



## ***Penapis larraini* Packer, a new species of rophitine bee (Hymenoptera: Halictidae) from a fog oasis in Northern Chile**

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### **Abstract**

*Penapis larraini* Packer, **sp. nov.** (Hymenoptera: Halictidae: Rophitinae), is described from Alto Patache, South of Iquique, a fog oasis in the very dry coastal desert region of northern Chile. It is compared to other species of the genus, and its unusual foggy habitat is described.

**Key words:** Bees, Atacama Desert, taxonomy, new species, fog oasis, *lomas* vegetation, paleoenvironments

### **Resumen**

Se describe una nueva especie *Penapis larraini* Packer (Hymenoptera: Halictidae: Rophitinae) del oasis de niebla Alto Patache, al sur de Iquique, en la zona costera del desierto en la provincia de Iquique en Chile. Es comparada con otras especies del género y se describe este inusual hábitat nebuloso.

### **Introduction**

*Penapis penai* Michener was the first species of the bee subfamily Rophitinae described from South America (Michener, 1965; at that time the subfamily was known as the Dufoureae). Since then, an additional two genera have been described: *Ceblurgus* (Urban and Moure, 1993) from Brazil and *Goeletapis* (Rozen, 1997) from Peru, as well as two additional species of *Penapis* (Rozen, 1997). In this paper I describe a fourth species of *Penapis* that is both morphologically and ecologically distinctive.

### **Methods**

Descriptive terminology and format follow Rozen (1997). In addition to standard body size metrics, intertegular width (ITW) was also measured (Cane, 1987) as this is becoming commonly used in trait-based biodiversity assessments (e.g. Williams *et al.* 2010) and has been used for a long time as a comparative statistic to estimate relative egg size (Iwata and Sakagami, 1966). Images were taken with a Visionary Digital BK Plus imaging system using a Canon EOS 40D digital SLR camera and processed with Adobe Photoshop. Institutional acronyms are as follows: PCYU—Packer Collection at York University, Toronto; PUCV—Pontificia Universidad Católica de Valparaíso.