

**ACARINA: MESOSTIGMATA: HALARACHNIDAE,
RHINONYSSIDAE OF SOUTH GEORGIA,
HEARD AND KERGUELEN¹**

By Nixon Wilson²

Abstract: *Halarachne miroungae* is listed from *Mirounga leonina* and *Pygoscelis papua* from South Georgia and Kerguelen Is., respectively, on the basis of records from literature. *Rhinonyssus rhinoletrum* and *Rhinonyssus schelli* are recorded from *Anas georgicus* and *P. papua*, respectively, and, from South Georgia, for the first time.

The material reported herein was collected under auspices of the Bishop Museum by H. B. Clagg, with cooperation of the British Antarctic Survey.

Three species of nasal mites are known from South Georgia, Heard, and Kerguelen Islands. One was collected from a seal and two from birds. Two recent papers by Wilson (1967, 1968) should be consulted for additional details concerning these species.

KEY TO SOUTH GEORGIA, HEARD AND KERGUELEN ISLANDS
MESOSTIGMATIC NASAL MITES

Adults

1. Peritreme and stigma ventral; normally in nasal passages of seals (*Halarachnidae*).....***Halarachne miroungae***
Peritreme lacking, stigma dorsal; in nasal passages of birds (*Rhinonyssidae*).....2
2. With well developed sternal plate.....***Rhinonyssus schelli***
Without well developed sternal plate.....***Rhinonyssus rhinoletrum***

Immatures³

1. Anal setae over 3x longer than other ventral opisthosomal setae (larva); normally in nasal passages of seals (*Halarachnidae*).....***Halarachne miroungae***
Anal setae, at most, only slightly longer than other ventral opisthosomal setae (nymph and larva); in nasal passages of birds (*Rhinonyssidae*).....***Rhinonyssus rhinoletrum***

Family HALARACHNIDAE

Halarachne miroungae Ferris Fig. 1-8.

Halarachne miroungae Fer., 1925, *Parasitology* **17**: 166.

Halarachne taita Eichler, 1958, *Zool. Garten (NF)* **24**: 54 (South Georgia).

Halarachne erratica Fain & Mortelmans, 1959, *Bull. Soc. R. Zool. Anvers* **12**: 22 (Kerguelen Is.).

Diagnosis: ♀. A large mite with punctate podosomal plate, 672 μm long, 324 μm wide, with 10 areas of muscle attachment, about 7 pairs of setae and several pores. Peritreme short, opposite coxa IV. Anal plate dorsoterminal, with 3 pairs of setae. Sternal plate 240 μ long, 159 μ wide, heavily sclerotized antero- and

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³Nymphal stages in Halarachnidae are very rare and unknown for *H. miroungae*; immature stages of *R. schelli* are unknown.

