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Notes on the mites (Acari) living in the flowers of *Espeletia* spp. (Asteraceae) in Colombia. IV. *Probonomoia columbiana* gen. n., sp. n. (Anoetidae)

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(With 6 figures)

Abstract

Probonomia columbiana gen. n. sp. n. (Acari, Anoetidae) is described from a single deutonymph (hypopus) found in the flower of *Espeletia grandiflora* in Colombia. A key is given to the hypopi of genera *Bonomoia* Oudemans, 1911 and *Probonomoia* gen. n.

Introduction

The new hypopus that we describe herein bears on the antero-lateral parts of the hysteronotum a pair of large eyes as in the genus *Bonomoia* Oudemans, 1911 (Anoetidae). It differs from *Bonomoia primitiva* Oudemans, 1911 the type of the genus *Bonomoia* by several characters. The most important of them being the presence on the tarsus IV of a well-developed claw, which is absent in the species of Oudemans. We think that this character justifies the creation of a new genus that we name *Probonomoia* gen. n.

Family Anoetidae Oudemans, 1904

Genus *Bonomoia* Oudemans, 1911

This genus was described from the hypopus stage. Oudemans noted the presence of a pair of eyes on the dorsum, as in the genus *Histiogaster*. He recognized, however, that this hypopus had more affinities with the genus *Anoetus* and he also clearly mentioned that the leg IV was devoid of a claw ("poot IV heeft geen klauw"). The description of the genus is followed by that of *Bonomoia primitiva* sp. n., which indicates that Oudemans has retained this species as the type of his genus. Oudemans did not publish figures of this species but such figures exist in the Oudemans collection deposited in Leiden.

Scheucher (1957) considers that Oudemans did not designate nor describe a type-species for *Bonomoia* and she tentatively proposed *Bonomoia sphaerocerae* Vitzthum, 1922 as type species. We think that this statement is not correct. The description of the hypopus clearly refers to the genus

Bonomoia and the figures (available) are adequate and allow to recognize the species.

According to Hughes and Jackson (1958) the type species of *Bonomoia* is *B. primitiva* and the species of Vitzthum was inadequatly described and should be considered as a nomen dubium.

The complex *Bonomoia-Probonomoia* comprizes 13 species, of which 9 are known only from the hypopus stage, 3 from both hypopi and adults and one from adults only. Four of these species have been incompletely described (e.g. *B. reticulata* Mahunka, *B. certa* Woodring & Moser, *B. picturata* Sevastianov and *B. recondita* Sevastianov), and it is not known whether a claw is present or not on tarsus IV. Therefore it is not possible to include these species in one of these genera. In the key that we give herein we have provisonally include them in *Bonomoia* until more data become available about the morphology of these species.

Genus *Probonomoia* gen. n.

Definition: It is based on the hypopus stage. This genus differs from *Bonomoia* by the presence on leg IV of a well-developed claw, similar to that of leg III.

Type species: *Probonomoia columbiana* sp. n.. Four other species belong to this genus.

Key to the genera *Bonomoia* Oudemans and *Probonomoia* gen. n.

Remark: The inclusion of the species *reticulata, certa, picturata* and *recondita* in the genus *Bonomoia* is provisional.

Hypopi

1. Tarsus IV without a claw . . . . . Genus *Bonomoia* Oudemans, 1911 2
- Tarsus IV with a well-formed claw . . . Genus *Probonomoia* gen. n. 8

2. Palposoma rounded anteriorly and much wider than long. Setae of coxae I and III 4 to 5 times as long as dorsal setae . . . . . *B. primitiva* Oudemans, 1911
- Palposoma parallel-sided and either as wide as long or longer than wide. Coxal setae (I and III) either vestigial or short and never more than 2 to 3 times as long as dorsal setae 3

3. Propodonotal shield longitudinally striated. Hysteronotal shield with numerous inequal pits. Palposoma at least twice as long as wide . . . . . *B. sphaerocerae* Vitzthum, 1922
- Propodonotal shield not striated. Hysteronotum not pitted but either uniformily punctate or with a network of lines. Palposoma either as wide as long or slightly longer than wide 4

