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Xenopacarus kenyensis n. sp.
from the nasal cavities
of *Xenopus borealis* (Parker)
(Acarina, Prostigmata, Ereynetidae)

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The genus *Xenopacarus* Fain et al. (1969) has been described from a single species, *X. africanus* Fain et al. (1969) found by the junior author in the nasal cavities of the African clawed frog, *Xenopus laevis*, from South Africa.

We describe here a second species of this genus. It has been found by the junior author in *Xenopus borealis* from Kenya.

This new species is distinguished from *X. africanus* mainly by the chaetotaxy (see table I) and the shape of the ereynetal organ. In this new species the solenidion of tibia I (= ereynetal organ) is completely sunk into the integument while in *X. africanus* this solenidion is partly free.

***Xenopacarus kenyensis* nov. spec.**

FEMALE (fig. 1-3): The holotype (idiosoma) is 600 μ long and 490 μ wide. In three paratypes these measurements (length \times width) are 530 $\mu \times$ 440 μ ; 590 $\mu \times$ 475 μ ; 620 $\mu \times$ 460 μ . All our specimens are filled with blood and are more or less opaque. Cuticle striate-punctate. All the setae are barbed. There is a well-developed network pat-

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tern on the legs and the base of the gnathosoma. Gnathosoma: the palps are formed by two free articles. In *X. africanus* there is a well-formed palpus and two other articles incompletely fused. Chelicerae well developed with a strong movable digit. Legs ending in a pair of claws and a short slightly incised pulvillus.

Chaetotaxy of the idiosoma as in *X. africanus* except that the *d* 3 are lacking. The sensillae (= *sc e* setae) are 65 μ long.

Chaetotaxy of the legs (number of setae): Coxae 0-0-1-2(1). Trochanters 0-0-0-0. Femora 3-3-1-0. Genua 4-4-3-0. Tibiae 3-1-1-0 (the satellite seta of the creynetal organ not included). Tarsi 12-8-7-7.

Chaetotaxy of the gnathosoma: Hypostome with one pair of setae. Palp tarsus with 3 barbed setae.

Solenidiotaxy as in *X. africanus* except that the solenidion of tibia I is more deeply sunk in the integument.

MALE: The allotype is 510 μ long (idiosoma) and 430 μ wide. A voluminous trilobate testis is present in the opisthosoma. Genital slit oval, shorter than in the female. Chaetotaxy as in the female.

LARVA: Idiosoma 240 μ long and 180 μ wide. The claws of legs I-III are small, equal and normal in shape. Chaetotaxy: Coxae 0-0-1. Trochanters 0-0-0. Femora 3-2-1-. Genua 4-4-3. Tibiae 3-1-1. Tarsi 10-6-5.

Host and locality.

In the nasal and eustachian passages of several *Xenopus borealis* (Parker) collected in Kiambu, Nairobi, Kenya, June 1975. (Holotype female and 6 paratypes females; allotype and 1 paratype male; 1 larva).

In the same host, from Marsabit, Kenya (1 female paratype).

Holotype female and allotype male in the British Museum. One paratype female in the Musée Royal de l'Afrique Centrale. Other paratypes in the collection of the authors.

