

DESCRIPTION OF *EREYNETES* (*ANEREYNETES*
COENOBITUS N. SP. (ACARINA: EREYNETIDAE)
ASSOCIATED WITH THE HERMIT CRAB¹

PRESTON E. HUNTER AND SIDNEY L. POE

Dept. of Entomology, University of Georgia, Athens, and
University of Florida, Gulf Coast Experiment Station,
Bradenton, Florida, respectively.

ABSTRACT

Ereynetes (*Anereynetes*) *coenobitus* n. sp. is described and illustrated. The species is associated with the land hermit crab, *Coenobita clypeatus* (Herbst), from Puerto Rico.

The present paper describes a new species of *Ereynetes* (*Anereynetes*) collected from the land hermit crab, *Coenobita clypeatus* (Herbst), from Puerto Rico, the first record of an Ereynetinae from this geographic area. *Ereynetes* mites are generally free living or associated with insects, and the species described below is the first record of an *Ereynetes* associated with a crustacean. However, members of the small Ereynetine genus, *Riccaroella*, are associated with snails.

Thirty species (9 from North America, 21 from Europe) have been listed in the genus *Ereynetes* Berlese (subfamily Ereynetinae). The genus may be briefly characterized as follows: integument finely striate-punctate; an anterior and a posterior pair of barbed sensory setae present; palpi simple, 5-segmented; subcuticular propodosomal plate usually present; dorsolateral propodosoma with lenslike or pigmented eyes in integument, or eyes absent; legs I to III 6-segmented, legs IV 7-segmented. Males with a sclerotized aedeagus and 3 pairs of small, barbed setae in a genital vestibule. *Ereynetes* has been divided into 5 subgenera (Fain, 1964) as follows: *Ereynetes*—1 or 2 dorsal plates, lenslike eyes present; *Opsereynetes*—1 dorsal plate; pigmented eyes present; *Anereynetes*—1 or 2 dorsal plates, eyes absent; *Gymnereynetes*—dorsal plate absent or vestigial, eyes absent; and *Hunterereynetes*—a single large propodosomal plate extending over the anterior part of the opisthosoma, ventral adanal setae (CN) vestigial or absent.

In the following description, dorsal setal nomenclature follows Hunter and Cross (1968).

Ereynetes (*Anereynetes*) *coenobitus* new species

Fig. 1-10

This species is unique in the following characters: dorsal setae CF equal in length to anterior sensory setae (CB); setae CI longer than posterior sensory setae (CK); cheliceral stylets long, equal to, or longer than, fixed digit.

