, I.1967, Jones; 1 ♀, Husvik and Stromness Peninsula, 27–30.XII.1963, Clagg. ROYAL BAY: 1 ♂, Koppen Point, 0–150 m, rock crevices, 19.II.1961, Jones; 1 ♂, 1 ♀, Coffin Top, moss and rocks, 26.III.1964, Clagg; 2 ♂♂, Mt. Krokisius, 400 m, rocks, Jones; 12 ♂♂, 8 ♀♀, Moltke Harbor, Lower Valley, 0–300 m, moss and rocks, 11–18.III.1964, Clagg; 2 ♂♂, Moltke Harbor, near camp, crevices on beach, 18.II.1961, Jones; 1 N II, near camp, crevices on beach, 21.III.1964, Clagg. 2 ♂♂, 2 ♀♀, 2 NN, Leith and Stromness, moss, III.1961, Jones; 2 ♂♂, 5 ♀♀, Willis I., Johan Bay and Wilson Harbor, moss, 22–23.I.1961, Jones, BARFF PEN.: 2 ♂♂, 4 ♀♀, Ocean Harbor Beach and Valley, 0–300 m, under moss and rocks, Clagg; 1 ♂, ?Sorling Valley; 4 ♀♀, Ocean Harbor and Hound Bay, ex moss drier, 14.I.1961, Jones. 1 ♂, 3 ♀♀, Mt. Hodges, 170 m, under rocks, 10.II.1961, Jones; 2 ♂♂, 2 ♀♀, Right Whale Bay, Black Point, moss, 2.I.1961, Jones; 2 ♂♂, 1 ♀, Welcome Bay, sea level-150 m, under rocks, 6.XI.1963, Clagg; 3 ♀♀, Hope Valley, moss, 3.I.1961, Jones; 1 ♂, 1 ♀, Kelpbugten, tussock grass, rocks and moss near waterfall, 14.I.1961, Jones; 1 ♀, W. Cumberland Bay, under stone, 2.II.1961, Jones; 7 ♂♂, 2 ♀♀, unknown source, I–III.1961, Jones.

Stereotydeus longipes Strandtmann, new species Fig. 5, 6, 7.

Length: ♂, 525 μm (430–575); ♀, 540 μm (500–650).

A pretty, slender-legged, well sclerotized mite. Dorsum uniformly pitted, venter finely striate; anal setae I far anterior of anal pore; 4th pedipalpal segment long; all femora undivided; rhagidial setae of tarsi I & II lying tandem in a common depression.

Dorsal side. (Fig. 5a). Finely striated, with small pits closely and uniformly distributed except lacking in pygidial area. Three pairs of dorsolateral slit pores. No longitudinal furrows or grooves on hysteronotum, no arched ridge on propodonotum. Eyes prominent, striated. Epirostrum with middle lobe obtusely pointed, smooth and pubescent; lateral lobes smaller, rounded and pitted.

Ventral side. (Fig. 5b). Finely striated except laterally, where the dorsal pitting has spilled over onto venter. Coxal setae: 3-1-4-3. Paragenital setae varying from 5 to 6 pairs. The 1*st* anal setae are far forward, lying midway between genital and anal pores. A slit pore lies each side about level with anals 1.

Apical (4*th*) segment of pedipalp slender, as long or longer than 3rd segment, with a rhagidiform seta near base on outer side. 2nd segment swollen but not angulate.

Legs (Fig. 6) slender, pubescent; I and IV longer than body. All femora undivided. Tarsi I and II (Fig. 5d,e) each with 3 rhagidiforms tandem in a common field. Tibiae I–IV and genua I–III each with a basal solenidion (Fig. 6). Tibiae I and II each with a small apical rhagidiform. Leg chaetotaxy: Fig. 6.

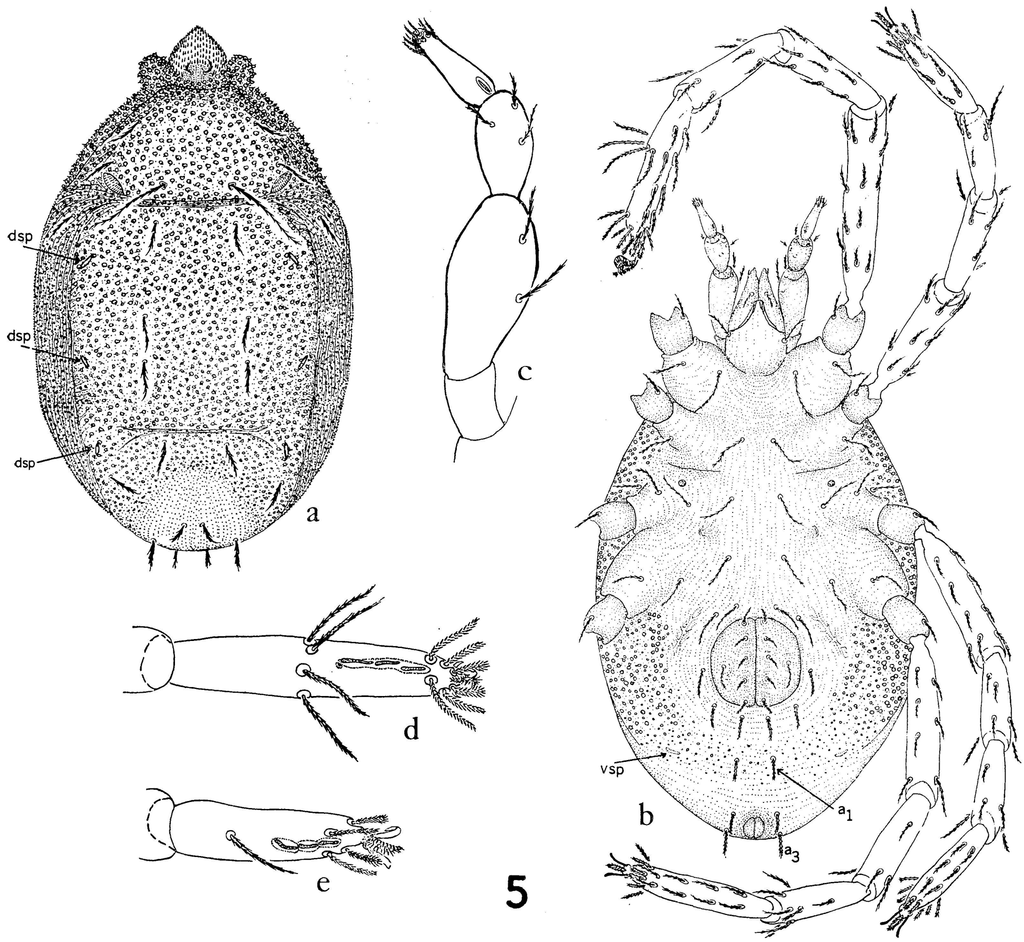

Fig. 5. *Stereotydeus longipes* n. sp. a and b, dorsal and ventral views of adult; c, outer view of left pedipalp; d, and e, dorsal views of tarsi I and II respectively. a_1 and a_3 = 1st and 3rd anal setae respectively; dsp = dorsal pore; vsp = ventral slit pore.