4. Hysteronotal shield either punctate or bare, without a network of lines 5
- Hysteronotal shield with a network of lines 6

5. Hysteronotal shield punctate. Epimera III strongly convex and fused in the midline with epimera IV. Pregenital sclerite forked anteriorly and fused with epimera IV. Coxal setae I and III well developed and 2 to 3 times longer dorsal setae . . . . . *B . certa* Woodring & Moser, 1970
- Hysteronotum (?) bare. Epimera III slightly curved and not reaching the pregenital sclerite. Coxal setae I and III vestigial . . . . . *B. humprechti* Samsinák, 1956

6. Epimera III fused with the pregenital sclerite . . . . . *B. picturata* Sevastianov , 1974
- Epimera III not fused with the pregenital sclerite 7

7. Idiosoma 230 long. Eyes of medium size . . . . . *B. recondita* Sevastianov, 1974
- Idiosoma 175 long. Eyes relatively very large . . . . . *B. reticulata* Mahunka, 1967b

8. Palposoma trapezoidal, much wider than long. Hysteronotal shield with a network of lines . . . . . *P. africana* (Mahunka, 1967a)
- Palposoma rectangular and slightly longer than wide. Hysteronotal shield either with or without a reticulum 9

9. Hysteronotum with a network of lines . . . . *P. columbiana* sp. n.
- Hysteronotum lacking a network of lines 10

10. Hysteronotal shield with longitudinal rows of pits. Propodonotal shield punctate. Eyes large, oval . . . . . *P. congoensis* (Fain & Elsen, 1972)
- Hysteronotal shield without longitudinal rows of pits. Propodonotal shield either punctate or (?) bare. Eyes small 11

11. Hysteronotal shield with longitudinal striations Epimera III not fused in the midline . . . . . *P. pini* (Scheucher, 1957)
- Hysteronotum bare. Epimera III fused with epimera IV in the midline . . . . . *P. spinifera* (Scheucher, 1957)

Probonomoia columbiana sp. n.

Hypopus (figs 1-6): Holotype 215 long and 153 wide. Sejugal furrow well developed. Anterior margin of propodonotum triangular and distinctly angulated in midline. Propodonotum with a punctate shield interrupted in its middle by a transverse non-punctate band. Hysteronotum punctate and bearing a network of lines. Eyes large, oval (diameters 15 x 12). Dorsal setae very short, some apparently are rubbed off. Sternum slightly shorter than epimera II. Epimera III not fused with the pregenital sclerite. Coxal fields I, II, III and anterior half of IV strongly punctate. Setae of coxae I and III very thin and short (5 long). Palposoma 16 long and

9 wide. Suctorial plate 48 wide. Posterior suckers 10,5 wide, anterior suckers 7 wide. Lateral conoids at the same level as posterior suckers. Legs: Tarsi I-IV 62-49-36-34 long respectively. All tarsi ending in a well-developed claw. The claws III and IV are 9 to 10 long. Chaetotaxy of tarsi: Tarsus I with an apical saucer-like seta and 3 short and thin spines of which one is subapical. Tarsus II with an apical foliate seta and 4 spines of which the basal one is strong. Tarsi III and IV with a long and thin dorso-apical seta 40 and 90 long respectively. Solenidia: Tarsus I with ω3 basal, 30 long. Tibia I with ω1 20 long, close to the apex; ϕ is 75 long, it is situated in the middle of the segment. Genu I with one solenidion 28 long. Tarsus II with ω1 as long as half the segment. Tibia II with ϕ 23 long.

Habitat: Holotype and only known specimen from the flower of *Espeletia grandiflora* n° 86/24, Páramo de Chisacá, at about 40 km South of Bogotá, alt. 3650-3800, 19.IX.1986.

Holotype in the Zoologisches Museum der Universität Hamburg, Eing. Nr. A 71/87.

