

*JORNADIA LARREAE* N. GEN. N. SP.,  
A NEW GENUS OF ORIBATID MITE  
(ACARI : CRYPTOSTIGMATA)  
FROM THE CHIHUAHUAN DESERT

BY John A. WALLWORK \* and Danforth C. WEEMS \*\*

TAXONOMY. SUMMARY : A description is given of a new genus and species of oribatid mite, *Jornadia larreae*, from the Chihuahuan desert of North America. The mite was collected from leaf litter under creosotebush (*Larrea tridentata*). This new genus has some features in common with *Oribatula*, but differs in having 5 pairs of genital setae and only 10 pairs of notogastral setae.

TAXONOMIE. RÉSUMÉ : Les auteurs décrivent *Jornadia larreae*, n. gen., n. sp. Cette espèce habite la litière qui s'accumule sous *Larrea tridentata* dans le désert de Chihuahua en Amérique du Nord. Ce genre nouveau a quelques caractères communs avec *Oribatula*, mais il y a 5 paires de poils génitaux et 10 paires de poils sur le notogaster.

#### INTRODUCTION

During the course of long-term studies on the biology of soil microarthropods in the Chihuahuan desert, collections were made of Cryptostigmata that included a new genus and species of oribatulid mite. The purpose of this paper is to provide a brief diagnosis of the new genus and a description of the type species. The research, of which this study forms a part, is directed by Professor W. G. WHITFORD (New Mexico State University) and funded by NSF Grant No. 80-20083.

#### GENERIC DIAGNOSIS

##### ***Jornadia* n. gen.**

This new genus belongs in the Poronotic-Apterous-Lamellata group as defined by BALOGH (1972). It is characterized as follows :

- (1) All tarsi are tridactylous
- (2) Ten pairs of notogastral setae
- (3) Five pairs of genital setae
- (4) Notogaster with 4 pairs of ovoid area porosae

\* Department of Zoology, Westfield College, University of London.

\*\* Department of Biology, New Mexico State University.

The genus is named after the Jornada Validation Site on which it was discovered.

Type Species : *Jornadia larreae* n. sp.

# SPECIFIC DESCRIPTION

## *Jornadia larreae* n. sp. (Figs. 1-4)

The specific epithet denotes the finding of this species in the litter of creosotebush (*Larrea tridentata*).

*Material examined* : 6 adults (5 females, 1 male) 1 deutonymph, 1 protonymph.

## *Measurements of adults :*

### *Female :*

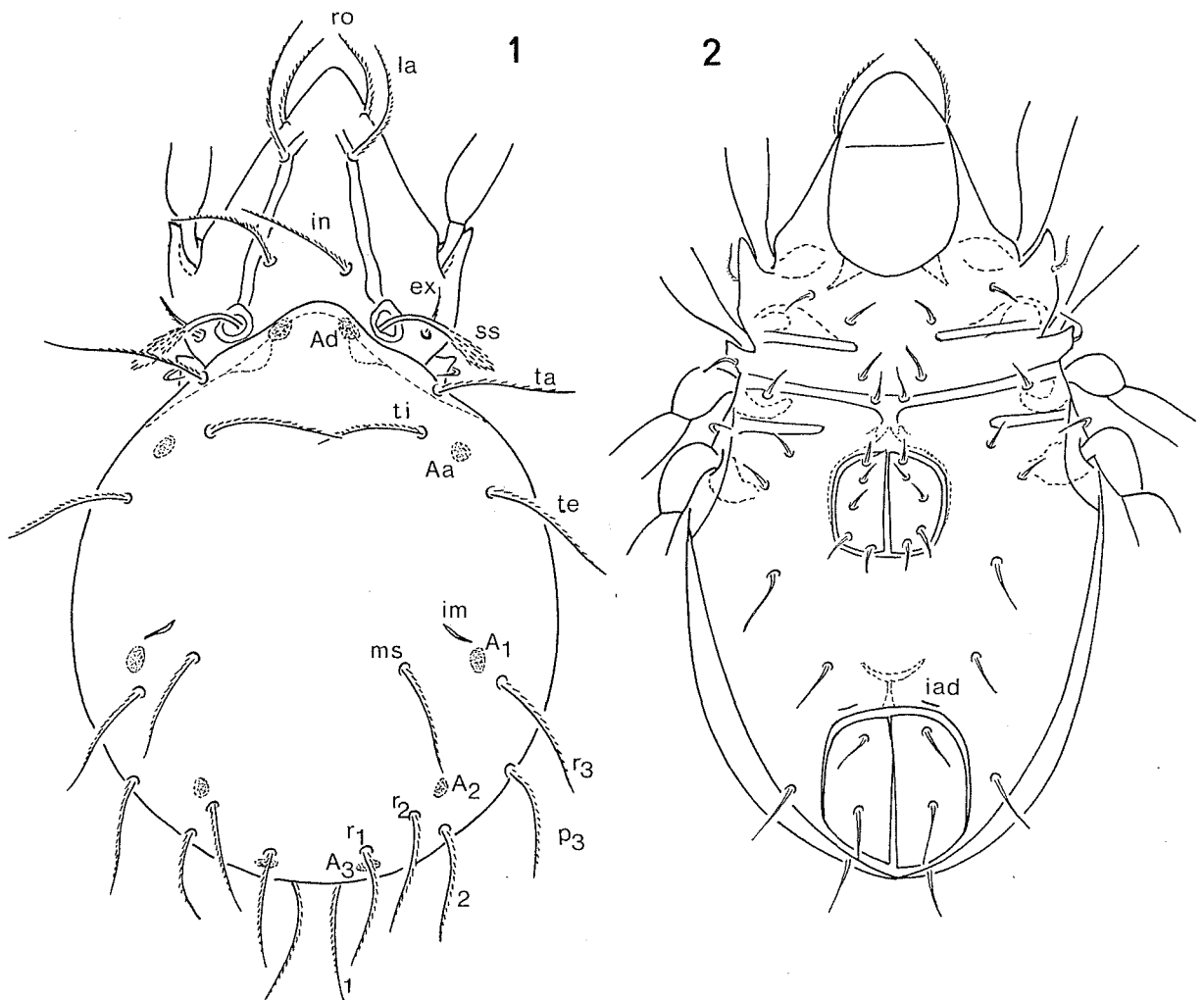
Average length : 486.4  $\mu\text{m}$  (range : 480.0-504.0  $\mu\text{m}$ )