	Tarsus	*Tibia*	*Genu*	*Femur*	*Trochanter*
I	22 + 3	8(9) + 2	10(11) + 1	19 to 21	1
II	14 + 3	6(7) + 2	6 + 1	13 to 15	1
III	14	6 + 1	6 + 1	10(11)	1
IV	14(15)	6 + 1	5	7(8)	1

Immatures. Only deutonymphs and tritonymphs were available. They shared with the adult the anterior displacement of anals 1. The dorsal pitting, or punctations, are lacking except on the propodonotum. Tritonymphs—coxal setae, 3-1-4-3; genitals, 3 pairs. Deutonymph—coxal setae, 3-1-4-2; genitals, 2 pairs.

Leg chaetotaxy of tritonymph (Fig. 7e-h)

	Tarsus	*Tibia*	*Genu*	*Femur*	*Trochanter*
I	20 + 3	5 + 2	6(7) + 1	15	1
II	13 + 3	5 + 2	4(5) + 1	10(11)	1
III	12	5 + 1	4 + 1	8(9)	1
IV	12(13)	5 + 1	3	5(6)	1

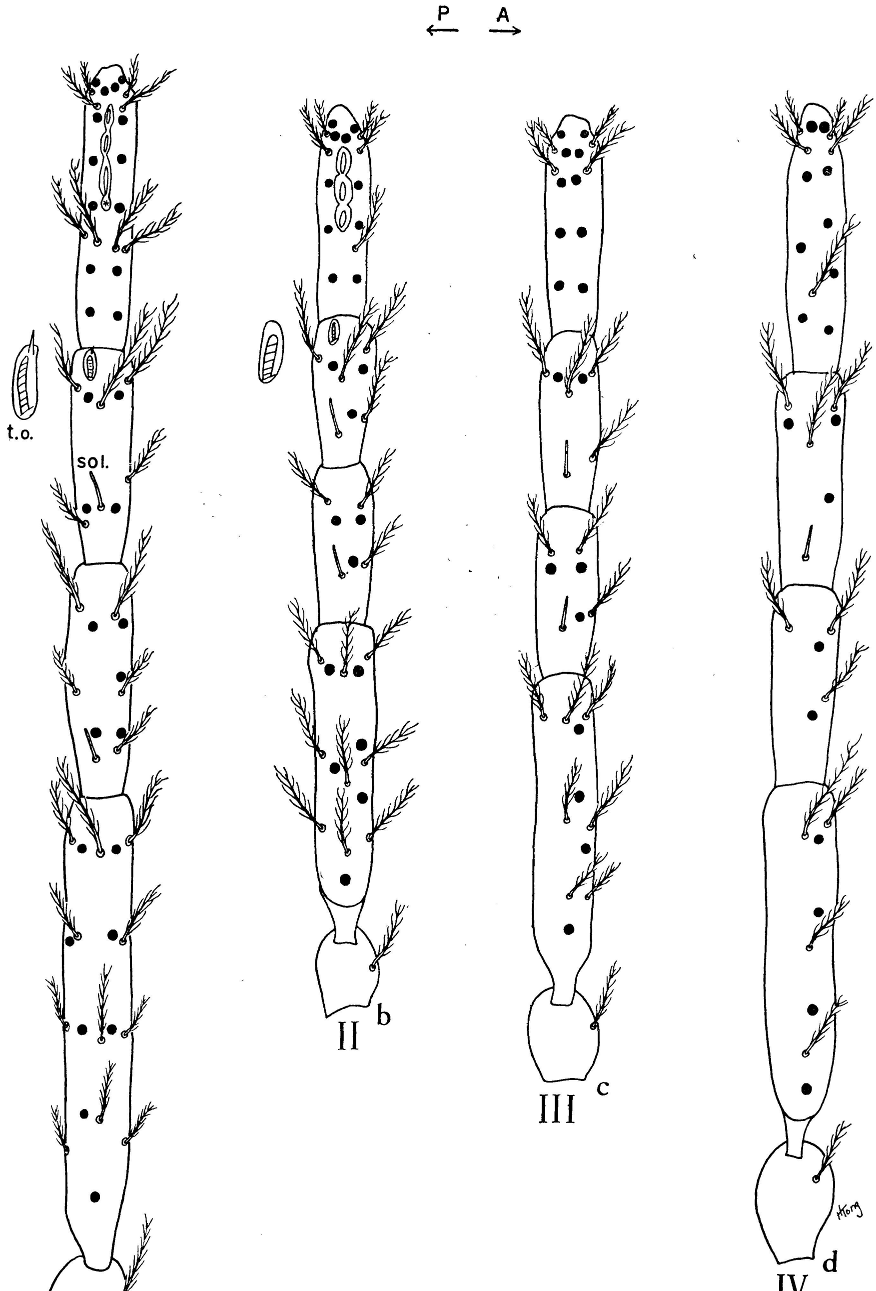

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Fig. 6. *Stereotydeus longipes* n. sp. Chaetotaxy of legs of adult. Dorsal setae shown, or indicated by empty circles; ventral setae indicated by solid circles. Solenidia and other sensory setae shown in position. sol. = solenidion; t. o. = tibial organ.

