NOTES ON *DERMACENTOR* TICKS (V) : TAXONOMIC IDENTITY OF *D. (AMBLYOCENTOR) RHINOCERINUS PERMACULATUS* NEUMANN (ACARI : IXODIDAE).

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DERMACENTOR
RHINOCERINUS
PERMACULATUS
MORPHOLOGY
SYNONYMIES

SUMMARY : *Dermacentor (Amblyocentor) rhinocerinus permaculatus* Neumann is considered here as a junior synonym of the nominal subspecies, from the examination of 96 adult specimens. The existence of intermediate forms in the scutal pattern between these two taxa is noted as well as other minor variations in the morphology of this species.

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RÉSUMÉ : *Dermacentor rhinocerinus permaculatus* est considéré ici comme le synonyme de la sous-espèce nominale après l'examen de 96 exemplaires adultes.

On cite l'existence de formes intermédiaires dans le dessin du scutum entre ces deux taxons, aussi que d'autres variations mineures dans la morphologie de cette espèce.

In 1907, NEUMANN described a new subspecies of *Dermacentor rhinocerinus* (Denny, 1843) and named it *D. rhinocerinus permaculatus,* based itself on several features of dorsal scutal pattern of the adult stage. The subspecies was redescribed by ARTHUR (1963) ; this author also mentioned that female specimens of *D. r. permaculatus* were smaller than nominal subspecies, without the presence, at their collections, of intermediate forms between both subspecies. ARTHUR also described, but did not name, a new subspecies, easly recognizable by the presence of several definite scutal variations, in the line with those serving as taxonomical hallmarks for the two previous subspecies. From the recopilatory work of ARTHUR, these taxa were not redescribed. Recently, I was able to study a large collection of adult specimens of *D. rhinocerinus,* in which morphological variation in size and scutal pattern was evident. However, intermediate forms were appreciated in these specimens, as described below.

The typical scutal pattern of *D. rhinocerinus* (see fig. 1 to 3) consists of a median unpaired subtriangular spot occupying the posterior part of the pseudoscutum, in front of the foveae ; anterolateral

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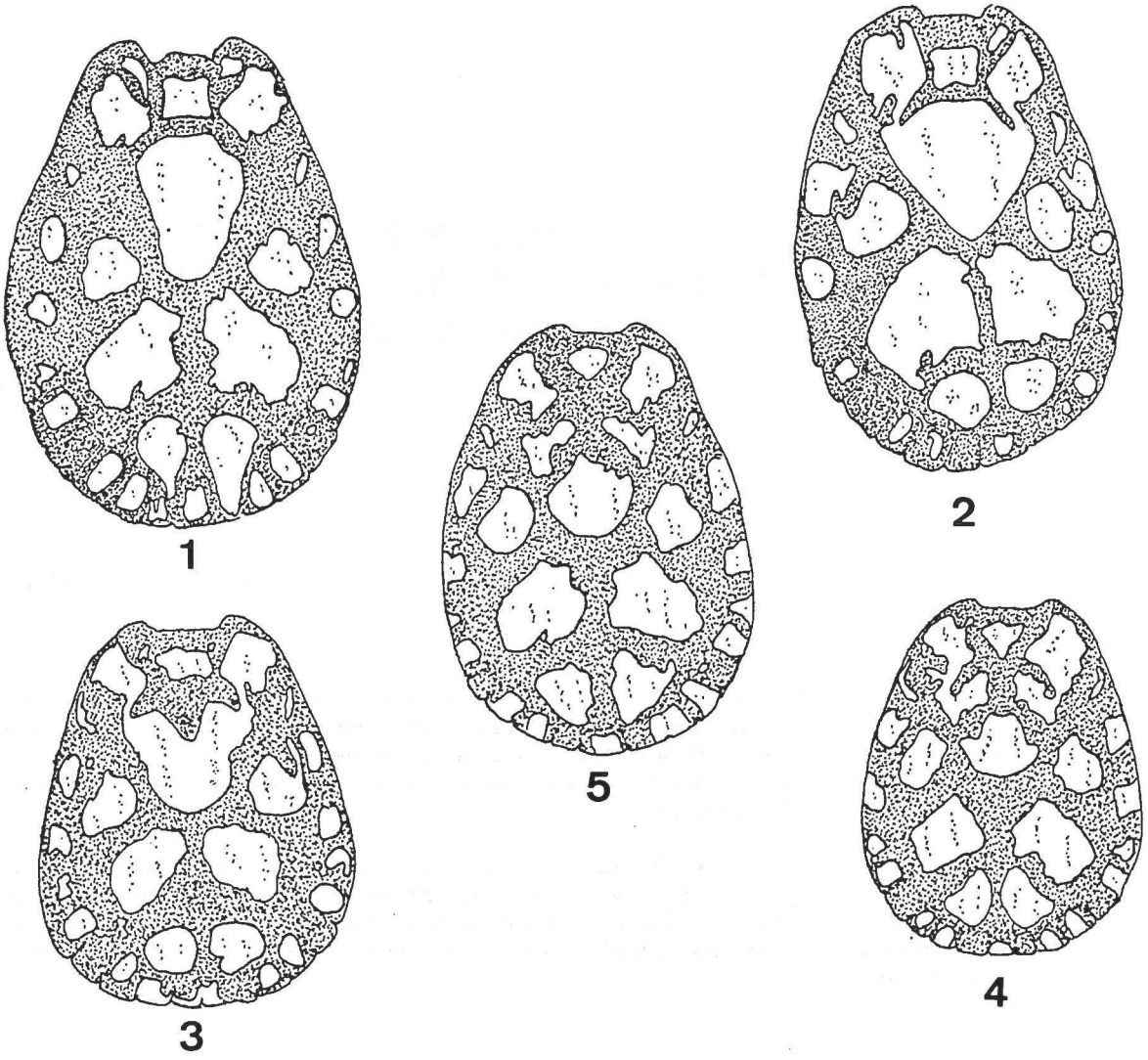

