

EREYNETES (ANEREYNETES) PAPUANUS SP. N.
(ACARI: EREYNETIDAE),
ASSOCIATED WITH THE HERMIT CRAB
COENOBITA RUGOSA MILNE EDWARDS
FROM PAPUA NEW GUINEA

[Leopold III Biological Station, Laing Island. Contribution n° 11.]

by

A. FAIN & J. VAN GOETHEM

We describe here a new species of a mite of the genus *Ereynetes* (Ereynetidae : Prostigmata). It was found on the land hermit crab *Coenobita rugosa*, from Papua New Guinea.

It is the first time that a representative of the order Prostigmata is found on the hermit crab. Several species and genera of mites are known from these hosts but they all belong to the order Mesostigmata.

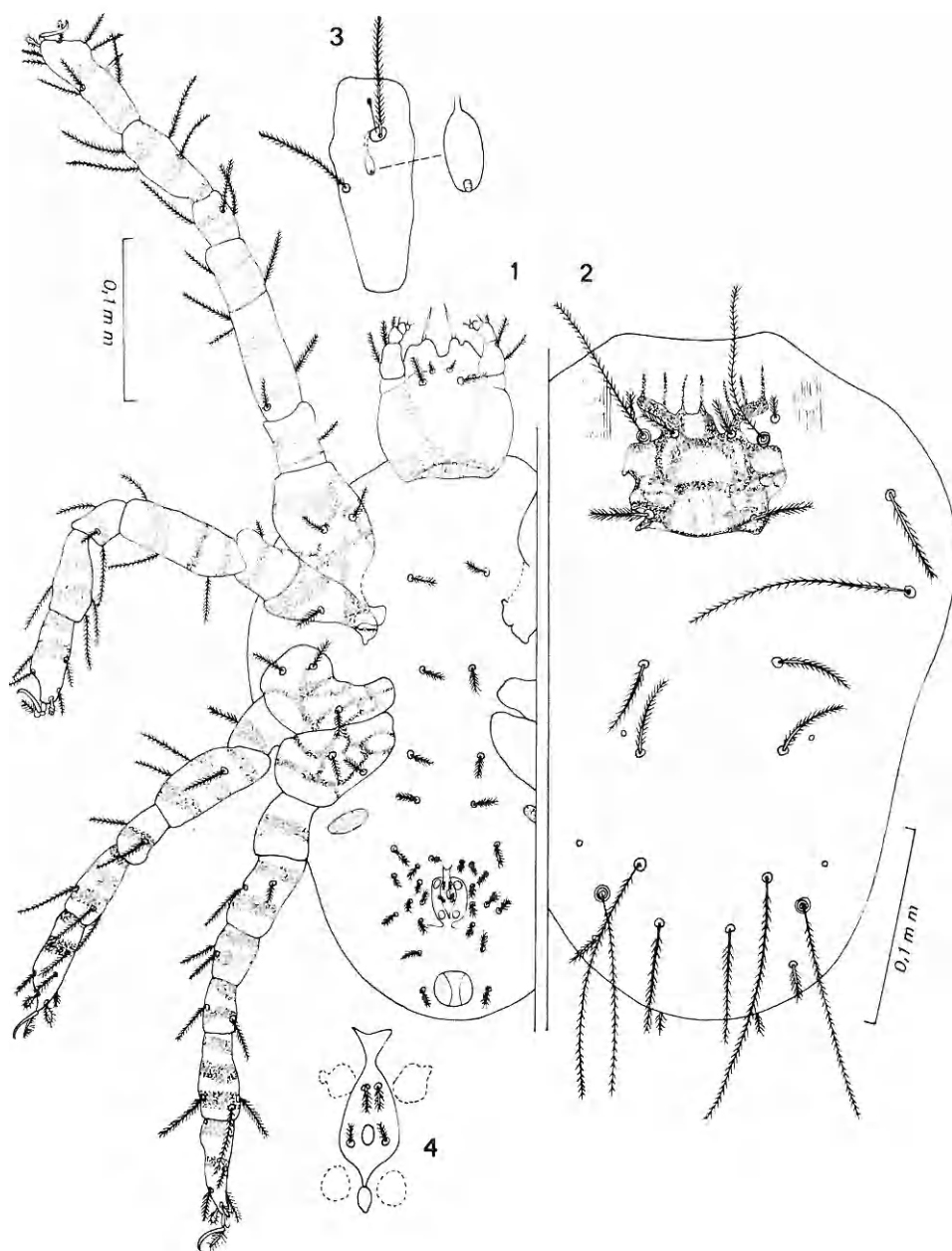
FAMILY EREYNETIDAE (Oudemans, 1931) Fain, 1957

Genus *Ereynetes* Berlese, 1883
Subgenus *Anereynetes* Fain, 1964

1. *Ereynetes (Anereynetes) papuanus* spec. nov.

This species is distinguished from the other species in the subgenus, in the male by the great length of the legs I, and in both sexes by the chaetotaxy of the idiosoma, the gnathosoma and the legs (see Fain, 1962 and 1964).