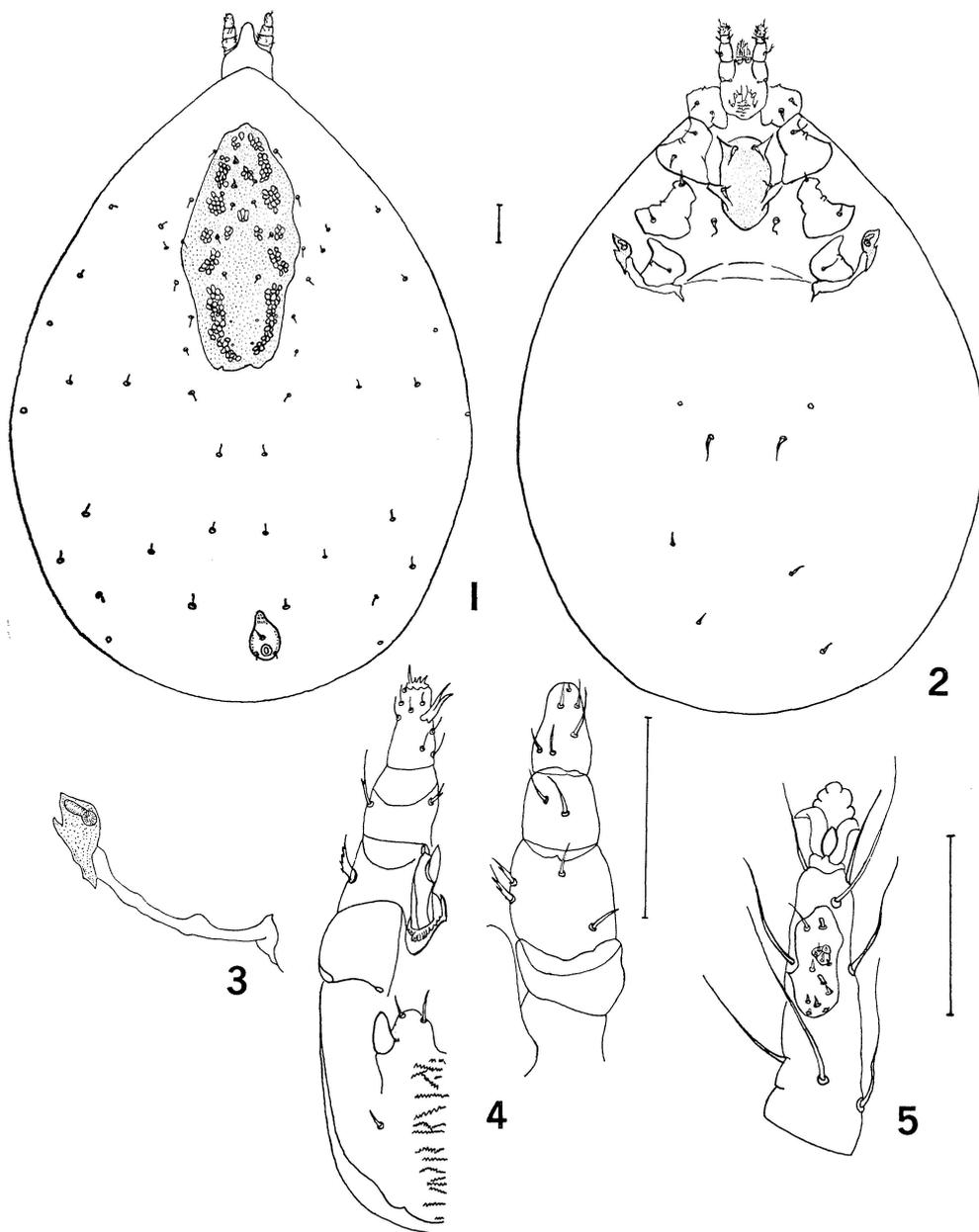


Fig. 1-5. *Halarachne miroungae* Ferris, ♀. 1, dorsal view; 2, ventral view; 3, peritreme, enlarged; 4, gnathosoma, dorsal (right) and ventral (left) views; 5, tarsus I, dorsal view (Fig. 4 modified after Domrow, 1962). (Scales equal 100 μ m).