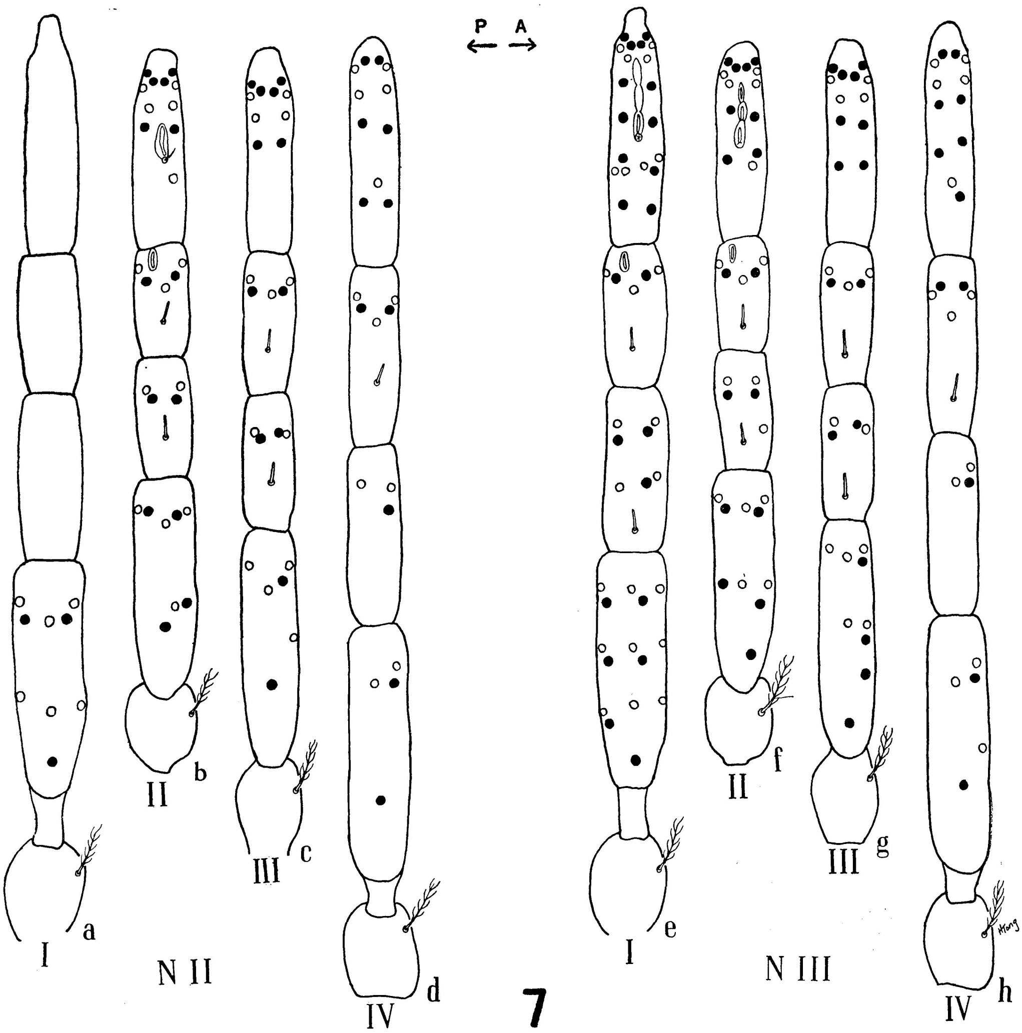

Fig. 7. *Stereotydeus longipes* n. sp. Chaetotaxy of legs. a-d, deutonymph; e-h, tritonymph.

Leg chaetotaxy of deutonymph (Fig. 7a-d)

I	?	?	?	8(9)	1
II	11 + 1	5 + 2	4 + 1	8	1
III	10	5 + 1	4 + 1	6	1
IV	11	5 + 1	3	4	0

Holotype ♂ (Bishop 8836), South Georgia, Bird I., Wanderer Valley, 150–300 m, under rocks, 26.III.1963, H. B. Clagg.

Additional material examined: 16 ♂♂, 17 ♀♀, 5 NN. SOUTH GEORGIA: 2 ♂♂, Husvik—White City, 18.III.1961, N. V. Jones; 1 ♀, Husvik—White City, 27.I.1961, Jones; 1 ♀, Johan Bay, moss, 23.I.1961, Jones; 1 ♂, 1 ♀, Kelpbugten, tussock grass, 14.I.1961, Jones; 2 ♂♂, 1 ♀, 3 NN, Welcome Bay, tussock grass, near beach, 6.XI.1963, H. B. Clagg; 1 ♂, 1 ♀, Willis Main I., tussock grass, 272 m, 23.I.1961, Jones. Moltke Harbor: 1 ♂, 3 ♀♀, German Camp, rotting wood, 14.II.1961, Jones; 1 ♂, The Sphinx, rock crevices near beach, 26.II.1961, Jones; 2 ♂♂, Koppen Pt, 0–150 m, under rocks and kelp, 19.II.1961, Jones; 1 ♀, same data, but, 4.III.1964, Clagg. Bird I.: 1 N II, Fresh Water Bay, 0–150 m, under moss and rocks, 30.V.1963, Clagg; 2 ♀♀, 1 ♂, ditto, 14.II.1963; 1 ♀, Landing Beach, 0–150 m, tussock, 27.V.1963, Clagg; 1 ♀, Mountain Coulm, 0–300 m, moss and rocks, 17.XII.1962, Clagg; 1 N III, same data, 8.III.1963, 3 ♂♂, 2 ♀♀, Sound Coulm, 200–300 m, rocks, 8.III.1963, Clagg; 4 ♂♂, 3 ♀♀, Wanderer Valley, 0–150 m, under rocks, 26.III.1963, Clagg. 1 ♀, unknown source, I–III.1961, N. V. Jones.

Remarks. Although no measurements were made, it seemed as if the ♂ eyes are somewhat larger than the eyes of the ♀.

There is some likelihood that this is the *Penthalodes intermedius* described by Trouessart from the South Orkneys in 1907. It was described as lacking dorsal grooves, without a ridge on the propodosoma, legs I & II longer than the body, femur I undivided, the middle lobe of the epirostrum obtuse and larger than the lateral lobes, the 4th palp segment long and slender. All of this fits, but it is further described as 700 μm long and having no plumose setae on the dorsum. It is perhaps best to await further collecting in the South Orkneys before relegating the South Georgia forms to Trouessart's species.

Genus **Rhagidia**

Two species of *Rhagidia* occur in South Georgia. The same 2 species occur also on the Antarctic Peninsula and adjacent islands and very likely also on the South Orkney I. They are *Rhagidia gerlachei* Trsst. and *R. leechi* Str. Collecting records indicate they are completely sympatric over their entire range.

The 2 species are similar in appearance but they have differences which are remarkably constant. The more objective of these differences are:

	gerlachei	*leechi*
Tarsal claws	without clawlets	with basal clawlets
Trochanter setal formula	1-2-2-2	1-1-2-2
Coxa setal formula	3-1-6-3	3-1-4-3
Ext. gen. setae	5 to 6 pairs	8 to 9 pairs

Other somewhat more subjective differences are:

	gerlachei	*leechi*
Sperm sac, ♂	shorter; not to base of coxae IV	longer; reaches base of coxae IV
Cheliceral setae	basal seta barely reaches base of apical seta	basal seta clearly overlaps base of apical seta
Apical setae	extend past apex of hypostome	do not surpass apex of hypostome
Silhouette of hypostome	shorter, base rounded laterally	longer—slightly produced laterally at base
Ratio of chelate portion to total chelicera	1 to 2	1 to 3

Rhagidia gerlachei (Trouessart, 1903). Fig. 8.

Length: ♂, 1250 μm (1100–1400); ♀, 1350 μm (1050–1700).

The above measurements apply to material from South Georgia—10 specimens of each sex.