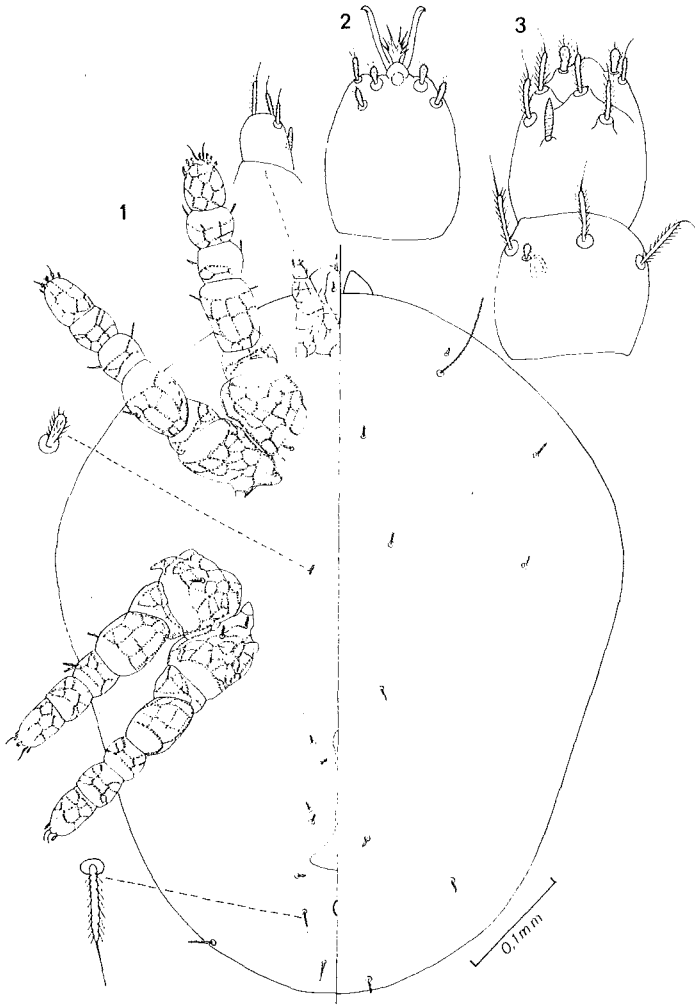


Fig. 1-3. — *Xenopacarus kenyensis* nov. spec. Female in ventral (to the left) and dorsal (to the right) view (fig. 1); tarsus I in ventral view (fig. 2); tarsus and tibia I in dorsal view (fig. 3).

RELATIVE EVOLUTION OF THE TWO SPECIES
OF *XENOPACARUS*

It is interesting to note that the ereynetal organ has a more evolved shape in *X. kenyensis* than in *X. africanus*. This important character might indicate that the last species is more primitive than the former.

The degree of reduction of the chaetotaxy, which is generally considered a good character of evolution in mites, cannot help us in the case of *Xenopacarus*. In table I, we have summarized the pattern of the chaetotaxy in the two species. It appears from this comparison that in some areas the setae are more reduced in *X. kenyensis* than in *X. africanus*, while in other areas the opposite is true.

We notice that *X. kenyensis* lacks several setae that are present in *X. africanus*. The lacking setae are the *d* 3, the genual IV, the tibial IV and one pair of gnathosomals (base).

On the other hand some setae are present in *X. kenyensis*, which are absent in *X. africanus*, e. g. 1 or 2 coxal IV, 2 femorals I and 2 femorals II, 1 palpal (palp tarsus).

Table I: Differences in the chaetotaxy in the two known species of *Xenopacarus*

<i>Chaetotaxy</i> (number of setae, solenidia not counted)	<i>Xenopacarus africanus</i> Fain et al. ♀	<i>Xenopacarus kenyensis</i> n. sp. ♀
<i>Body:</i>		
<i>d</i> 3	present	absent
<i>Legs</i> (I to IV)		
Coxae	0-0-1-0	0-0-1-2(1)
Trochanters	0-0-0-0	0-0-0-0
Femora	1-1-1-0	3-3-1-0
Genua	4-4-3(2)-1	4-4-3-0
Tibiae (satellit seta of ereynetal organ not included)	3-1-1-1	3-1-1-0
<i>Gnathosoma</i>		
Base	2 + 2	1 + 1
Palp tarsus	2	3

The host of *Xenopacarus kenyensis* was originally referred to a subspecies of *Xenopus laevis*, *X. l. borealis* Parker, 1936. However, recent work by Tymowska and Fischberg (1973 and in preparation) has demonstrated that on the basis of karyosomal and other studies the taxon is clearly separate from the *X. laevis* rassenkreis and must be recognised as a distinct species. Tymowska and Fischberg (*loc. cit.*) considered that the chromosome morphology of *X. borealis* suggests a closer relationship to *X. muelleri* than to *X. laevis*. Present information on relationships within the host genus indicates a mosaic of interspecific affinities (Tinsley, 1973, 1975), and further studies are now required on the acarinae parasites of other *Xenopus* taxa in order to provide a more comprehensive view of the evolutionary relationships of host and parasite.

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