

# *Wanderbiltiana wawasita*: A new species of flea beetle (Alticinae) from Dominican amber (Lower Oligocene to Lower Miocene)

Jorge A. Santiago-Blay<sup>1</sup>, Vilma Savini<sup>2</sup>, David G. Furth<sup>3</sup>, Patrick R. Craig<sup>4</sup> and George O. Poinar, Jr.<sup>5</sup>  
<sup>1</sup>Department of Paleobiology, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA; <sup>2</sup>Museo del Instituto de Zoología Agrícola Francisco Fernández Yépez, Facultad de Agronomía, Universidad Central de Venezuela, Maracay, Estado Aragua, Venezuela; <sup>3</sup>Department of Systematic Biology, Section of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA; <sup>4</sup>Monte Rio, CA, USA; <sup>5</sup>Department of Entomology, Oregon State University, Corvallis, OR, USA

## Abstract

A new species of fossil alticine, *Wanderbiltiana wawasita*, is described from Dominican amber. This is the first record of *Wanderbiltiana* in the Caribbean and outside South America.

## Introduction

In a recent paper, Santiago-Blay *et al.* (1996), listed an alticine, *Walterianella* Bechyné, as a new record of flea beetle for Dominican amber. This report was repeated, diagrammed and photographed by Poinar & Poinar (1999, pp. 43-45). Upon additional study, Santiago-Blay discovered that he had misidentified the genus through an error of interpretation in a key to the Neotropical genera of Alticinae (couplet 18 in Scherer, 1983). This couplet in the key refers to the lateral view of the epipleuron, a lateral structure of the elytron, sometimes difficult to see and variable among genera of flea beetles. While the biological implications remain unchanged, the organism has been re-identified and a new species described.

## Systematic treatment

*Wanderbiltiana* was described by Bechyné (1955) based on *Oedionychus nitidus* Fabricius, with these diagnostic features: (1) filiform antennae (Figs. 1 and 2), with moderately thickened antennomeres toward the antennal apex; (2) large eyes (Figs. 3 and 4); (3) prosternal process flat and broad; and (4) epipleura completely horizontal and broad (Figs. 5 and 6, broader in males). Bechyné (1956) places

*Wanderbiltiana* in the Oedionychini and distinguishes it based on the characters stated above, as well as having four labral setae. *Wanderbiltiana* is an entirely Neotropical genus (Bechyné, 1956, 1958), known only in Brazil and, currently, not represented in the Caribbean (for examples, see Santiago-Blay, 1994).

## *Wanderbiltiana* Bechyné

*Wanderbiltiana wawasita* sp. n. (Figs. 1 to 6)

