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# A new species of *Proceroplatus* Edwards (Diptera: Keroplatidae) in Miocene amber from the Dominican Republic

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## Abstract

Keroplatid fungus gnats (Diptera: Keroplatidae) were hitherto known from the Caribbean island of Hispaniola from a single named species in Miocene amber from the Dominican Republic. Here we describe the new fossil species *Proceroplatus preziosii* Evenhuis & Penney based on a mature male specimen, which differs markedly from both fossil and extant taxa in the structure of its gonostyli and U-shaped wing pattern. We also document the first record of extant Keroplatidae, *Proceroplatus pictipennis* (Williston), from Hispaniola.

**Key words:** Diptera, Keroplatidae, Fossil, Hispaniola, Palaeontology, Miocene, *Proceroplatus*

## Introduction

True flies (Diptera) have a diverse fossil record (Evenhuis 1994) and are the commonest inclusions encountered as fossils in amber. Keroplatidae (sometimes referred to as predaceous fungus gnats) have been catalogued by Evenhuis (2006b) and are known as fossils in amber from the Tertiary deposits of the Baltic region (e.g. Matile 1979; Hoffeins *et al*. 2012), the Dominican Republic (Schmalfuss 1979), Mexico (Solórzano Kraemer 2007), China (Hong *et al*. 1974; Hong 1981, 2002) and India (Solórzano Kraemer & Evenhuis 2008), and the Cretaceous deposits of Myanmar (Cockerell 1917), France (Matile 1981) and Spain (Blagoderov & Arillo 2002). Approximately 50 fossil species have been described to date, mostly from Eocene Baltic amber. Keroplatids have a global distribution with many commonly found in moist tropical forests, usually in association with fungi. They also occur in temperate forests and some species occur also in grasslands, forest-steppes etc.

Evenhuis (2006b) listed 86 genera and 952 named taxonomically valid species noting the values were probably much lower than the actual number of taxa, especially since some portions of the globe are still poorly surveyed or studied taxonomically. Here we describe a new species of *Proceroplatus* Edwards in Miocene amber from the Dominican Republic (which represents only the second named fossil of the family from this diverse deposit). We also document the first record of extant Keroplatidae from Hispaniola.

## Geological setting

Miocene Dominican amber has been dated at 16 Ma (Iturralde-Vinent 2001) and exhibits probably the best quality of preservation of all known ambers (Penney 2010), despite there being more than 160 deposits known worldwide (Martínez-Delclòs *et al*. 2004). Although traces of amber are present in various other countries of the Caribbean, e.g., Haiti, Puerto Rico and Jamaica, it occurs in exploitable quantities only in the Dominican Republic (Iturralde-Vinent 2001). The origin of unusually large Miocene deposits of amber in the Dominican Republic can be explained by the fortunate combination of adequate conditions of relief and soil for the development of large

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