



## First fossil *Phatnoma* (Hemiptera: Heteroptera: Tingidae: Cantacaderinae), in Miocene amber from the Dominican Republic

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### Abstract

A new species of fossil lace bug, *Phatnoma mattijoeae* **sp. nov.**, is described from a single specimen in Miocene amber from the Dominican Republic. It represents the first fossil record of the genus, extending its known range by approximately 16 million years. The new fossil appears to be most closely related to the extant *P. ovatum* Champion, 1897, from Guatemala.

**Key words:** Fossil lace bug, Hemiptera, Insecta, palaeontology, Tingidae

### Introduction

Lace bugs derive their common name from their lacy appearance, created by a network of fine, raised veins over much of the surface of the insect. Extant lace bugs (family Tingidae) comprise over 2,100 species and occur in all major zoogeographic regions, but are more common in the tropics (Drake & Ruhoff 1965; Froeschner 1996). They are exclusively plant feeders, and although more species are found on herbaceous plants, the most common species occur on the foliage of trees and shrubs.

Lace bugs are not uncommon as fossils and have been described from both amber deposits and sediments dating back to the Mesozoic, although the correct determination of Mongolian fossils (Popov 1989) in this family was questioned by Nel *et al.* (2004); a catalogue of fossil species was provided by Wappler (2003), with additions and subsequent descriptions or reports from Oise amber by Nel *et al.* (2004), Rovno amber by Golub (2004), and Charantes amber by Perrichot *et al.* (2006). In total there are now 41 described fossil species of Tingidae (Perrichot *et al.* 2006), not including the new species described herein. Six species have been described to date from Miocene Dominican amber: *Eocader babyrussus* Golub & Popov, 2000a, *Leptopharsa evsyunini* Golub & Popov, 2000b, *Leptopharsa poinari* Golub & Popov, 2000b, *Leptopharsa fratei* Golub & Popov, 2003, *Stephanitis rozanovi* Golub & Popov, 2003, and *Amberobyrssa brandti* Heiss, 2009.

The fossil described herein represents a new species of *Phatnoma* Fieber in Miocene amber from the Dominican Republic. This is the oldest representative of the genus, extending its range by approximately 16 million years. An earlier record in Baltic amber by Drake (1950) was a misidentification (Froeschner 1996). The fossil is placed in the genus on the basis of size (between 3–4.5 mm); an absence of the dorsomedial spine; the presence of seven spines on the head (two jugals, two frontals, two occipitals, and one clypeal [Froeschner 1996]); and the pronotum without hood and truncating posteriorly (Gibson 1919). There are approximately 30 extant species of *Phatnoma* known (Froeschner 1996, Lis 2001, Guilbert 2007). Most Neotropical species were described at the end of the nineteenth century by Champion (1897) or in the early to mid-twentieth century by Drake and co-workers (see species list and references in Froeschner [1996]), but none have hitherto been recorded from the Greater Antilles.