Average width : 283.2  $\mu\text{m}$  (range : 280.0-288.0  $\mu\text{m}$ )

### *Male :*

Length : 456.0  $\mu\text{m}$

Width : 248.0  $\mu\text{m}$



FIGS. 1-2 : *Jornadia larreae* n. gen. n. sp.

1. — Dorsal view. 2. — Ventral view. *ro* : rostral setae ; *la* : lamellar setae ; *in* : interlamellar setae ; *ex* : exobothridial setae ; *ss* : sensillus ; *ta*, *te*, *ti*, *ms*, *r1-3*, *p1-3* : notogastral setae ; *Ad*, *Aa*, *A1*, *A2*, *A3* : areae porosae ; *im* : notogastral fissure ; *iad* : adanal fissure.

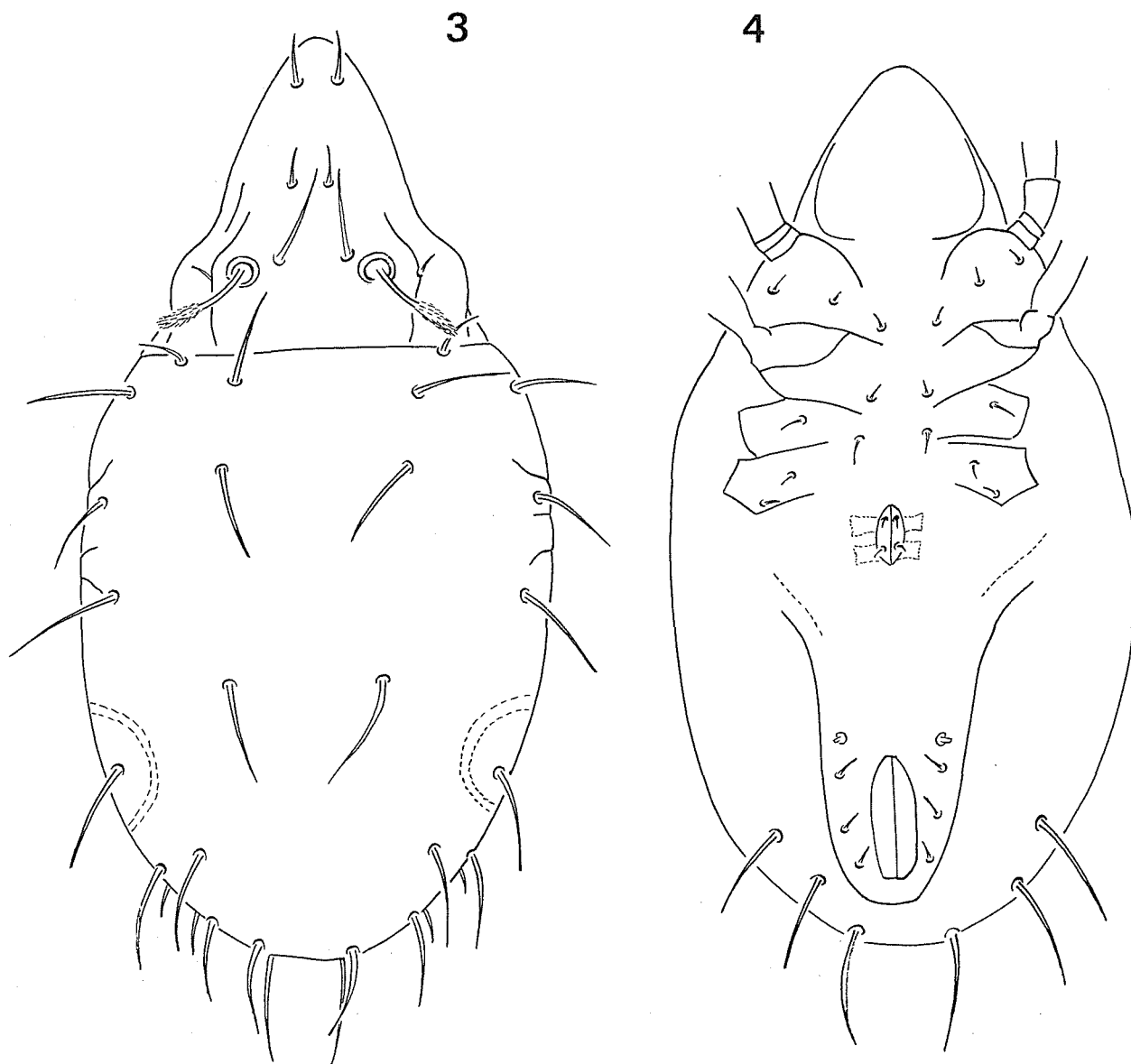
*Description of holotype (female)*

Color of body and legs uniformly brown. No cerotegumental microsculpture observed.

*Prodorsum* : Triangular in shape, narrowing quite sharply to the rostrum. All prodorsal setae strongly developed and barbed. Rostrals and lamellars longer than their mutual distance. Sensillus curves upwards from bothridium, directed

postero-laterad, and terminating in a slightly expanded spindle-shaped head beset with short bristles. Lamellae are ribbon-like, long, slightly convergent ridges, equally thick along their length. Anterior to the insertion of the lamellar setae the lamellae run mediad (as prolamellae) for a short distance. There is no translamella.

*Notogaster* : Anterior margin forms a narrow arch projecting between bothridia. Humeral



FIGS. 3-4 : *Jornadia larreae*. n. gen. n. sp. deutonymph.

3. — Dorsal view. 4. — Ventral view.

region with slightly developed 'wings' which project horizontally. Setae *ta* are inserted on the posterior edge of these wings. Ten pairs of notogastral setae inserted in the usual multideficient pattern; these setae are strongly developed and distinctly barbed. Five pairs of areae porosae are rather small but distinct, ovoid in shape; these are located in the usual positions, and attention may be drawn to the presence of the areae porosae associated with the dorso-sejugal suture (Fig. 1).

