

**FAGACARUS VERRUCOSUS N.G., N.SP. (ACARI, ASTIGMATA)
FROM DECAYING BEECH WOOD IN THE U.S.A.**

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----- ABSTRACT— *Fagacarus verrucosus* n. g., n. sp. from decaying wood in a beech tree, *Fagus grandifolia*, in Indiana, U. S. A., is described. A new subfamily, Fagacarinae, in the Acaridae, is created to contain this new genus. -----

We describe here a very unusual mite *Fagacarus verrucosus* n. g., n. sp. which combines characters of both the families Acaridae and Glycyphagidae. It appears, however, to be more closely related to the Acaridae and we place it in this family but in a new subfamily, Fagacarinae.

Fagacarinae nov. subfam.

DEFINITION— Body: dorsum in the adults "glycyphagid" like, covered with numerous cuticular warts and bearing rather long and densely barbed setae. Anterior part of dorsum forming a tegmen covering the gnathosomal base. Ventrally the warts are present only in the lateral areas and the setae are thin, short and smooth. Epimera I are Y shaped, other epimera free. Genital suckers well developed. Setae *ve*, *h* and *sh* lacking. The seta *s cx* is a strong bare spine. Female: vulva in an inverted Y, situated between coxae IV. Anal setae absent. Male: genital organ behind coxae IV and close to anus. Adanal suckers absent. Legs rather short and strong, with strong conical spines on tarsi, tibiae and on genua I-II. Claw very strong, sessile, without enveloping ambulacrum. Tarsus IV in male with two copulatory suckers.

TYPE GENUS— *Fagacarus* n. g.

Fagacarus gen. nov.

DEFINITION— With the characters of the subfamily.

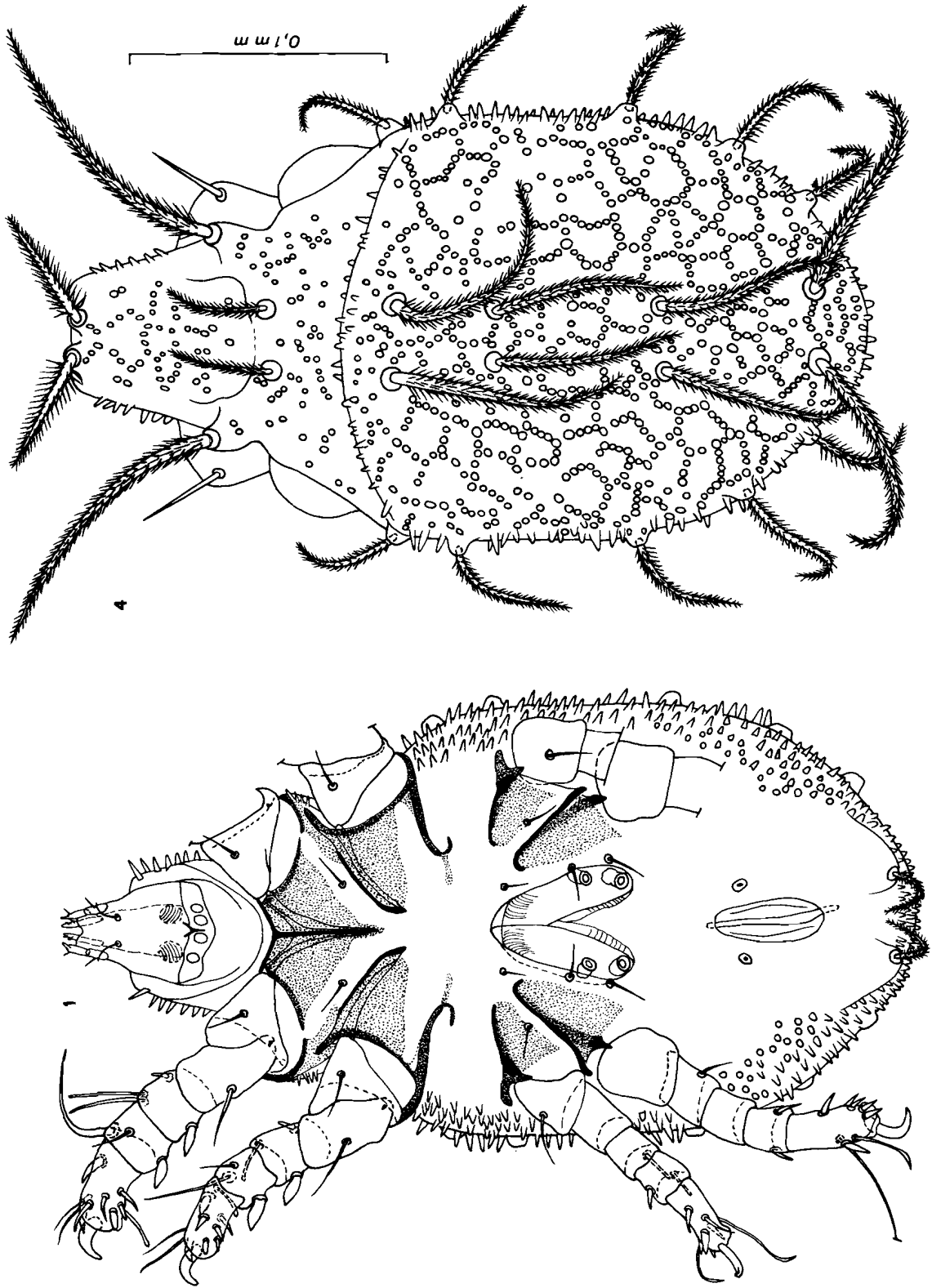
TYPE SPECIES— *Fagacarus verrucosus* n. sp.

