

A description of a new species
of *Bechsteinia* Oudemans, 1936
(Acari, Anystidae)

EDWARD A. UECKERMANN

(With 19 figures)

Abstract

A new anystid species, *Bechsteinia solarii*, is described and the genus *Bechsteinia* is defined. A key to the world species is given.

Introduction

Linnaeus (1758) described the first 2 species in this family, viz. *Acarus baccharum* and *A. salicinus*. From the literature, *A. baccharum* has a cosmopolitan distribution while *A. salicinus* is a very effective predator of the lucerne flea, *Sminthurus viridis* (L.) and the red-legged earth mite, *Halotydeus destructor* Tucker), in pastures in southern France, South Africa and southern Australia. The 5 known genera of Anystidae were first revised by Oudemans (1936) who created a further 10 new genera.

In this paper a new species of *Bechsteinia* Oudemans from Germany is described and 4 known species are defined. A key to these species is given.

Genus *Bechsteinia* Oudemans

Bechsteinia Oudemans, 1936: 436; Meyer & Ryke 1960: 184; Meyer & Ueckermann 1987: 26.

This genus differs from the closely related *Chaussieria* Oudemans, 1937, in that the dorsal shield is absent, setae na and nb and sensilla sp are closer together medially on the prodorsum; prodorsum bears 2 pairs of eyes, each chelicera bears 1 seta and the distal halves of tarsi I-IV may have a few false articulations. In *Bechsteinia* the striation pattern on the idiosomal dorsum is species specific.

Type species: *Bechsteinia schneideri* Oudemans.

Key to the world species of *Bechsteinia* (Females)

1. Idiosoma with numerous setae laterally *B. californica* McGregor
- Idiosoma without numerous setae laterally 2
2. Secondary claw of palptibia comb-like 3
- Secondary claw of palptibia feather-like *B. grahami* Meyer & Ryke
3. Leg tarsi with leaf-like setae between other leg setae (fig. 11) 4
- Leg tarsi without leaf-like setae *B. solaris* sp. n.
4. Tarsal claws of legs coarsely dentated *B. schneideri* Oudemans
- Tarsal claws of legs finely serrated *B. festina* Meyer & Ueckermann

Bechsteinia californica McGregor

Bechsteinia californica McGregor, 1956: 23.

This species can easily be recognized by the numerous setae arising laterally from the idiosoma.

Habitat and locality: This species is only known from *Citrus* sp., Whittier, California, U.S.A..

Bechsteinia grahami Meyer & Ryke

Bechsteinia grahami Meyer & Ryke, 1960: 184; Meyer & Ueckermann 1987: 28:

This species resembles *B. solaris* sp. n. in that the striation pattern on the dorsum of the idiosoma forms 2 diamond-shaped figures and the tarsi are without leaf-like setae. However, *B. grahami* differs from the new species in the shape of the female genital setae (figs 3-4), the secondary feather-like claw of the palptibia and tibiae I and II which bear 2 solinidia.

Habitat and locality: This species was described from grass and soil, Bathurst, near Albany, Cape Province, South Africa. It was also recorded from *Cicas revoluta*, Salazar, Angola.

Bechsteinia solaris sp. n. (figs 1-3, 6-10 and 12-15)

Female (figs 1-14): Dimensions of holotype (measurements in parenthesis are variations in paratypes): length of body (including gnathosoma) 1394 μ m (1272-1386); length (excluding gnathosoma) 1194 μ m (1078-1086); width 893 μ m (809-878). Dorsum bears 9 pairs of setae, 2 pairs of sensilla (sa and sp) and 2 pairs of eyes lateral to setae nb. Dorsal body setae long and densely setose. A naso, bearing sensilla sa,

is situated on anterior margin of prodorsum immediately behind peritremes. Striae form spindle-shaped figures between setae nc and ne and ne and f. Venter: Genital opening a longitudinal slit, surrounded by many serrated setae. Genital setae immediately lateral to slit slender, simple and sparsely denticulate, other setae are broader and densely serrated. The genital setae of *B. grahami* Meyer & Ryke and *B. festina* Meyer & Ueckermann are depicted in figs 4-5. Internal genitalia as depicted in fig. 6. Gnathosoma: Palptibia with 2 comb-like claws. Palptarsus covered with many very long serrated setae and bears a tiny solenidion. Chelicerae with a serrated seta just behind movable chela. Subcapitulum as figured in fig. 8. Peritremes short. Legs: Tarsi without false articulations and covered with coarsely denticulated setae, clearly shorter than setae on other podomeres. Tarsal claws leaf-like and separated by a small finely serrated empodium. Tarsi I and II each with 3 short solenidia of which 2 are in small depressions. Tibiae I and II each with a small solenidion in a depression.