FEMALE. Holotype. Widest at level of dorsal setae CF. *Dorsum*. Sub-

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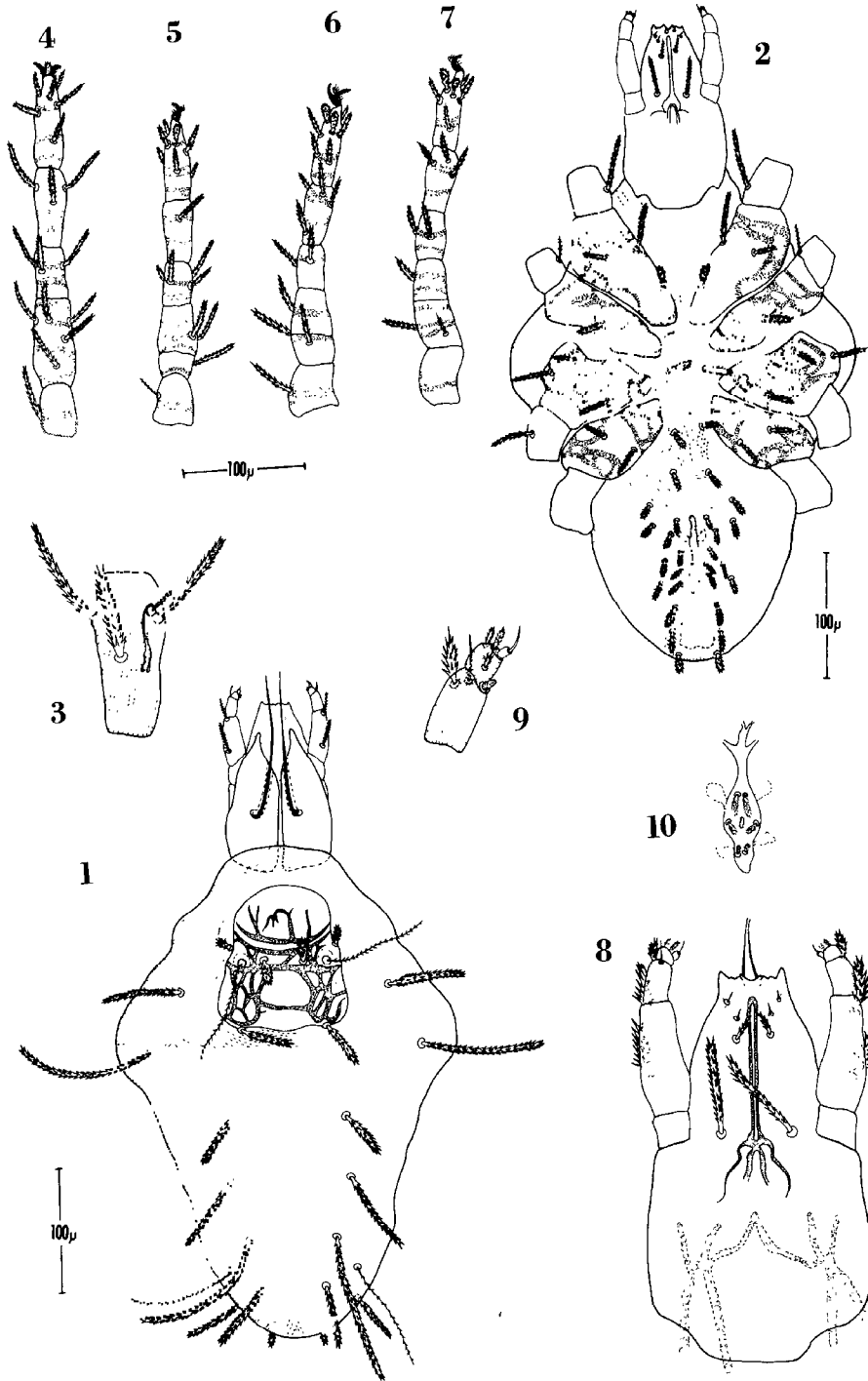


Fig. 1-10, *Ereynetes (Anerynetes) coenobitus* n. sp. Female: 1. dorsum; 2. venter; 3. tibia I; 4-7. legs I to IV respectively; 8. gnathosoma (venter); 9. tarsus, tibia, and genu of palpus (ventral view). Male: 10. genital area.