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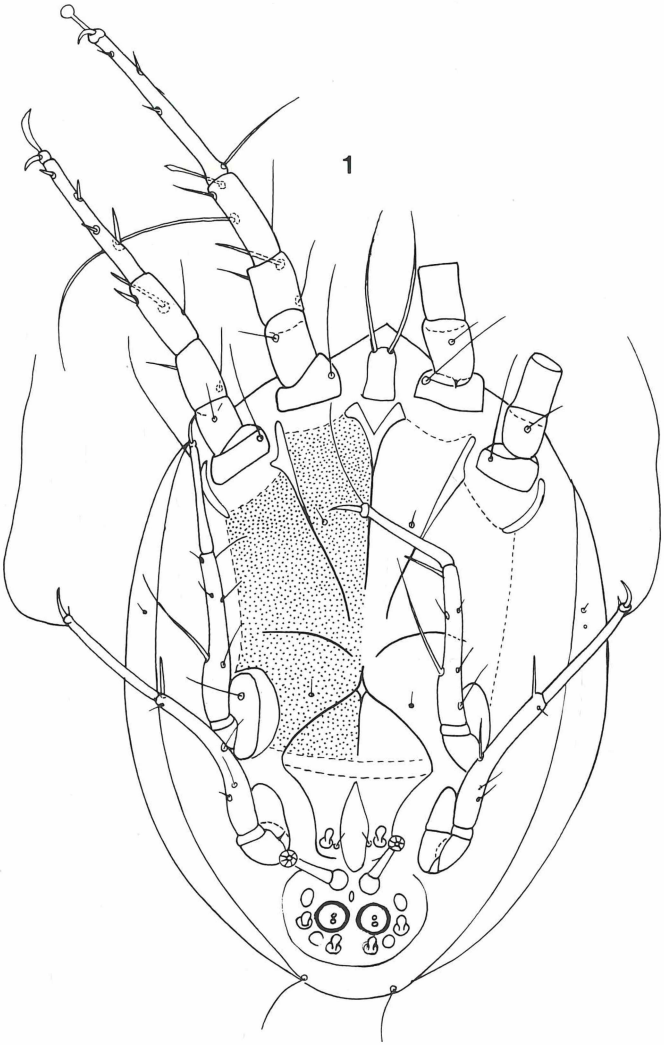
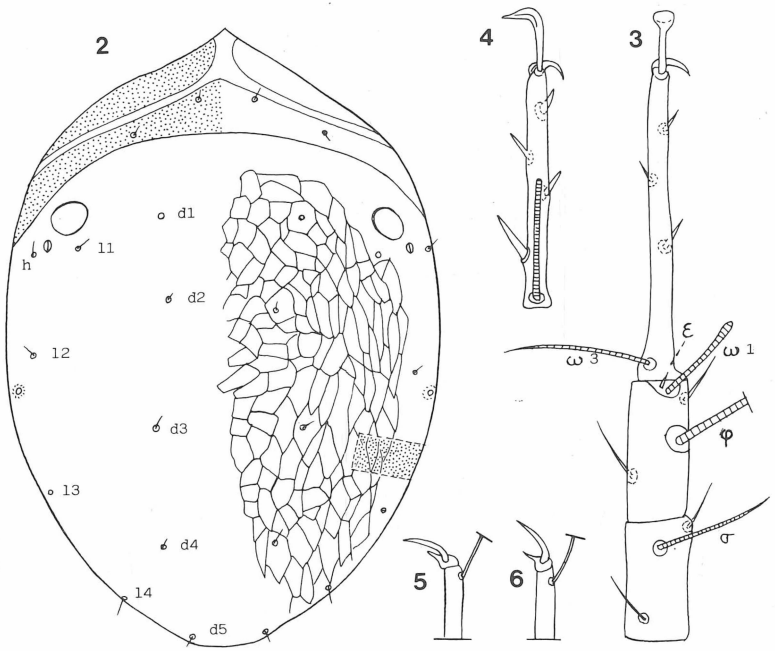


Fig. 1: *Probonomoia columbiana* sp. n. Holotype hypopus in ventral view.



Figs 2-6: *Probonomoia columbiana* sp. n. Holotype hypopus in dorsal view (2); apical segments of leg I in dorsal view (3); tarsus I in dorsal view (4); apical part of tarsi III (5) and IV (6).

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