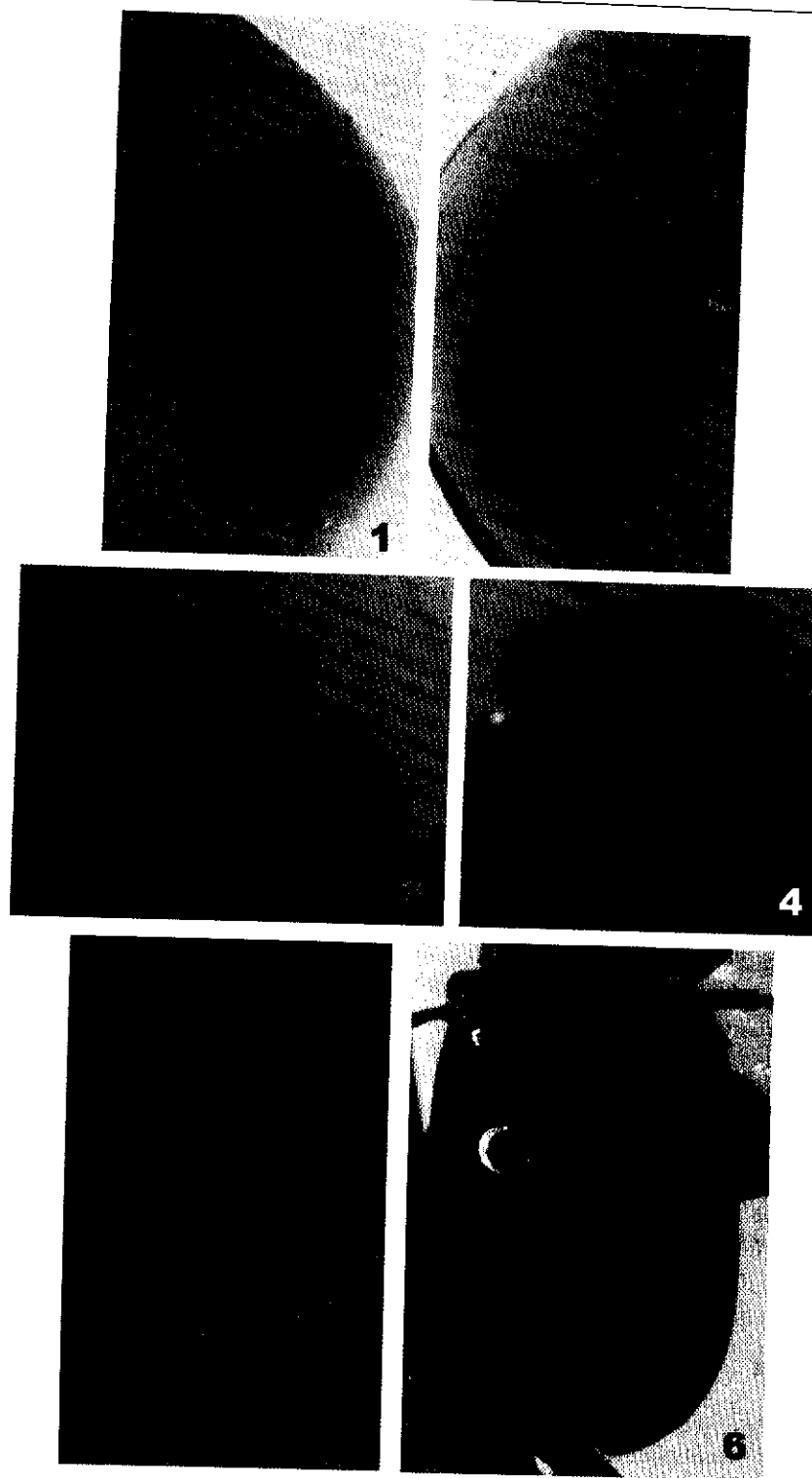
### *Holotype data*

One adult female. Allegedly collected in the La Toca Mine, Cordillera de Septentrional, Dominican Republic. The age of amber from the Cordillera Septentrional, where La Toca is located, ranges from 15-40 Ma (Iturralde Vinent & McPhee, 1996; Poinar, 1992). This specimen, number C 7-125, is deposited in Poinar's amber collection located in Corvallis, OR. The specimen lacks the distal portion of the right antenna and right leg 2. Also, a small section of the right hind femur was excavated, possibly during the process of polishing the specimen.

### *Description*

Total length, 4.5 mm; overall color, metallic bluish green. Head (Figs. 3 and 4). Frontoclypeal area prominent bulging; its main area, excluding upper apophysis is located between antennal bases, sub-pentagonal; frontoclypeal carinae narrow, forming an elevated 'I' with its ventrolateral extensions slightly bent downwards; lateral extensions very narrow; antennae relatively short, barely surpassing humeral calli, not reaching half the length of the elytra;

Address for correspondence: Jorge A. Santiago-Blay, Department of Paleobiology, National Museum of Natural History, Smithsonian Institution, 10th and Constitution Avenue, P.O. Box 370122, Washington, DC, 20013-7012, USA. Email: santiago-blay@nmnh.si.edu



*Figs. 1 and 2.* Whole specimen. 1. Dorsal view; note metallic tinge, especially on elytra. 2. Ventral view.

*Figs. 3 and 4.* Head and thorax. Note explanated pronotum (arrowheads). 3. Dorsal view. 4. Ventral view.

*Fig. 5.* Hind leg. Metafemoral spring (ms), apical tibial notch (arrowhead), and greatly expanded last tarsal segment (arrow). Note location of epipleuron (ep).

*Fig. 6.* Abdominal apex, ventral. Note broadly rounded abdomen (arrowhead).

antennal segments loosely joined, most segments subclaviform; supra-antennal calli subtriangular, transversely oriented, laterally joined by a fine and evident sulcus; vertex with coarse punctures.

*Thorax* (Figs. 3 and 4). Pronotal surface punctate, twice as wide as it is long at the base, wider at base, laterally widely explanate; thoracopleurae wide,

lateral margins evenly rounded, only slightly converging anteriorly, anterior thoracopleural angles with a lateral spiniform projection bearing one seta with an evident base located towards the innermost portion of thoracopleura; posterior pronotal margin more or less straight with slight concavity towards the middle; pronotal base narrower than base of elytra;

