

A new type of Holocene deposit in Cuba: “trapped” insects within stalagmitic calcium carbonate

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ABSTRACT. A newly found fossiliferous site in Cuba contains small complete insect bodies (Coleoptera) embedded in stalagmitic calcium carbonate. The insects were trapped on the wet surfaces of stalagmites and coated in deposits of calcium carbonate.

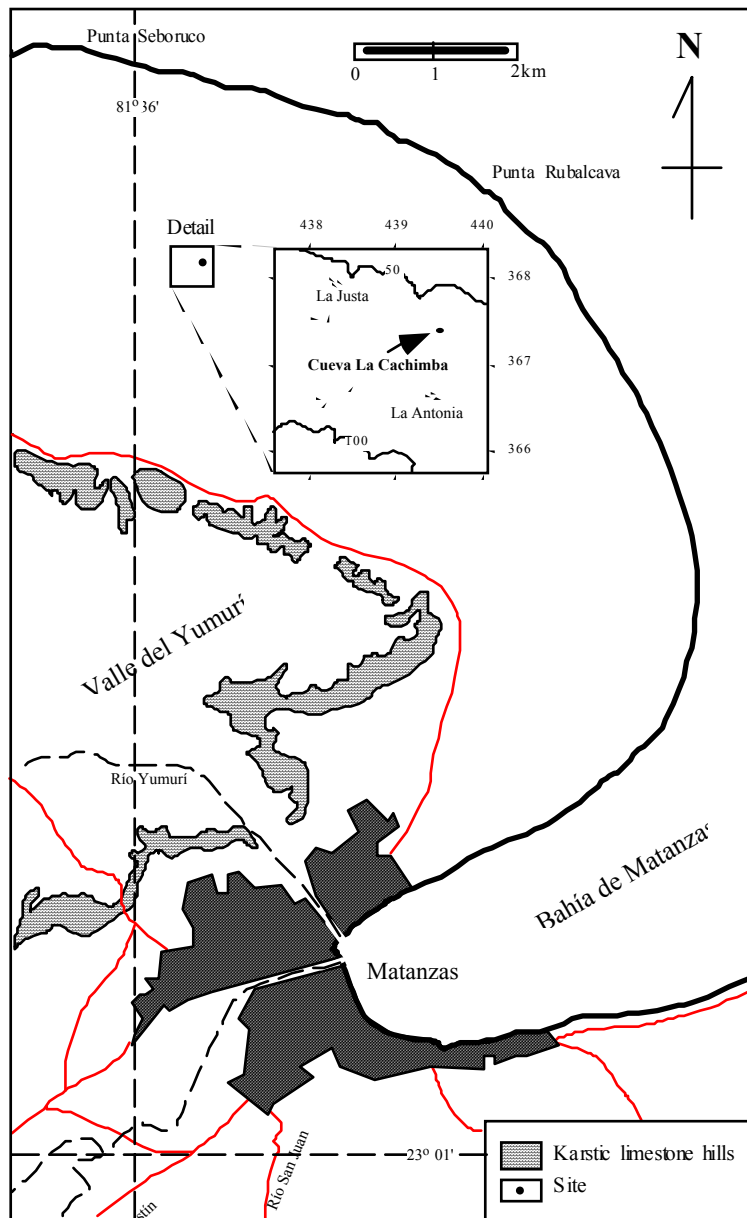


Figure 1. General location map of Cueva La Cachimba site.

Many Cuban fossiliferous sites are in cave deposits, and contain a diverse representation of vertebrate remains of Pleistocene-Holocene age. A preliminary classification of Cuban fossiliferous deposits was made by Woloszyn and Silva (1977), and later by Acevedo-González and Arredondo (1982), but they included only the commonest vertebrate remains accumulations in caves and in a few small open areas. Deposits with insects are extremely rare in Cuba, since their preservation is unlikely in tropical environments. Sedimentary rocks containing amber with insects have not been reported, but lignite, like in Dominican Republic, occurs in several eastern Cuban localities (Arabos Formation, Early-Middle Miocene) (Iturralde-Vinent and MacPhee, 1996). The first record of Cuban fossil insects came from "Las Breas de San Felipe", Matanzas (Iturralde-Vinent *et al.*, 1999). According to Valdés (in Iturralde-Vinent *et al.*, 1999; Valdés, 1999), the scarce remains consisted of isolated elitra of an aquatic beetle (Dytiscidae: *Cybister* sp.), and a well preserved body of a terrestrial one (Scarabaeidae).

Here we report a new type of deposit, the second in Cuba with insects, located in Cueva La Cachimba, 8 km north of Matanzas Province. On the 1: 50 000 series map (Matanzas 3885-II) Cueva La Cachimba site is located at X=439 Y=366 (Fig. 1). This fossiliferous deposit was found by Fidel Valdivié in January, 1994; and revisited by the authors in May, 2000. The specimens

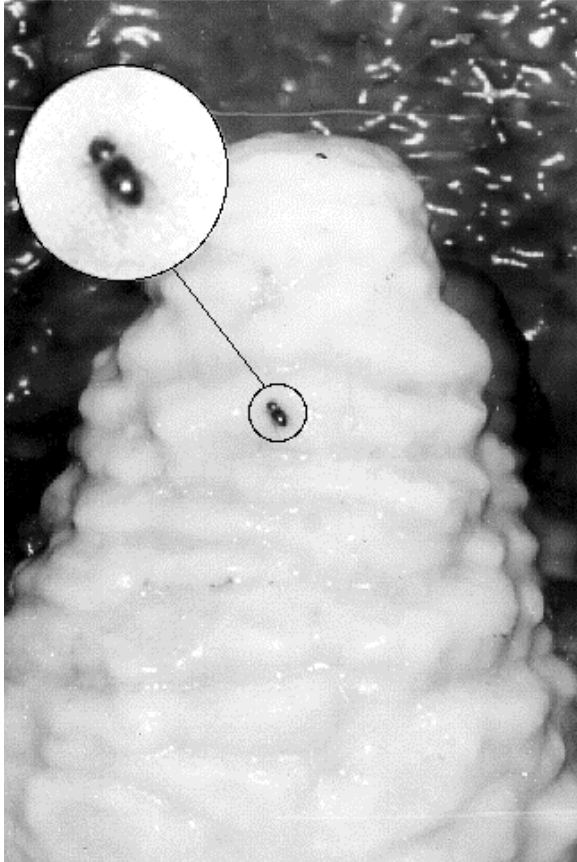


Figure 2 Stalagmite (approximately 50 cm high) in Cueva La Cachimba with trapped insect withing calcium carbonate.

are represented by several small complete insect bodies (Coleoptera) included in stalagmitic calcium carbonate. Although embeded in different scales in the calcite, but are perfectly recognizable by their outline. This case of entrapment and preservation has not been reported before and seems to be very simple. Wet surfaces of stalagmites are especially sticky for small insects, wich after death, are covered progressively by fine layers of precipitated calcium carbonate. Finally, their bodies cannot be easily differentiated from a simple spot (Fig. 2). The calcium

carbonate lamina would act as protecting layers if they cover the body of insects fast enough to avoid its decay and disarticulation. In this sense a more continuous dripping of water would favor preservation.

From a taphonomic point of view, this deposit is particularly important, because preservation takes place in a very quite diagenetic environment, where every structure is preserved. Also it opens a new window for exploring possibilities of discovering this invertebrate fauna, that has never been recognized in our fossil record.

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