Collection records. SOUTH GEORGIA: Barff Pen.: 2 ♀♀, 2 NN, Ocean Harbor, 150–300 m, under moss and rocks, 16.I.1964, H. B. Clagg; 2 ♀♀, Sorling Valley, 150–300 m, under

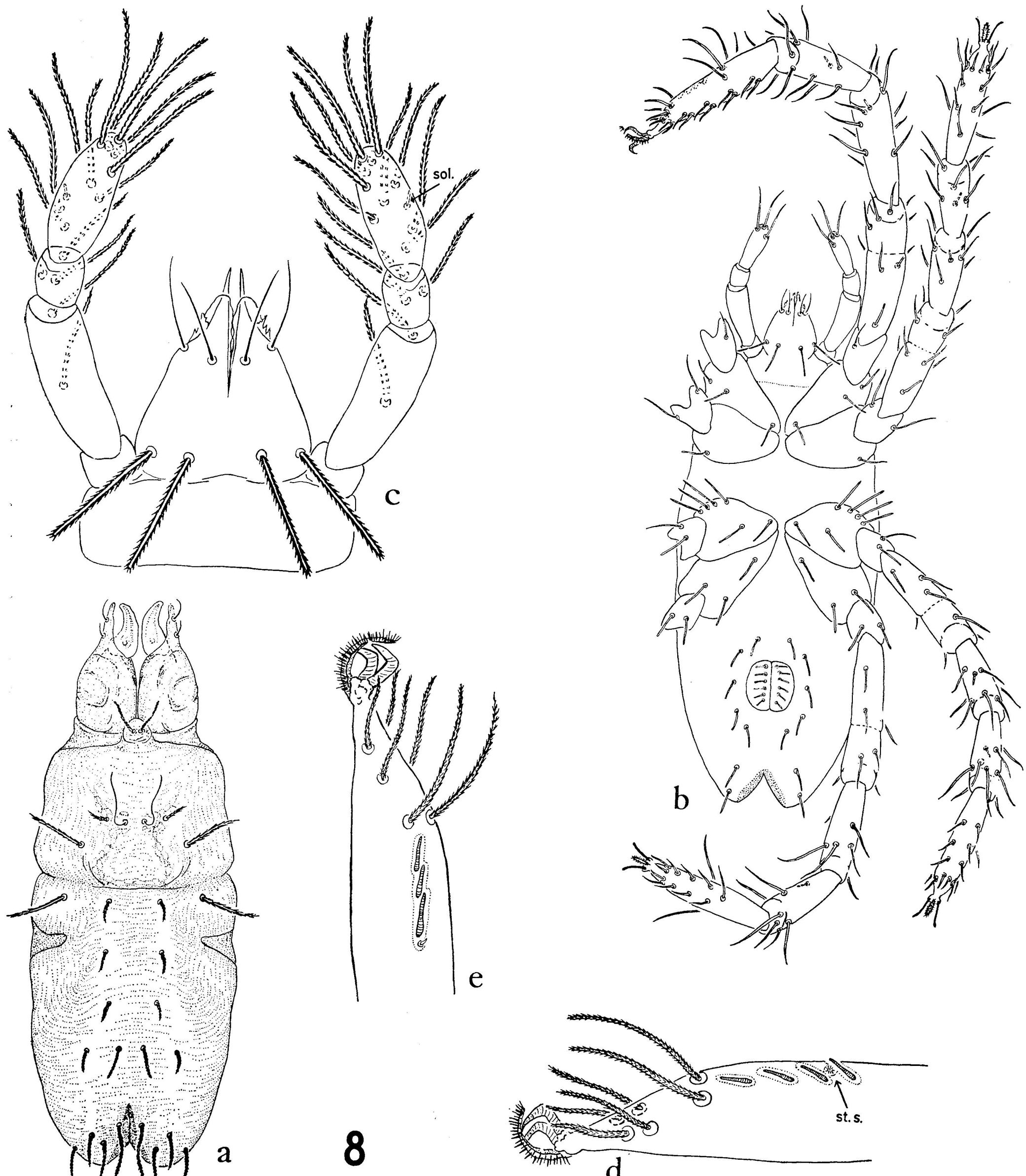

Fig. 8. *Rhagidia gerlachei* (Trt.). a and b, dorsal and ventral views of adult; c, ventral view of gnathosoma; d and e, dorsolateral views of tarsi I and II respectively. sol = solenidion; st.s. = stellate seta.

moss and rocks, 21.I.1964, Clagg. 1 ♀, 2 NN, Bay of Isles, moss, 2.I.1961, N. V. Jones. Bird I.: 2 NN, Bandersnatch, 26.II.1963, Clagg; 1 ♂, 1 ♀, 1 N, Long Ridge, 0–150 m, rock crevices, 28.II. 1963, Clagg; 2 ♂♂, 1 ♀, Mountain Coulm, 17.XII.1962; 1 ♀, 1 N, same data, but under moss and rocks, 8.III.1963, Clagg; 2 ♀♀, North Valley, 20.XII.1962, Clagg; 1 N, same data, but 23.III.1963, 1 ♂, same data, but 25.III.1963; 1 larva, 3 NN, Wanderer Valley, 2.I.1963, Clagg; 1 ♂, 1 ♀, 1 N, same data, but 4.I.1963; 1 N, same data, but 150–300 m, under rocks, 26.III.1963; 2 ♀♀, same data, but, tussock grass, 0–150 m, 19.IV.1963; 2 ♂♂, 4 ♀♀, 2 NN, Welcome Bay, 0–150 m, under rocks, 6.XI.1963, Clagg. Busen Pen.: 1 ♀, Carlita Bay Valley, 0–150 m, under rocks, 31.XII.1963, Clagg; 1 ♂, 1 ♀, Olsen Valley, 150–300 m, under rocks, 21.XII.1963, Clagg; 2 ♂♂, 1 ♀, same data, but, 17.III.1961, Jones. Grytviken Pen.: 1 ♂, 2 ♀♀, 1 N, Brown Mountain, 0–150 m, under rocks, 14.XI.1963, Clagg; 2 ♀♀, Cumberland East Bay, 0–150 m, 18.III.1963, Clagg; 1 ♂, 2 ♀♀, Cumberland West Bay, 0–150 m, under rocks, 17–21.XI.1961, Clagg; 1 ♀, Hestesletten, 0–150 m under rocks, 3.IV.1961, Jones; 1 ♀, same data, but 0–150 m, 12.XII.1963, Clagg; 1 ♂, Hestesletten, Penguin River, moss bank, 8.I.1961, Jones; 1 ♂, King Edward Cove, 0–150 m, under rocks, Clagg; 1 N, King Edward Point, nest material of Shoemaker, *Procellaria aequinoctialis*, 12–14.XI.1963, Clagg; 3 ♀♀, Snowy Coulm, 300–450 m, under moss and rocks, 16.XI.1963, Clagg; 2 ♀♀, Maiviken, 150–300 m, rocks and moss, 11.XII.1963, Clagg. 1 ♂, 1 ♀, Hound Bay, on dry scree, 14.I.1961, N. V. Jones; 1 ♂, 1 N, Husvik Valley, under rocks and pocket crevices between Husvik and reservoir, 27.I.1961, Jones; 1 larva, Husvik and Bay of Isles, moss sample, I.1961, Jones; 1 ♂, Husvik, moss, 27.I.1961, Jones; 2 NN, same data, but 18.III.1961; 1 ♀, 1 N, Kelpbugten, moss and rocks on dry scree, slope—225 m; 2 NN, same, near waterfall, 15.I.1961; 1 ♂, 2 ♀♀, Mt. Hodges, 150 m, under rocks, 10.II.1961, Jones. Royal Bay: 2 ♂♂, 1 N, Coffin Top, 782 m, under rocks, 26.III. 1964, Clagg; 1 ♀, Koppen Point, 0–150 m, rock crevices, 19.II.1961, Jones; 1 ♀, 1 N, Mt. Krokisius, 360 m, rock crevices, 21.II.1961, Jones. Royal Bay, Moltke harbor: 1 ♂, German Camp, rotting wood, 14.II.1961, Jones; 1 ♂, 1 ♀, same data, but, rock crevices on beach, 18.II.1961, 1 ♀, The Sphinx, rock crevices near beach, 26.II.1961; 1 N, same data, but, 28.II.1964; 2 ♂♂, 2 ♀♀, 1 N, Lower Valley, 150–300 m, moss and rocks, 18.III.1964, Clagg; 2 ♂♂, 2 ♀♀, same data, but 13. II.1964; 1 ♂, 4 ♀♀, same data, but under rocks, 18.III.1964; 2 ♂♂, 1 ♀, 1 N, Upper Valley, 150–300 m, moss and rocks, 18.III.1963, Clagg; 1 ♂, same data, but under rocks on beach, 17.III.1964, 1 ♂, Stromness Peninsula, Leith Harbor Valley, 0–150 m, under rocks, 26.XII.1963, Clagg.