Male (figs 15-16). Dimensions: length of body (including gnathosoma) 1117-1201 μm ; length (excluding gnathosoma) 924-1001 μm ; width 558-702 μm . Male similar to female except for internal genitalia and genital setae.

Habitat and locality: Holotype female, 8 paratype females and 12 paratype males found with small collembola under a pot-plant on a balcony of the Zoologisches Museum, Hamburg. West Germany, 6.IV.1987-26.VI.1987, S. Beck leg. The holotype and 10 paratypes are deposited in the collection of the Zoologisches Museum der Universität Hamburg and 10 paratypes in the National Collection of Arachnida, Plant Protection Research Institute, Pretoria, South Africa.

Remarks: *Bechsteinia solaris* can be defined as follows: striations on dorsum of idiosoma form 2 diamond-shaped figures between setae nc and ne and f; genital setae immediately lateral to genital slit, simple and sparsely denticulated (fig. 3a); setae on leg tarsi coarsely denticulated (fig. 10); False articulations on leg tarsi absent (fig. 9).

Bechsteinia schneideri Oudemans

Bechsteinia schneideri Oudemans, 1936: 436; Meyer & Ueckermann, 1987: 28.

This species differs from *B. grahami* Meyer & Ryke and *B. festina* Meyer & Ueckermann in that the tarsal claws of the legs are finely serrated in the latter 2 species and coarsely denticulated in *B. schneideri*. It further differs from *B. grahami* and *B. solaris* spec. nov. in that the leg tarsi bear leaf-like setae in between the other setae (fig. 11).

Habitat and locality: Oudemans (1936) described this species from rotten leaves, San Remo, Italy.

Bechsteinia festina Meyer & Ueckermann

Bechsteinia festina Meyer & Ueckermann, 1987: 28.

A characteristic of this species is the striae on the dorsum of the idiosoma which are transverse posterior to setae *nc*, forming a V-pattern between setae *ne* and then extend longitudinally well beyond setae *f*. The short plumose genital setae (fig. 5) are distinctly shorter than those of *B. grahmi* Meyer & Ryke and *B. solarii* spec. nov.

Habitat and locality: This species was described from 13 different plant species and localities in South Africa.

Acknowledgement

First of all I wish to thank Dr. Gisela Rack of the Zoologisches Institut und Zoologisches Museum der Universität Hamburg, West Germany, for putting the material for this study to my disposal. I also want to thank Dr. M.K.P. Smith Meyer and D.P. Keetch of the Plant Protection Research Institute, for their valuable criticism.

References

- Linnaeus, C., 1758: Caroli Linnaei Systema Naturae per Regnatna Narurae, secundum Classe, Ordines Genera, species, cum Characteribus, Differentiis, Synonymis, Locis. - Syst. Nat. 10th ed.
- McGregor, E.A., 1956: The mites of citrus trees in Southern California. - Mem. South. Calif. Acad. Sci., 3 (3): 5-42. Los Angeles.
- Meyer, M.K.P. (Smith) & Ryke P.A.J., 1960: Acarina of the family Anystidae, Pseudocheylidae and Cheyletidae (Prostigmata) found associated with plants in South Africa. - J. Entomol. Soc. South. Afr., 23 (1): 177-193. Pretoria.
- Meyer, M.K.P. (Smith) & Ueckermann E.A., 1987: A taxonomic study of some Anystidae (Acari: Prostigmata). - Entomology Mem. Dep. Agric. Wat. Supply Repub. S. Afr. No. 68: 37 pp. Pretoria.
- Oudemans, A.C., 1936: Neues über Anystidae (Acari). - Arch. Naturgesch., (N.F.) 5: 364-446. Berlin.
- Oudemans, A.C., 1937: Namensänderung.-Arch. Naturgesch., (N.F.) 6 (4): 662. Berlin.

Address of the author:

Dr. Edward A. Ueckermann, Plant Protection Research Institute, Private Bag X134, Pretoria 0001, South Africa.