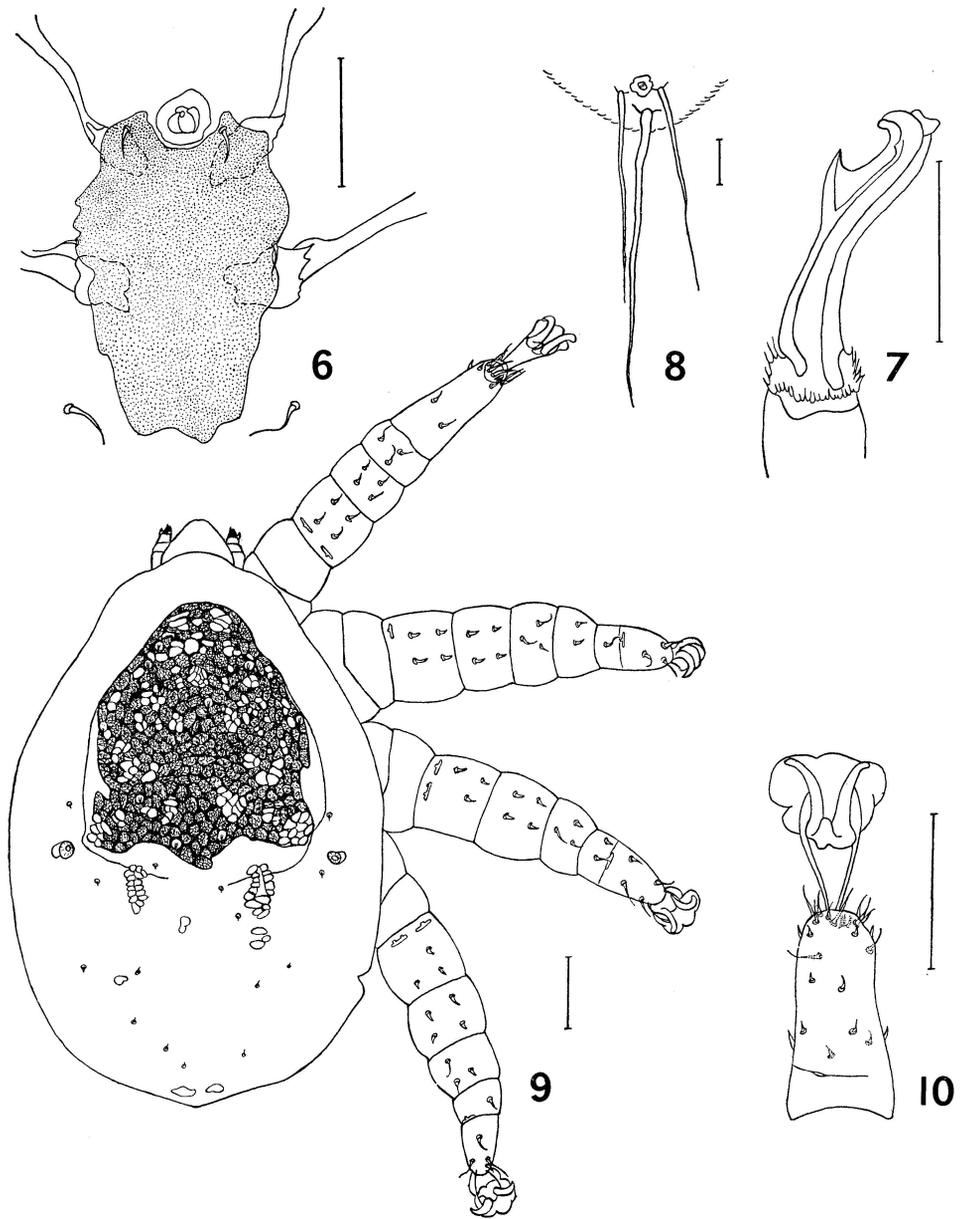


Fig. 6-8. *Halarachne miroungae* Ferris. 6, ♂ sternal plate; 7, ♂ chelicera; 8, larva caudal region.
Fig. 9-10. *Rhinonyssus rhinolethrum* (Trouessart), ♀. 9, dorsal view; 10, tarsus I (Figs. 6 and 7 after Domrow, 1962). (Scales equal 100 μm).

midlateral processes extending between coxae I–II and II–III, respectively, first 2 pairs of sternal setae on plate, 3rd pair opposite posterolateral margin. Genital plate and setae absent, genital pore a transverse slit between coxae IV. Prominent tracheae extending throughout body and appendages. Legs stout, tarsi I 139 μm , II 119 μm , III 122 μm , and IV 152 μm . ♂. Similar to ♀, genital pore between 1st pair of sternal setae. Larva. Smaller than ♀, without plates, 3 extremely large anal setae surrounding anal pore.

DISTRIBUTION: Antarctica (Base Gonzales Videla), Kerguelen Is., Pacific Coast of North America from Alaska to Baja California, and South Georgia.

Discussion: This species was not collected during the present surveys. There are two published records of mites taken from zoo animals from, or in association with animals from, South Georgia and Kerguelen Is.

Hosts reported for this mite are *Mirounga leonina* (Antarctica, South Georgia), *M. angustirostris* (Baja California), *Phoca vitulina* (Alaska, California, Washington), *Enhydra lutris* (Alaska, Washington), and *Pygoscelis papua* (Kerguelen Is.).

Family RHINONYSSIDAE

Rhinonyssus rhinolethrum (Trouessart) Fig. 9–12.

Sternostomum rhinolethrum Trt., 1895, *Rev. Sci. Nat. Appliq.* **42**: 393.

Diagnosis: ♀. A medium-sized mite with well defined, reticulate podosomal plate, 367 μm long, 310 μm wide, broadly rounded anteriorly and with small median lobe posteriorly. Peritreme small, circular. Sternal plate represented by non-striated area between 3 pairs of long sternal setae. Genital plate rounded behind, 205 μm long, 74 μm wide, genital setae absent. Anal plate weakly sclerotized, located posteroventrally, with 2 paranal setae off edge of plate, postanal seta or setal base present or absent. About 21 long, slender ventral opisthosomal setae. Legs stout, tarsi I 138 μm , II 120 μm , III 122 μm and IV 117 μm . ♂. Similar to ♀, slightly smaller; well defined genital plate between coxae IV. Deutonymph. Similar to ♀, smaller; many small, poorly sclerotized platelets on dorsum of podosoma; midventral plate present. Protonymph. Similar to deutonymph, lacking midventral plate. Larva. Similar to protonymph, lacking plates and platelets; 1 pair of ventral opisthosomal setae.