*Venter* : All ventral setae conspicuous, barbed. Coxisternal setal formula (3-1-3-3). Coxisternal apodemes II and III are short and do not meet in the mid-line. Ventro-sejugal apodemata join and are continuous across coxisternal region; mid-ventrally these apodemata extend posteriorly to produce a circum-genital thickening. Genital plates trapezoidal in shape each bearing 5 setae arranged as shown in Fig. 2. The single pair of aggenital setae are inserted postero-lateral to the genital field. Adanal setae (3 pairs) are located as shown in Fig. 2. Adanal fissure *iad* is a short slit located off the anterior rim of anal aperture and aligned more or less parallel to this rim. Two pairs of strongly developed setae are inserted on each anal plate.

*Legs* : All tarsi are tridactyle with central claw a little more strongly developed than the two laterals.

#### *Male*

As the measurements indicate, the male specimen is smaller in size than the females studied. In addition, the coxisternal region bears a distinct microsculpture of the fenestrated or reticulate type.

#### *Nymphs* (Figs. 3-4)

The nymphs are readily identified by the form of the sensillus and the strongly developed notogastral setae. Notogastral chaetotaxy in both deutonymph and protonymph is unideficient (i.e. there are 15 pairs). Deutonymph has two pairs of genital setae, protonymph has one pair. Paraproctal atrichosy occurs at both nymphal levels.

#### *Type locality*

Jornada Validation Site near Las Cruces, New Mexico. Ex. creosotebush litter (*Larrea tridentata*), holotype (female), allotype (male), 4 paratypes (females). Type material is to be deposited in the Acarology Laboratory, Ohio State University, Columbus, Ohio.

#### *Remarks*

This new genus undoubtedly belongs in the family Oribatulidae and it resembles, in a number of respects, the genus *Oribatula*. These resemblances include the presence of true lamellae, the absence of pteromorphs and a translamellar thickening, areae porosae on the notogaster, and pattern of coxisternal apodemata. However, it clearly differs from *Oribatula* in the number of pairs of notogastral setae (10, compared with 12-14 pairs in *Oribatula*) and the number of pairs of genital setae (5, compared with 4 in *Oribatula*).

#### REFERENCES

- BALOGH (J.), 1972. — The oribatid genera of the world. — Akad. Kiado, Budapest, 188 pp.

*Paru. en mars 1984.*