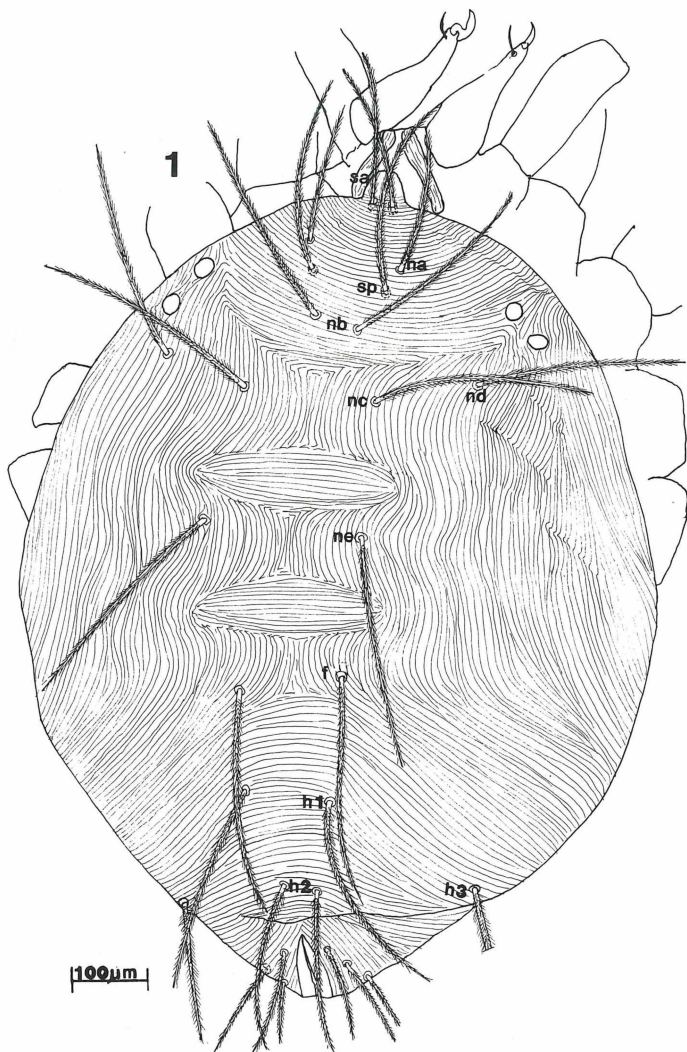
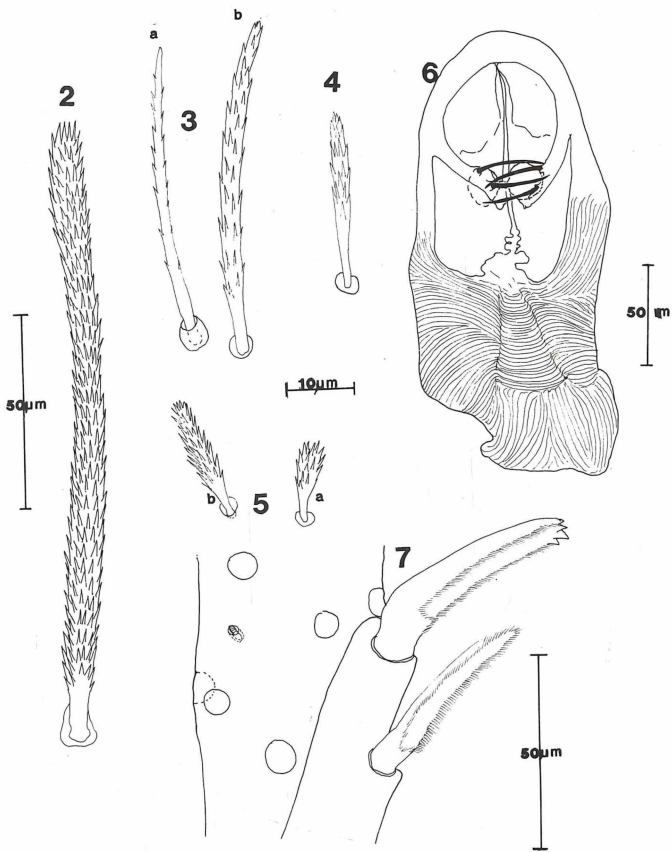
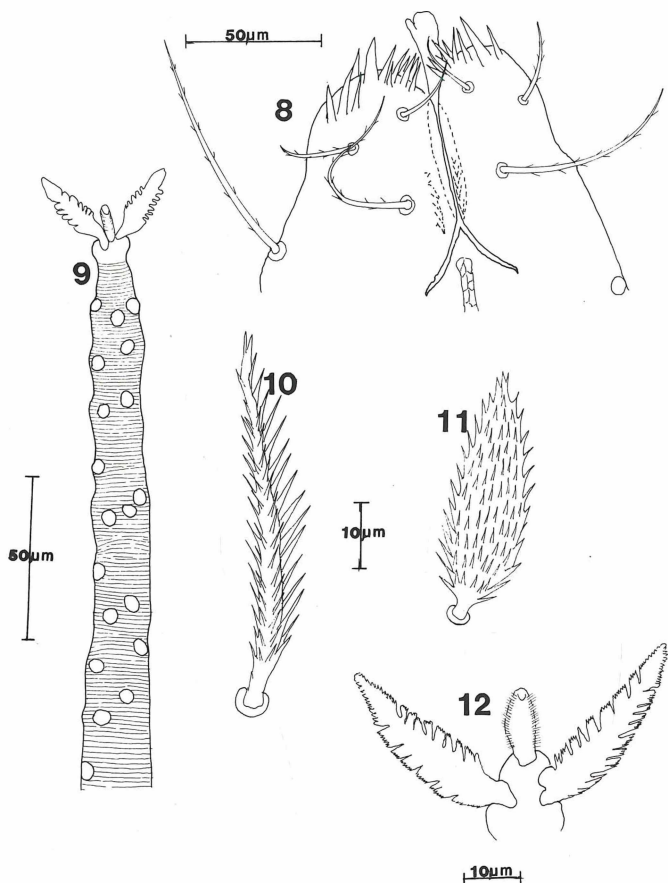