DISTRIBUTION: Argentina⁴, Australia, Brazil, Cuba, France, Greenland, Netherlands, New Guinea, Russia, Rwanda, South Georgia (Bird I.), Thailand, and United States.

SOUTH GEORGIA: 3 NN, 1 L (1 N in alcohol), Bird I., *Anas georgicus* (BI-289), 3.VI.1963; 1 ♀, 3 NN (1 ♀ in alcohol), Bird I., *A. georgicus* (BI-307), 28.VI.1963; 1 ♀, 2 NN, Bird I., *A. georgicus* (BI-325), 18.VIII.1963; 2 ♂♂, 2 NN (1 N in alcohol), Bird I., *A. georgicus* (BI-332), 9.IX.1963.

Discussion: The specimens from *Anas georgicus* resemble those from *Anas carolinensis* (see Wilson 1968). Characteristics such as texture of anal plate, presence of a postanal seta or setal base, and number of ventral opisthosomal setae are similar.

Four of five South Georgia pintails were infested with 15 mites (4,4,4,3).

Rhinonyssus schelli Fain and Hyland Fig. 13–19.

Rhinonyssus sphenisci schelli Fain & Hyland, 1963, *Bull. Soc. R. Zool. Anvers* **32**: 4.

Diagnosis: ♀. A medium-sized mite with well defined, reticulate podosomal plate, 569 μm long, 448 μm wide, converging anteriorly and attenuated posteriorly. Peritreme small, circular. Anal plate weakly sclerotized, located posterodorsally, with 2 paranal setae. Sternal plate reticulate, 149 μm long, 173 μm wide, with 3 pairs of minute setae, 1st 2 pairs on plate, 3rd pair usually connected by posterior extensions of plate. Genital

⁴Listed on basis of following specimens sent through courtesy of Forest E. Kellogg. 19 ♀♀, 4 NN (14 ♀♀, 3 NN in alcohol), Argentina, Santa Fe Prov., Venado Twerto, 32–64 km N, *Metopiana pepsaca*, 1.VIII.1968, G. Bump. Mounted specimens have an anal plate with a heavy reticular pattern and lacking a postanal seta. There are 10–11 pairs of large ventral opisthosomal setae. These characters are similar to those reported from *Anas superciliosa* from New Guinea (see Wilson, 1968).