FIG. 1 to 5 : several kinds of dorsal scutal pattern in the males of *Dermacentor (A.) rhinocerinus*

to this and, either connected with or free from it, is a smaller irregular blotch on each side. The remaining blotch, described in the work of ARTHUR (1963) are devoided of interest in the taxonomic status of these subspecies. The size of the median spot as well as the shape and degree of connections cover a wide range of variation even in specimens determined as *D. r. rhinocerinus*.

In his varietal form, NEUMANN (1907) noted that the male shows more spots on the scutum because the subtriangular spot is divided by the dark base pattern into five spots. One blotch is single, representing the posterior angle of the usual large spot, two others in the scapular angles and two others represent the borders (see fig. 4). In the studied specimens, intermediate specimens between the typical *rhinocerinus* and *permaculatus* forms are easly recognizable.

Another prominent characteristic used in the separation of these two subspecies is the smaller size observed in *permaculatus* individuals. The specimens studied here already show two different sizes, but there is not correlation between scutal pattern and the size. In this way, specimens deter-

mined as *permaculatus* by a smaller size, show the typical dorsal distribution of a large unpaired spot, just like in *rhinocerinus*.

Measurements of gnathosomal pieces and shape and size of spiracular plate were identical for all the ticks examined. All the specimens came to me from a relatively small area in Tanganyika, and some of them were collected on the same host. The absence of adequate anatomical structures for the effective separation of these two taxa, the presence of intermediate forms which cover all the range of variation between *permaculatus* and *rhinocerinus*, and overlapping of occurence of typical and atypical forms on one hosts do suggests most strongly that these two taxa are in fact varietal forms or *D. rhinocerinus*.

Another kind of varietal scutal morphology has been observed in some specimens collected in East Africa (without more references in the original label). In these males (Fig. 5) all median and submedian spots are separated and closely located one each other, forming a six-blotch complex. I was unable to examine the series of specimens described by ARTHUR as a new variety, but the males mentioned above seems to conform a transitional form between *rhinocerinus* and that of ARTHUR.

Little is known on the biology of this species, apart from its occurence mainly on *Diceros* and *Ceratotherium*. Crossbreeding of specimens from the known morphological forms, and the follow-up of the progeny and variations of scutal pattern will be of interest in elucidating specific status of *D. rhinocerinus*.

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