Rhagidia leechi Strandtmann, 1963. Fig. 9.

Length: ♂, 1200 μm (900–1400); ♀, 1310 μm (1050–1650).

Measurements based on 10 South Georgia specimens of each sex.

Collection data. SOUTH GEORGIA: Bird I.: 1 ♂, 2 ♀♀, Bandersnatch, 160 m, from 4–6″ depth in moss, 10.I.1963, H. B. Clagg; 1 N, same data, but 26.II.1963; 1 ♀, Fresh Water Bay, 0–150 m, under moss and rocks, 30.V.1963, Clagg; 2 ♀♀, Flagstone Pond, 12.II.1963, Clagg; 3 ♀♀, Landing Beach, cracks in log on beach, 26.VI.1963, Clagg; 1 ♂, The Lawns, 100 m, on scree, 22.IV.1963, Clagg; 1 N, Long Ridge, 0–150 m, 28.II.1963, Clagg; 1 ♂, Macaroni Coulm, 600–700 m, 7.III.1963, Clagg; 1 ♂, 1 ♀, Mountain Coulm, 150–300 m, under moss and rocks, 8.III.1963, Clagg; 1 ♂, 6 NN, North Valley, XII.1962, Clagg; 2 ♂♂, same data, but, 20.XII.1962, 5 ♂♂, 2 ♀♀, 2 NN, 1 larva, same data, but 23.III.1963; 3 ♂♂, 1 N, Sound Coulm, 200–300 m, under rocks and moss, 7.III.1963, Clagg. Wanderer Valley: 1 ♂, 1 ♀, 1 N, 1 larva, 4.I.1963, Clagg; 1 ♀, 2.I.1963, H. B. Clagg; 1 ♂, tussock grass and leaf litter, 15.I.1963, Clagg; 1 N, 0–150 m, under moss and rocks, 29.III.1963, Clagg; 1 ♀, nesting material of wandering albatross—5 cm depth, 24.IV.1963, Clagg. Grytviken Pen.: 1 ♀, Brown Mountain, 0–150 m, under rocks, 14.XI.1963,