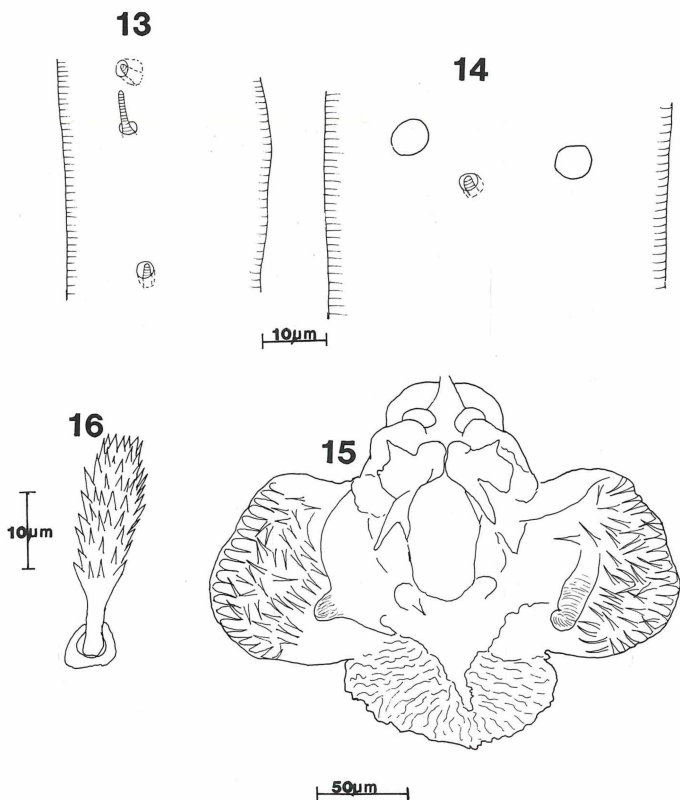
Fig. 1: *Bechsteinia solaris* sp. n., female, dorsum.



Figs 2-7: *Bechsteinia solaris* sp. n., dorsal body setae (2), genital setae of female (3a-b); *B. grahami* Meyer & Ryke, genital setae of female (4); *B. festina* Meyer & Ueckermann, genital setae of female (5a-b); *B. solaris* sp. n., internal genitalia of female (6), palptibia (7).



Figs 8-12: *Bechsteinia solarii* sp. n., subcapitulum (8), tarsus I (9), tarsal seta (10); *B. festina* Meyer & Ueckermann, tarsal seta (11); *B. solarii* sp. n., tarsal appendages (12).



Figs 13-16: *Bechsteinia solaris* sp. n., solenidia of tarsi I and II (13), solenidia of tibiae I and II (14), internal genitalia of male (15), genital seta of male (16).

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg](#)

Jahr/Year: 1987

Band/Volume: [9](#)

Autor(en)/Author(s): Ueckermann Edward A.

Artikel/Article: [A description of a new species of Bechsteinia Oudemans, 1936 \(Acari, Anystidae\) 55-62](#)