prosternal process (not a spine) about 2.9 times longer than wide; pleurosternal suture visible as a distinct scar line. Metafemoral spring (Fig. 5) appears to be similar to the *Chaetocnema* Group (Furth, 1994; formerly known as Morphogroup 5, Furth, 1989), as in most other reported Oedionichyni. First segment of fore tarsus slender, suggesting specimen is a female. Metasternum convex, almost as long as first two ventrites. Elytra (Fig. 1) metallic bluish green on most of its surface, otherwise brown, with irregular, dense, coarse, punctation on most of the elytra, punctation less distinct towards elytral apex; elythropleurae broad for half its length about twice as wide as width of antennomere 4. Epipleura broad, slightly broader than length of metepisternum at its maximum width or as wide as width of two or more intermediate antennal segments, partially visible in lateral view on anterior half, attenuating gradually towards elytral apex, attenuation begins at last (fifth) visible ventrite; internal and external epipleural carinae distinct; external epipleural carinae with a row of short, erect setae beginning from about level of third ventrite to apex of sutural angle.

*Abdomen* (Fig. 6) with five visible abdominal sternites; first abdominal ventrite slightly longer than second; smoothly rounded posteriorly. The broadly rounded abdominal apex and lack of an aedeagus also point to this specimen being a female.

#### *Etymology*

This species is named after Wawa (Mandarin, meaning 'little girl'), a now deceased dog who was a wonderful friend of author JASB. The suffix 'sita' is the Spanish diminutive for a female entity. The name is a combination of the Mandarin word, 'wawa', followed by a typical Spanish diminutive suffix for female entities, 'sita'. The species epithet *wawasita* is to be treated as an arbitrary combination of letters and is indeclinable (Article 11.3, Code of International Zoological Nomenclature, 4th Edition, 1999).

#### *Differential diagnosis*

*Walderbiltiana wawasita* sp. n. keys to Group I in Bechyné (1956) classification of the species in

*Wanderbiltiana*. *Wanderbiltiana wawasita* differs from *W. festiva* Germar, to which it will key, by its much smaller length (*W. festiva* is twice as long), rough vertex (in *W. festiva* it is smooth), and the form of its frontoclypeal carinae (in *W. festiva* it is '+'-shaped).

#### References

- Bechyné, J. 1955. Reise des Herrn Georg Frey in Südamerika: Alticae (Col. Phytophaga). Entomologische Arbeiten aus dem Museum G. Frey 6:1-266.
- Bechyné, J. 1956. Les espèces du genre *Wanderbiltiana* (Col. Phytoph. Alticinae). Dusenya 7:329-339.
- Bechyné, J. 1958. Notes sur les Chrysomeloidea néotropicaux des collections du Musée Zoologique de l'Université et de la Ville de Strasbourg. Bulletin de la Société Entomologique de Mulhouse. pp. 23-24.
- Furth, D.G. 1989. Metafemoral spring studies of some Neotropical genera of Alticinae. Entomography 6:497-510.
- Furth, D.G. 1994. Character correlation studies of problematic genera of Alticinae in relation to Galerucinae (Coleoptera: Chrysomelidae). In: Furth, D.G. (ed), Proceedings of the Third International Symposium of the Chrysomelidae. Leiden, Backhuys Publishers. pp. 116-135.
- International Commission of Zoological Nomenclature. 1999. International Code of Zoological Nomenclature, 4th edn. London, International Commission of Zoological Nomenclature. 306 pp.
- Iturralde Vinent, M. and McPhee, R.D.E. 1996. Age and paleogeographical origin of Dominican amber. Science 273:1850-1852.
- Poinar, G. 1992. Life in Amber. Palo Alto, Stanford University Press. 350 pp.
- Poinar, G.O. Jr. and Poinar, R. 1999. The Amber Forest: A Reconstruction of a Vanished World. Princeton, Princeton University Press. 239 pp.
- Santiago-Blay, J.A. 1994. Paleontology of leaf beetles, ch 1, In: Jolivet, P., Petitpierre, E. and Cox, M.L. (eds) Novel Aspects of the Biology of Chrysomelidae (Coleoptera). Series Entomologica (Bari). Dordrecht, Kluwer Academic Publishing. pp. 1-68.2
- Santiago-Blay, J.A., Poinar, G.O. Jr. and Craig, P.R. 1996. Dominican and Mexican fossil amber chrysomelids, with the description of two new species. In: Jolivet, P.H.A. and Cox, M.L. (eds) Chrysomelidae Biology. Vol. 1. The Classification, Phylogeny. Amsterdam, SPB Academic Publishing. pp. 413-424.
- Scherer, G. 1983. Diagnostic key for the Neotropical Alticinae genera (Coleoptera: Chrysomelidae: Alticinae). Entomologische Arbeiten aus dem Museum G. Frey 31/32:1-89.