Fagacarus verrucosus nov. spec.

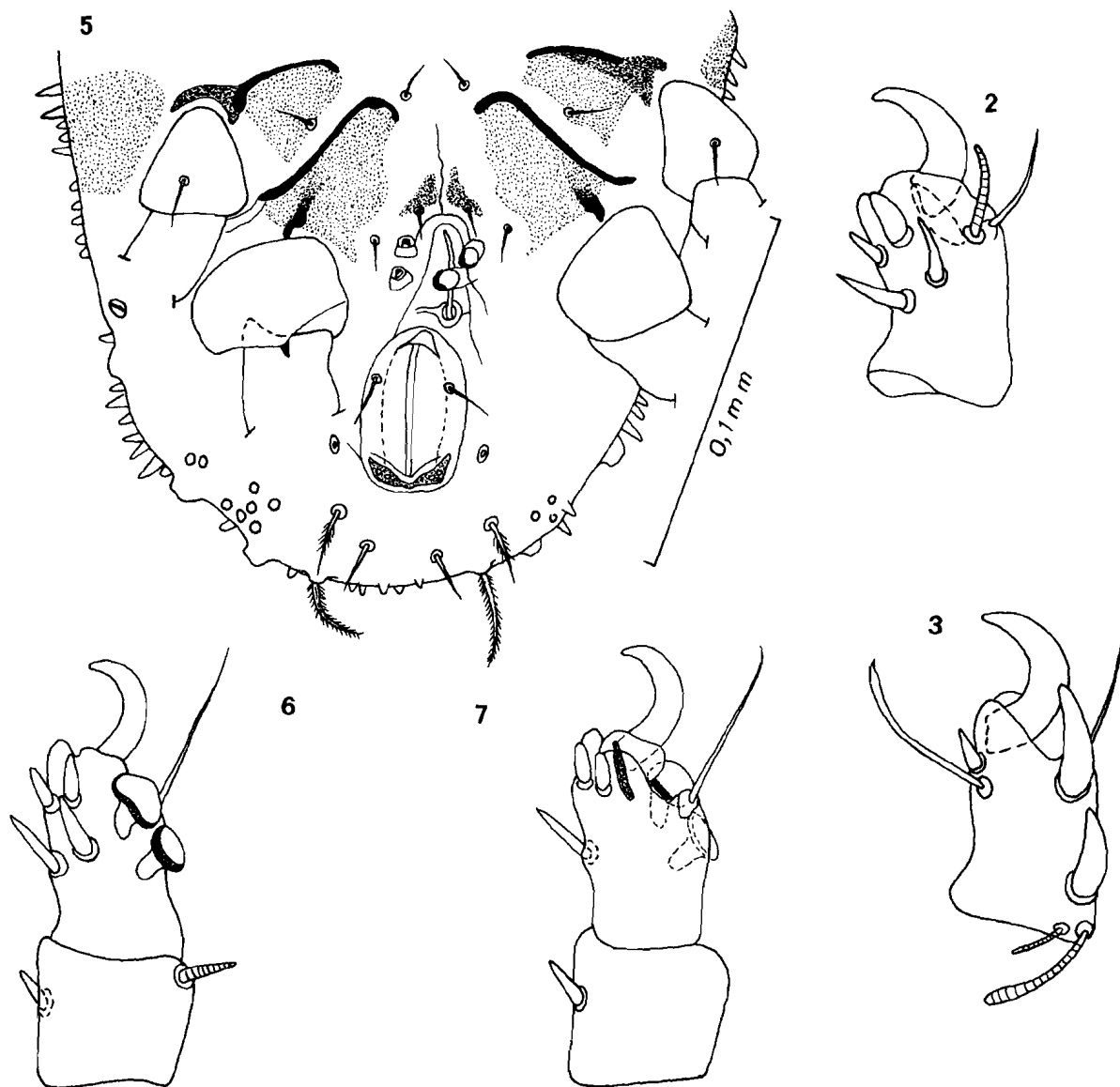
FEMALE (Figs. 1-4)— Holotype 315 μ long and 170 μ wide. Dorsum covered with conical cuticular warts. A distinct tegmen is present. All dorsal setae, except *s cx*, are thick, rather long and densely barbed. Setae *ve* are absent. Setae *s cx* are spines devoid of barbs. Venter: epimera I fused in Y, other epimera free. Coxae with well sclerotized punctate shields. Vulva in an inverted Y, epigynium absent. Anus ventral, without anal setae. Legs rather short and strong, ending in a strong sessile claw. Tarsi I-IV with 10-10-8-8 setae; 7 of these are spine-like on tarsi I-II. Tibiae I-IV with 2-2-1-1 setae. Solenidia: tarsi 3-1-0-0; tibiae 1-1-1-1; genua 2-1-1-0.