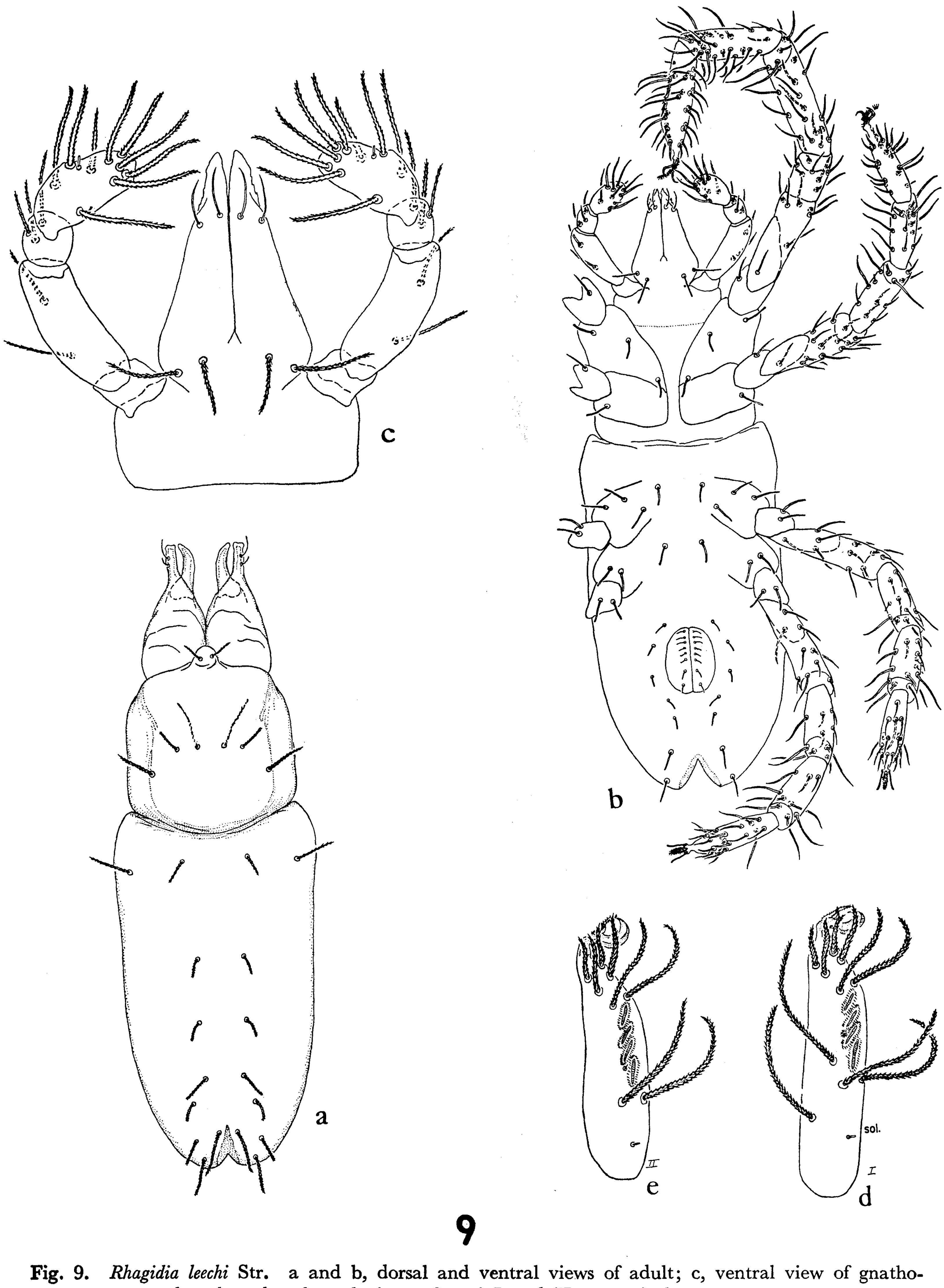

Fig. 9. *Rhagidia leechi* Str. a and b, dorsal and ventral views of adult; c, ventral view of gnathosoma; d and e, dorsolateral views of tarsi I and II respectively.

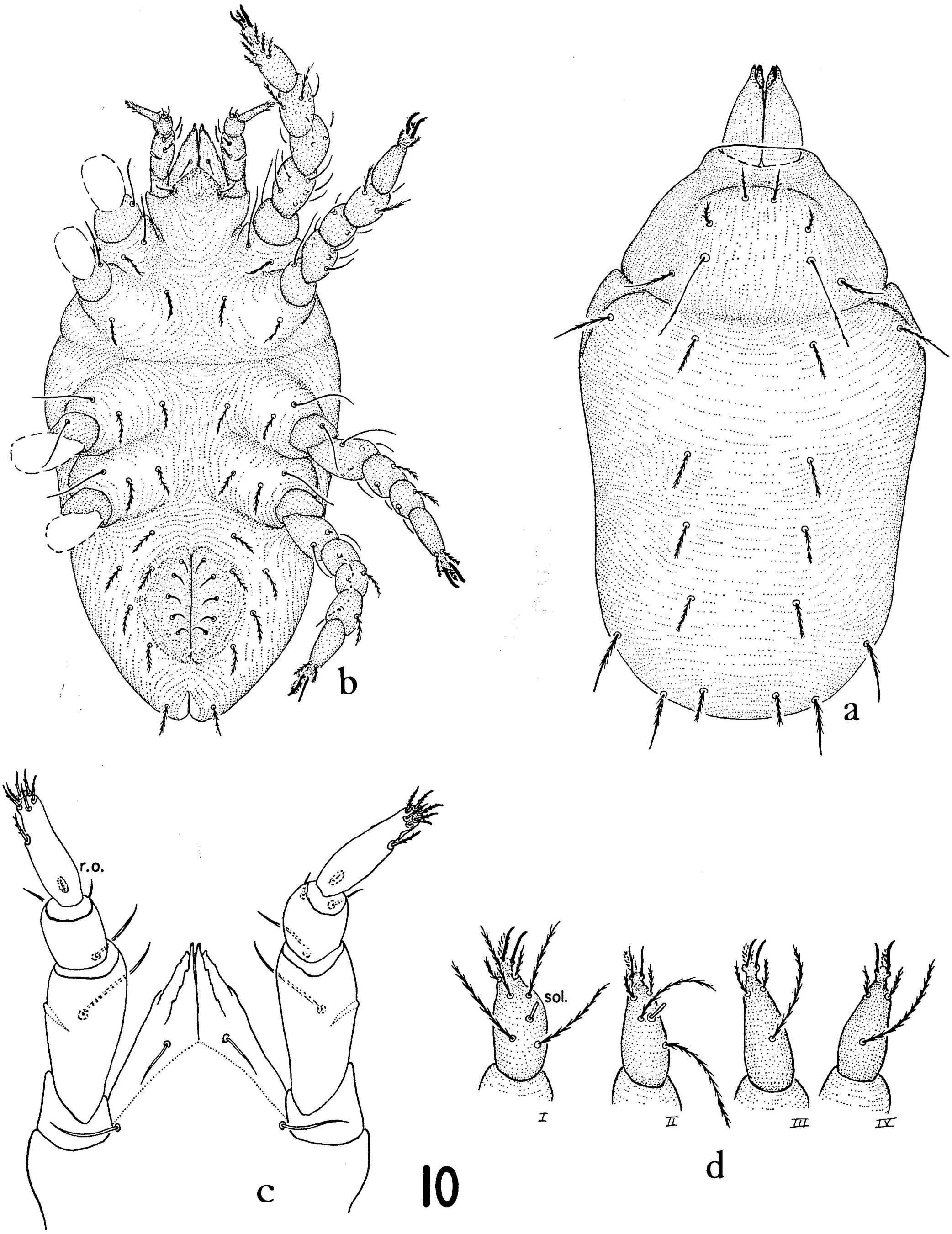

Fig. 10. *Tydeus tilbrooki* Str. a and b, dorsal and ventral views of ♂; c, ventral view of gnathosoma; d, dorsal view of tarsi I-IV. r.o. = rhagidial organ of pedipalp; sol. = solenidion.

Clagg; 2 ♀♀, King Edward Point, nest material of Shoemaker, *Procellaria aequinoctialis*, 12–14.XI. 1963. 1 ♀, Maiviken, under stone, 31.I.1961, N.V. Jones; 1 N, Right Whale Bay, Black Point, from moss, 2.I.1961, Jones. ROYAL BAY—MOLTKE HARBOR: 1 N, German Camp, rotting wood, 14.II.1961, Jones; 1 ♀, Koppen Point, 0–150 m, rock crevices, 14.II.1961, Jones; 1 ♂, 1 ♀, Lower Valley, 0–300 m, under rocks, 13.III.1964, Clagg; 3 ♀♀, same data, but 17.III.1964, Clagg; 2 ♂♂, same data, but 18.III.1964; 2 ♂♂, same data, but 3.IV.1964; 1 ♀, The Sphinx, rock crevices, near beach, 26.II.1961, Jones. 1 ♀, Welcome Bay, 0–150 m, under rocks and moss, 6.XI.1963, Clagg; 1 N, Willis I., Johan Bay and Wilson Harbor, moss drier, 22.I.1961, Jones.