Male (fig. 1-4) : The mites had a bright orange colour when alive. The idiosoma in the holotype is 345 μ long and 255 μ wide (maximum). In two paratypes these measurements are 310 μ \times 228 μ and 330 μ \times 265 μ . The coxae, the other segments of the legs and the ventral surface of the gnathosoma bear a pattern of sclerotized



Figs. 1-4. — *Ereynetes (Anereynetes) papuanus* sp. n. Holotype male. Fig. 1 — Venter. Fig. 2 — Dorsum. Fig. 3 — Tibia I with « ereynetal organ » and « satellit hair ». Fig. 4 — Genital vestibule.

bands, on the coxae these bands form a network. *Dorsum* : Dorsal shield more or less square formed mainly of sclerotized bands. A pair of vestigial ocular spots, flat and colorless, are present. Anterior sensillae 75 μ long, posterior sensillae 105-110 μ long. The *vi* setae are on the same transverse line as the sensillae (= *sci*). Hysteronotal setae barbed and very unequal. The *l1* and *d3* measure 105 μ and 130 μ long respectively, while the *d1* and *d2* are 30-40 μ long. *Venter* : there are 3 pairs of intercoxal setae. Coxal setae : 2-1-3-2. Genital orifice 30 μ long, broadly open, with 2 pairs of genital suckers. There are 12 pairs of genital setae, of which 10 pairs are external and 2 pairs very small are situated in the genital vestibule. There are 2 pairs of anal setae. *Gnathosoma* : the base bears ventrally 2 pairs of strongly unequal setae. Palps relatively short : palptarsus with a solenidion, 4 short barbed setae and one short bare seta; tibia and genu both with 2 barbed setae. *Legs* : leg I especially long, the femora are 3.5 times longer than wide, the tibiae and tarsi 2.5 times longer than wide. The other legs are normal. Claws normally developed. The tibia I contains an « ereynetal organ » with a rather short adductor canal; the satellite seta is nearly half as long as the normal seta situated close to it. *Leg chaetotaxy* (I-IV) : Trochanters 1-1-1-0. Femora 7-4-3-4. Genua 4-4-3-3. Tarsi 12-9-8-8.

Female : Colour as in the male. Idiosoma in the allotype 352 μ long and 245 μ wide. Idiosoma and gnathosoma as in the male. The genital slit is longer (45 μ long) and closed and there are no vestibular setae. Legs as in the male, except for leg I which is normal in length.

Larva : Colour whitish. Length of idiosoma 225 μ , width 162 μ . The posterior pair of sensillae is lacking. Chaetotaxy much less developed than in the adults.

Host and locality

All the specimens were collected by the second author on small hermit crabs *Coenobita rugosa* MILNE EDWARDS, 1837 (Coenobitidae), from Laing Island (4°10'20" S, 144°52'20" E), Northern coast of New Guinea, Madang District, Papua New Guinea, May 1977, (Holotype and 11 paratypes males, allotype and 5 paratypes females, 5 nymphs and 1 larva).

Types in the Institut Royal des Sciences Naturelles de Belgique, I.G. n° 25.801

Biology of the host

During his stay on Laing Island (May-June 1977), the second author observed numerous small hermit crabs, *Coenobita rugosa* (length of the carapace up to 16 mm) living in the supralittoral zone of the shore, in a wide variety of small gastropod shells.

They live and shelter mainly between fragments of coral mixed with vegetal detritus. At ebbing tide many of them go down on the sandy beach searching for food on various organic matter (seaweed, fruit, tree-trunks, ...). They particularly feed on the meat of broken coconuts washed up on the shore. They are also attracted by meat leftovers (dog's bowl!).

These small hermit crabs are very active in the day-time and were not observed going into the sea. The temperature of the sea water is about 28° C. The temperature of the air ranges from 32° C maximum to 26° minimum. The degree of humidity is (if not 100 %) very high.

ACKNOWLEDGEMENTS

We thank Mr. K. WOUTERS of the Institut royal des Sciences Naturelles de Belgique who identified the hermit crab which was the host of the mites.

REFERENCES

- FAIN, A. (1957) — Sur la position systématique de *Riccardoella eweri* Lawr. et de *Boydaiia angelae* Wom. Remaniement de la famille Ereynetidae. *Rev. Zool. et Bot. Afr.*, **55** : 249-252.
- FAIN, A. (1962) — Les Acariens parasites nasicoles des Batriciens. Revision des Lawrencarinae Fain, 1957 (Ereynetidae : Trombidiformes). *Bull. Inst. Roy. Sci. Nat. Belgique*, XXXVIII (25) : 1-69.
- FAIN, A. (1964) — Les Ereynetidae de la collection Berlese à Florence. Désignation d'une espèce type pour le genre Ereynetes Berlese. *Redia*, XLIX : 87-111.
- FIZE, A. & SERÈNE, R. (1955) — Les Pagures du Viêt-Nam. — Notes de l'Institut océanographique de Nhatrang, 45 : IX, 1-228, figs. 1-35, pls. I-VI.