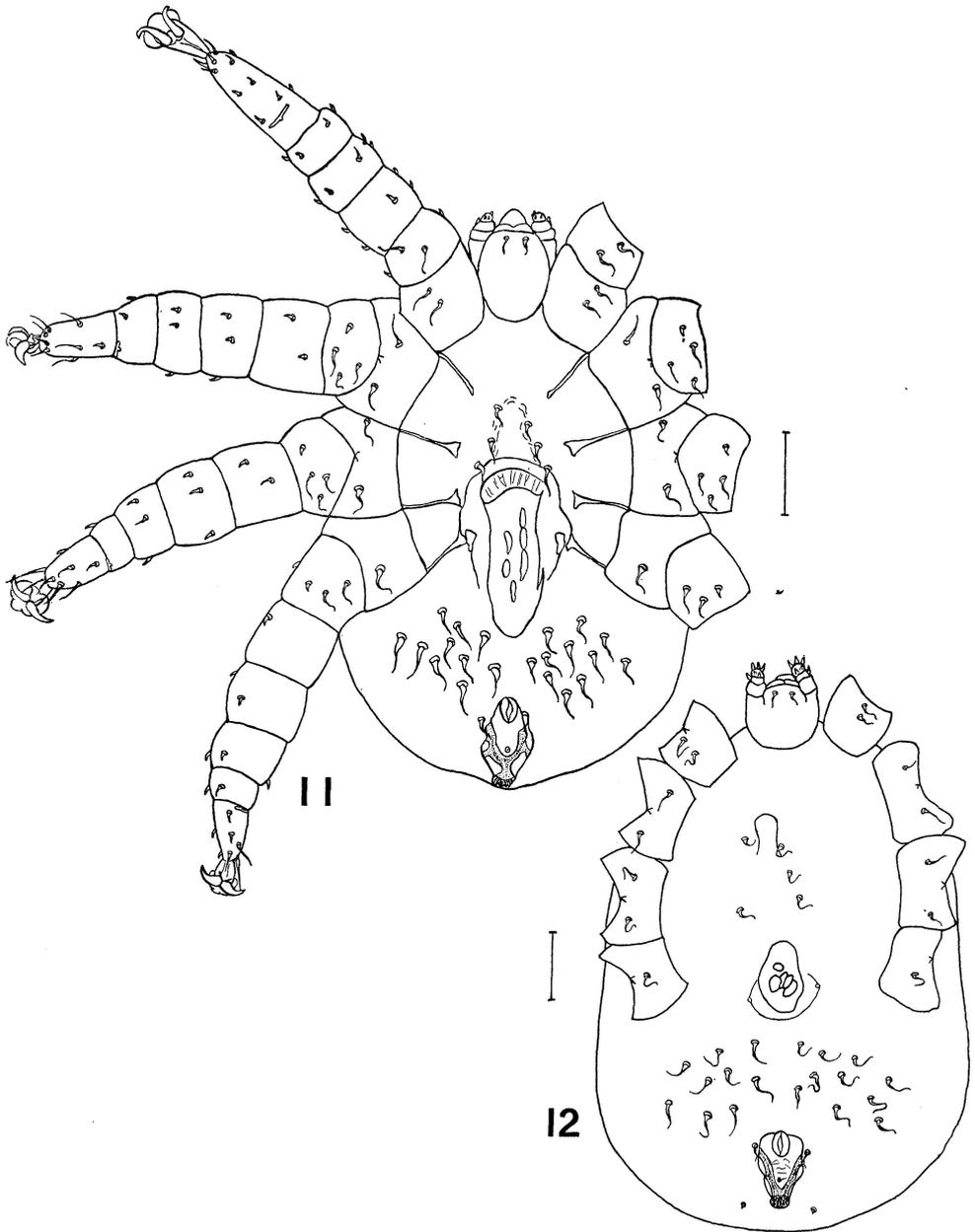


Fig. 11-12. *Rhinonyssus rhinolethrum* (Trouessart). 11, ♀, ventral view; 12, ♂, ventral view (Scale equals 100 μ m).