cuticular propodosomal plate of a general rectangular shape, not extending posterior of setae CE; pattern of plate as illustrated (Fig. 1). Eyes absent. Body striations as shown. Setae CC slightly longer than setae CA and arising in line with base of anterior sensory setae (CB); setae CF equal to or slightly longer than CB; setae CI longer than posterior sensory setae (CK); except for sensory setae, dorsal setae thick and heavily barbed, relative lengths and thickness as shown; dorsal chaetotaxy 2-4-4-2-2-2-4-2, setae CN arising ventrally in mounted specimens. *Venter* (Fig. 2). Setae thick and strongly barbed; coxal chaetotaxy 3-1-3-2; coxal setae and intercoxal setae of varying lengths, as illustrated; coxae I and II separated from coxae III and IV by narrow strip of integument. Integumental striations forming V-shape pattern between anterior part of coxae I, posteriorad striations are longitudinal between coxae; striation pattern over remainder of venter as shown. Ten pairs (5 lateral, 5 medial) of genital setae; lateral setae approximately same length as medial setae; 2 pairs of genital suckers present. *Legs*. Ereyneal organ of tibia I not bulbous, enlarged portion approximately same width throughout, walls thickened (Fig. 3). Duplex setae consisting of thickened, barbed, normal leg seta (seta ae) and much shorter, sparsely pectinate second seta (seta x) about one-third length of seta ae. Seta on trochanter II minutely pectinate, other leg setae strongly barbed (Fig. 4-7). *Gnathosoma*. *Venter* (Fig. 8) bearing 2 pairs of thickened barbed setae, posterior pair 3 to 4 times length of anterior pair, and 2 pair of minute, nude setae at anterior tip of gnathosoma. Peritremes visible internally. Palpal femur bearing 2 barbed setae dorsally; chaetotaxy and setal type for genu, tibia, and tarsus as in Fig. 9. Chelicera consisting of long needlelike piercing (ventral) digit equal to or longer in length than bulbous, fixed (dorsal) digit (Fig. 1).

MALE: General characteristics of dorsum, legs, and gnathosoma as in female. *Venter* as in female except for male vestibular genital area which bears 3 pairs of vestibular genital setae of unequal lengths (Fig. 10), vestibular setae distinctly smaller than medial genital setae.

IMMATURE STAGES. Not available for description.

Type series consisting of 7 females and 5 males from land hermit crabs, *Coenobita clypeatus*, collected in Puerto Rico, February 1968, and maintained in a terrarium at the University of Missouri, Columbia, Missouri, USA. Mites were collected from these crabs in August 1969 by S. L. Poe. Type deposition as follows: holotype, 4 females and 3 male paratypes in the Acarology Collection, Department of Entomology, University of Georgia, Athens; 1 paratype of each sex in collection of junior author; 1 paratype of each sex, United States National Museum, Washington, D. C.

BIOLOGY

Ereynetes (Anereynetes) coenobitus n. sp. was found associated with the land hermit crab, *Coenobita clypeatus*, in a terrarium maintained at the University of Missouri, Columbia, Missouri. The crabs were originally collected from Puerto Rico in February 1968. Three crabs (2 approximately 2" long and a third about 3" long) occupied the terrarium. Several sizes of snail shells were strewn on the sand in the terrarium and

each crab occupied one of these shells. Mites were found only inside inhabited shells, suggesting a relationship with the crab and not with snail shells. Mites moved freely on the crabs and from crab to shell but not onto the sand. The mites ran freely over the rostrum, carapace, eyes, bases of the antennae, and the proximal segments of the walking legs when the crabs were motionless and extended from the shell; however, when the crabs began to move, mite activity diminished. Mites were not observed to move distad of the third leg segment. When the crabs were handled (i.e. placed on, or removed from, the stage of a dissecting microscope), the mites rapidly disappeared into the hidden recesses of the shell. This was particularly noticeable when the crabs were examined in bright light.

Body color of the mites ranged from pale pink to light beige or white depending on the sex and stage of maturity; juveniles generally were lighter in color. Because of their pale color, motionless mites were often mistaken for sand particles which were also common on the crabs.

The larger crab appeared to have the largest mite population (about 30 individuals). The rapidity of movement by the mite and the seclusion offered by the crab and shell made accurate counts impossible.

No mites were observed feeding; however, on one occasion several mites were found clustered on a crab near a moist area at the junction of the gill filament and maxilliped and appeared to have their mouth parts immersed in the collected fluid.

LITERATURE CITED

- Fain, A. 1964. Les Ereyneidae de la collection Berlese a Florence designation d'une espece type pour le genre *Ereyneetes* Berlese. *Redia* 49:87-111.
- Hunter, P. E., and E. A. Cross. 1968. Key to North American Ereyneinae and description of a new species (Acarina: Ereyneidae). *J. Georgia Entomol. Soc.* 3:154-158.

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