Tydeus tilbrooki Strandtmann, 1967. Fig. 10.

Length: 250 µm.

Collection records indicate that this mite is not abundant in South Georgia. It is apparently much more plentiful in the South Orkney Is., South Shetland Is. and the Antarctic Peninsula.

The material collected in South Georgia agrees in all details with the original material from South Orkneys, but in checking over the original description and illustration (Strandtmann, 1967: 71) I find, much to my chagrin, a discrepancy between the illustration and description. According to the description, there are 2 nude setae on genua III and IV but the illustration shows a dorsal nude and a ventral plumed seta. (Except on the ventral view, Fig. 11b, which incorrectly shows 2 plumed ventral setae on genu III.) Actually, both the description and the illustration are correct part of the time, but a plumed and a nude seta occur more frequently than 2 nude setae. Two plumed setae seem not to occur. Also coxa I in the original illustration shows both apical setae nude but the text states only 1 apical seta is nude—which is true.

Tydeus tilbrooki may be recognized by the chaetotaxy of the legs, *viz:*

	Tarsus		Tibia		Genu		Femur		Trochanter	Coxa	
	p.	n.	p.	n.	p.	n.	p.	n.	n.	p.	n.
I	12	0	2	2	0	3	0	5	1	2	1
II	6	0	2	1	0	2	0	4	1	1	0
III	5	0	1	1	1	1	0	3	1	2	1
IV	5	0	1	1	1	1	0	3	0	2	1

p. = plumed; n. = nude.

The ♂ genital covers have 5 pairs of nude setae plus 1 pair lateral, plumed setae. In the ♀ all the genital setae are plumed.

COLLECTION DATA: 2 ♂♂, 3 ♀♀, Kelpbugten, from a gull's nest, 15.I.1961, N. V. Jones.

Ereynetes macquariensis Fain, 1962. Fig. 11, 12.

Length of ♀, 310 µm (300–320); ♂, 260 µm.

Body and appendages finely striatopunctate. Lacking eyes. No noticeable subcutaneous sclerotizations. Anterior trichobothria fine, sparsely ciliated. Scapulars 2 × as long and thick as verticals. External lumbars modified into trichobothria which are similar to anterior trichobothria.

Pedipalps 6-segmented; tarsus small, with an apical spiniform seta; tibia with a sensory seta in basal pit on outer side, and 3 plumose setae apically. The longest of these 3 is bifurcate and may in fact arise from the base of tarsus; genu and femur each with 2 dorsal, plumed setae. Movable digit of chela long and slender; fixed digit shorter.

Coxae, 3-1-4-3, medial seta of both coxa III and coxa IV off coxa. Four pairs of paragenital and 2 pairs of anal setae. The 2 genital covers poorly defined but each bear 6 setae; in the ♀ they are all alike, in the ♂ the 2 central ones are clavate. The ♂ has 3 pairs of small, closely clustered, ciliated internal setae; ♀ lacks internal genital setae but both sexes have 2 pairs of small, stalked genital knobs.

Legs (fig. 12) not slender, shorter than body. Tarsi ending bluntly and the claws retractile into concavities at their tip. All tarsi with a pad-like, ciliated empodium between claws. Tarsi I and II each with a long, prominent solenidion on mid-dorsal line, a bit apical of mid point. Sensory pit and tube of tibia I about 1/3 as long as tibia. Seta associated with pit ciliated, slightly clavate, and noticeably shorter than other setae. Trochanter, 1-1-1-0; seta of trochanter II is nude. Only femur IV is divided.

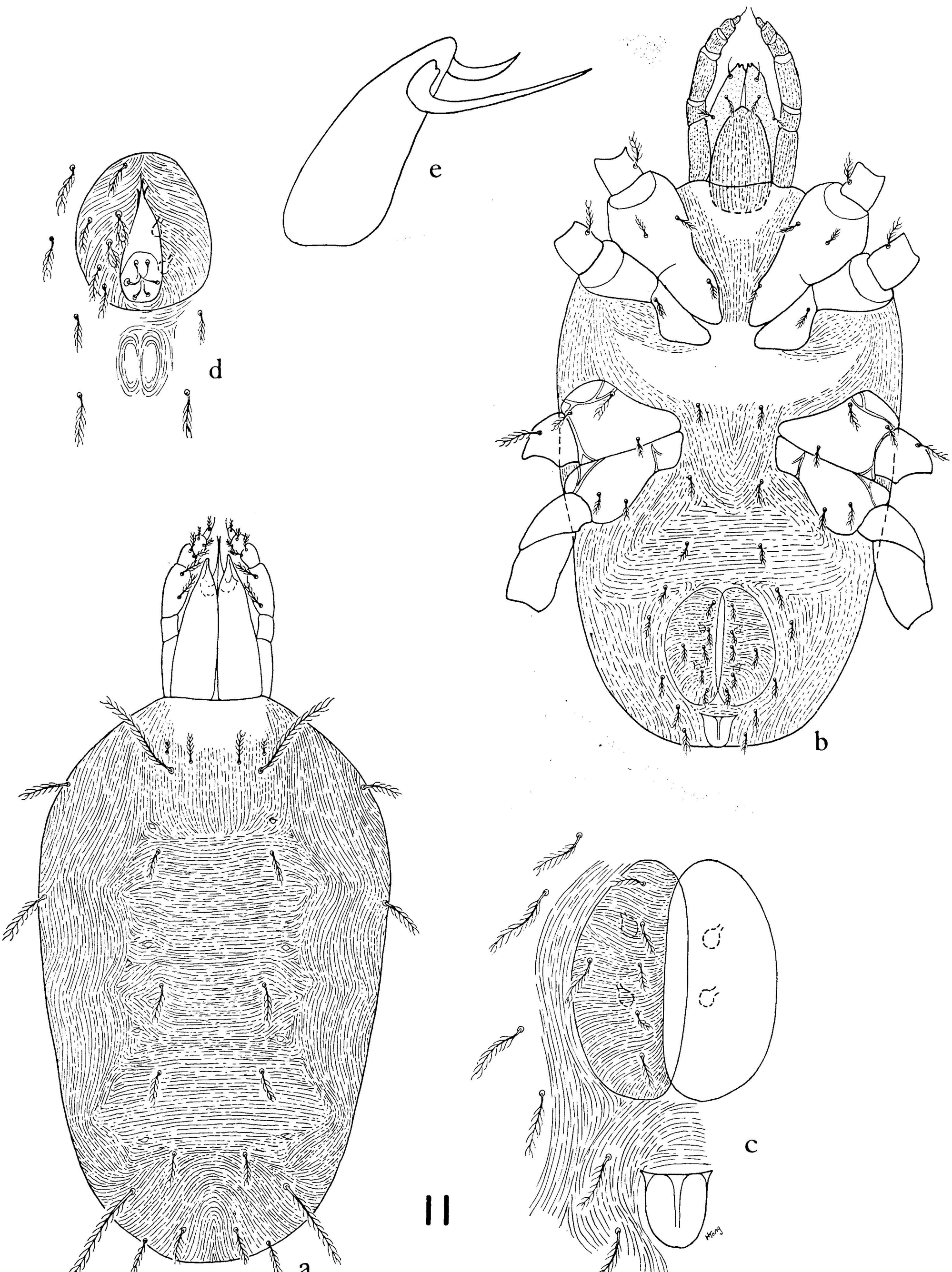

Fig. 11. *Ereynetes macquariensis* Fain. a and b, dorsal and ventral views of ♀; c and d, genitoanal area of ♀ and ♂ respectively; e, ventrilateral view of chelicera.