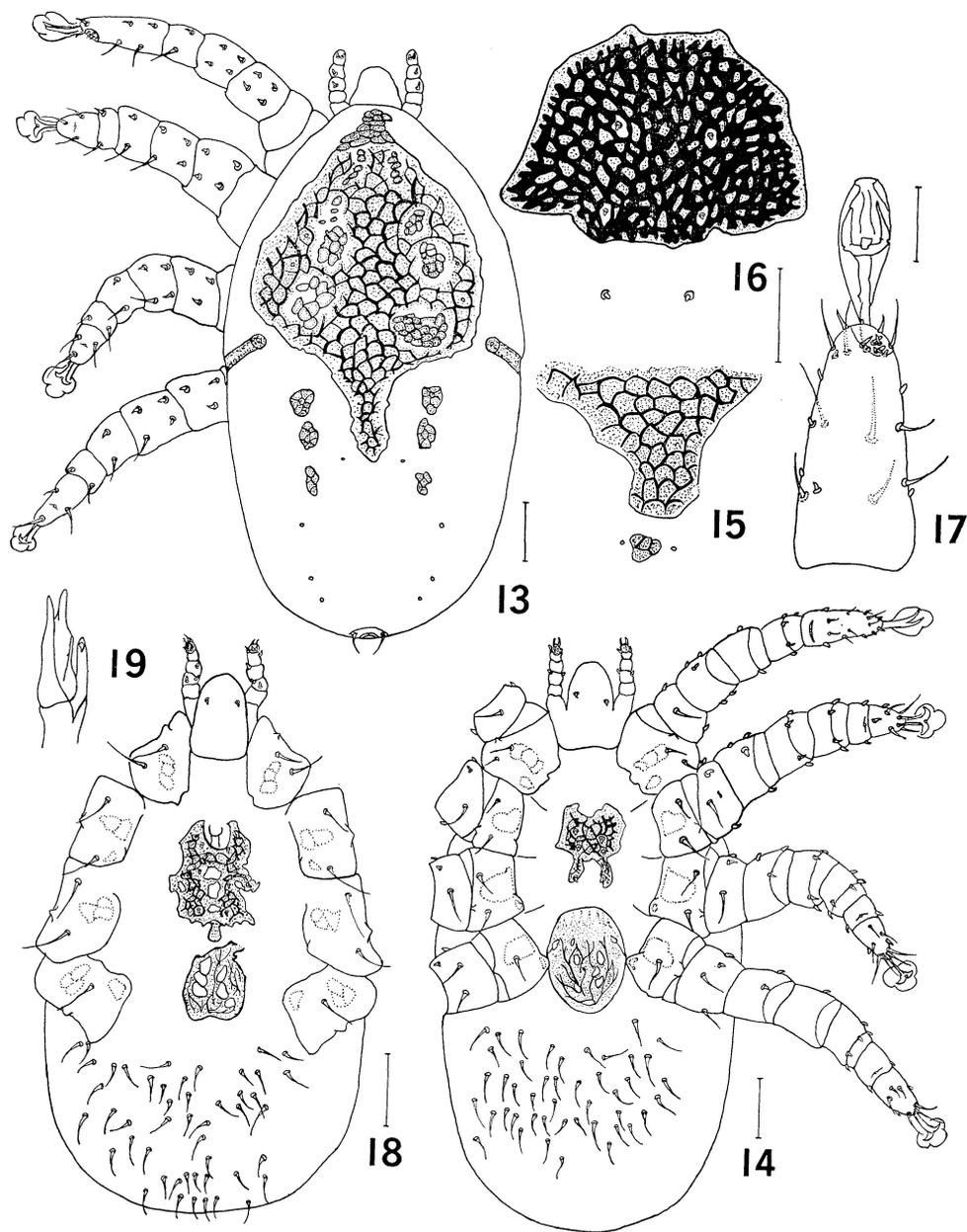


Fig. 13-19. *Rhinonyssus schelli* Fain & Hyland. 13, ♀, dorsal view; 14, ♀, ventral view; 15, ♀, posterior of podosomal plate showing variation; 16, ♀ sternal plate showing variation; 17, ♀ tarsus I; 18, ♂, ventral view; 19, ♂ chelicera. (Scales equal 100 μ).

plate broadly rounded behind, 196 μm long, 159 μm wide, genital setae absent. About 45 long, slender ventral opisthosomal setae. Legs stout, tarsi I 156 μm , II 136 μm , III 127 μm and IV 143 μm . ♂. Similar to ♀, smaller; sternal and genital plate sometimes weakly joined.

DISTRIBUTION: Antarctica (Cape Hallett, Possession I., Roi Baudouin, Ross I.) and South Georgia (Bird I.).

SOUTH GEORGIA: 13 ♂♂, 37 ♀♀ (10 ♂♂, 32 ♀♀ in alcohol), Bird I., *Pygoscelis papua* (BI-316), 23.VII.1963.

Discussion: The specimens from South Georgia agree in all respects with material from Antarctica (see Wilson 1967).

One of 5 gentoo penguins was infested with 50 mites.

LITERATURE CITED

- Domrow, R.** 1962. *Halarachne miroungae* Ferris redescribed (Acarina: Laelaptidae). *Pacif. Ins.* **4**: 859-63.
Wilson, N. 1967. Mesostigmata: Rhinonyssidae, Halarachnidae (nasal mites); Metastigmata: Ixodidae (ticks), pp. 41-49. In *Entomology of Antarctica*, J. L. Gressitt (ed.). *Antar. Res. Ser.* **10**.
 1968. Records of nasal mites (Mesostigmata: Rhinonyssidae) from New Guinea, Philippines and United States. *J. Med. Ent.* **5**: 211-23.

Scientific and Common Names of Birds and Mammals Mentioned in Text

Aves

Anseriformes

Anas carolinensis
Anas georgicus
Anas superciliosa
Metopiana peposaca

Green-winged teal
 South Georgia pintail
 Australian black duck
 Rosy-billed pochard

Sphenisciformes

Pygoscelis papua

Gentoo penguin

MAMMALIA

Carnivora

Enhydra lutris

Sea otter

Pinnipedia

Mirounga angustirostris
Mirounga leonina
Phoca vitulina

Northern elephant seal
 Southern elephant seal
 Harbor seal (common seal,
 spotted seal)