MALE (Figs. 5-7)— Allotype 275 μ long and 175 μ wide. Dorsum as in the female. Venter as in female except for genital organ which is situated close to the anus. Adanal suckers absent. Legs as in female except tarsi IV, which bear two well developed suckers.

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Figs. 1, 4: *Fagacarus verrucosus* n. sp. - 1. Female (venter); 4, Female (dorsum).



Figs. 2, 3, 5-7: *Fagacarus verrucosus* n. sp. - 2, Tarsus I (posterior surface, female); 3, Tarsus I (anterior surface, female); 5, Opisthogaster
6, 7, Tibia and tarsus IV in two different orientations (male).

SYSTEMATIC POSITION OF THE GENUS *FAGACARUS*

By the aspect of the dorsal surface (cuticle covered with numerous conical warts, setae thick and densely barbed, presence of a tegmen, absence of setae *ve*) and the absence of adanal suckers in the male, this genus resembles some genera of the family Glycyphagidae, especially the Ctenoglyphinae. However, if we consider the structure of the legs (short and thick, with strong sessile claws and several thick spines, tarsus IV of male with two suckers) it becomes impossible to include it in this family. As a matter of fact the legs correspond closely to those of some acarid genera, especially *Schwiebia* or *Rhizoglyphus*.

Owing to these intermediate characters it becomes difficult to classify this genus with certainty. We think, however, that the characters of the legs are more important than those of the structure of the cuticle of the dorsal setae and we propose to place this genus in the Acaridae but in a new subfamily, Fagacarinae.

Recently, Fain and Philips (1977) have described another unusual new genus of Astigmata (*Euglycyphagus*), which also combined some characters of both Acaridae and Glycyphagidae. This genus was placed in the Glycyphagidae owing to the "glycyphagid" character of the cuticle, the chaetotaxy and the legs, in spite of the presence of claws with a short pretarsus and of typically acarid-like hypopus. The discovery of intermediate forms between Acaridae and Glycyphagidae proves that the separation between these two families is less distinct than previously thought.

The same difficulty appears in the separation of some genera of the Saproglyphidae. Here also intermediate forms exist between this family and both Acaridae and Glycyphagidae. The genus *Sapracarus* Fain & Philips, 1978a is an intermediate form between Saproglyphidae and Acaridae. Recently, Fain and Philips (1978b) have removed the genus *Suidasia* Oudemans from the Acaridae and put it in a new subfamily in the Saproglyphidae.

HABITAT AND LOCALITY— All our specimens (holotype and 1 paratype females, allotype and 1 paratype males, 2 paratype nymphs) came from material collected by R. F. Wilkey from the decaying wood of a beech tree (*Fagus grandifolia* Ehrh.), in Wells County, Indiana, U. S. A., 8 miles east of Bluffton, 9 Jan. 1973. Holotype and allotype in U. S. National Museum, Washington.

REFERENCES

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