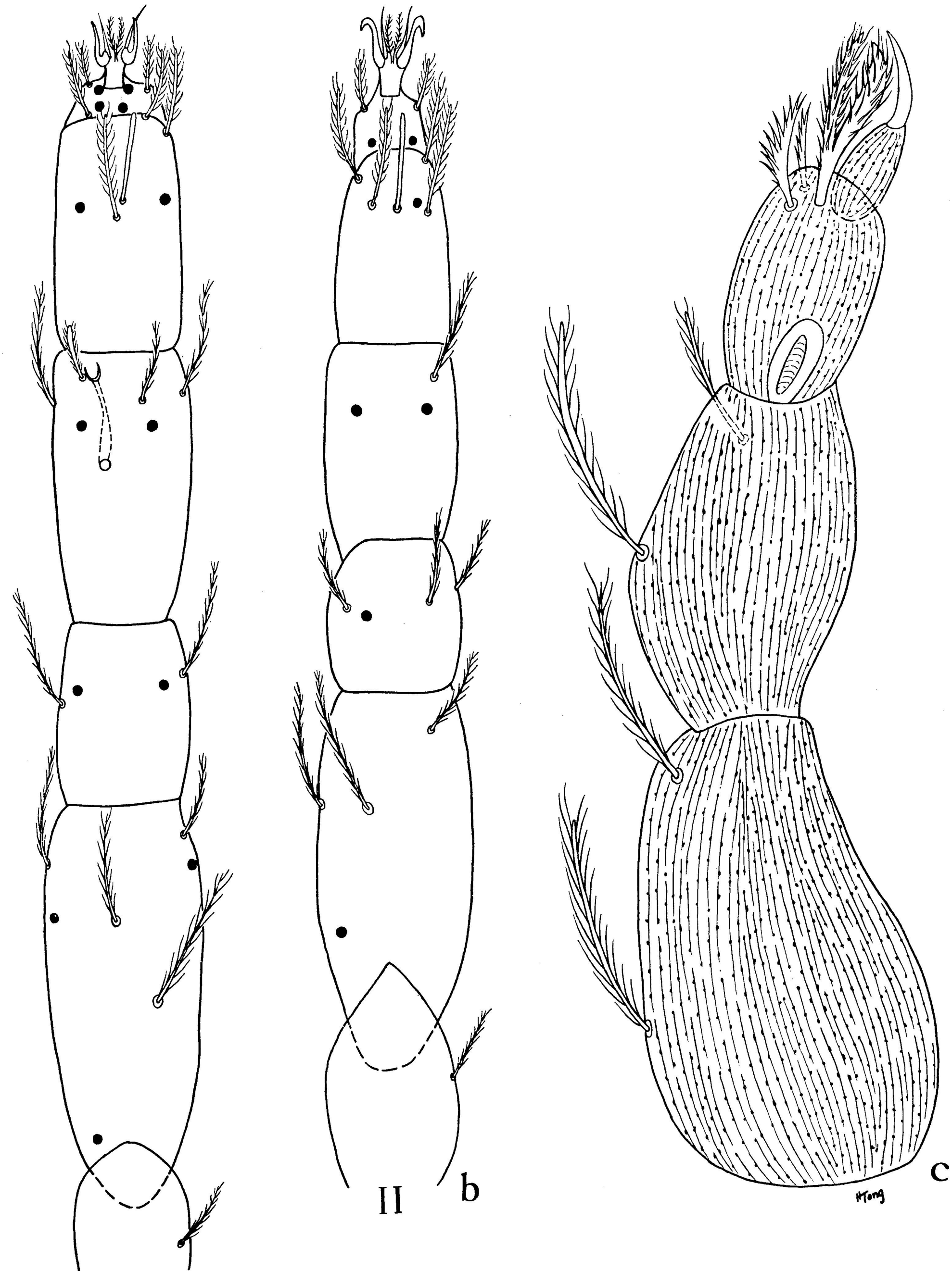

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Fig. 12. *Ereynetes macquariensis* Fain. a and b, dorsal view of legs I and II respectively; c, outer view of right pedipalp, showing the apical 4 segments (femur to tarsus).

MATERIAL: 1 ♂; 4 ♀♀; 1 nymph. 1 ♀, Bird I., North Valley, 23.III.1963, H. B. Clagg; 2 ♀♀, Grytviken Peninsula, King Edward Point, nest material of Shoemaker, *Procellaria aequinoctialis*, 12–14.XI.1963, Clagg; 1 ♂, 1 ♀?, Kelpbugten, ex gull's nest, 15.I.1961; 1 N, Moltke Harbor area, sea level, ex moss, 7.III.1961, Jones.

Remarks: There are only slight differences between the specimens before me and Fain's description of *Ereynetes macquariensis* Fain (1962). The setae seem to be a trifle shorter but that appears to be all.

Dr Fain made two statements a few years ago to which I wish to take exception. He states (Fain, 1964b: 224) that all Ereynetidae have a sensory organ at the tip of tibia I and that this is lacking in the Tydeidae, Bdellidae, Eupodidae, and Rhagidiidae. Perhaps it is lacking in the exact form of the Ereynetidae but the Eupodidae and Rhagidiidae, as well as the Penthalodidae, and some Tydeidae, do most emphatically have a sensory organ on tibia I; and frequently also on tibia II.

Further, Fain (ibid, 225) states that a solenidion is usually present on the palps and that it is generally present on the tarsus. If, however, the palp tarsus is minute, the solenidion shifts to the tibia. I would suggest that it is always the palp tibia that bears the solenidion and in those cases where the solenidion is on the terminal segment, it is because either the true tarsus has been lost entirely or it has fused with the tibia. Incidentally, palpal solenidia occur also in the Rhagidiidae, Eupodidae, Penthalodidae, and no doubt other families as well.

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