



On the first terrestrial ostracod of the Superfamily Cytheroidea (Crustacea, Ostracoda): description of *Intrepidocythere ibipora* n. gen. n. sp. from forest leaf litter in São Paulo State, Brazil

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Abstract

Of the three superfamilies of Ostracoda present in fresh water, only the Cytheroidea had thus far no records in terrestrial environments. Here, we report on a new genus and species, *Intrepidocythere ibipora* n. gen. n. sp., of the ostracod superfamily Cytheroidea, from forest leaf litter in São Paulo State, Brazil. Judging from morphological similarities, this new genus is believed to be closely related to the genus *Elpidium*. Possible pathways that led to the colonisation of terrestrial habitats are discussed, and an overview is given on the distribution of the known terrestrial ostracod lineages. The present findings strengthen the idea that terrestrial ostracods are more common than previously thought, at least in tropical areas.

Key words: Ostracoda, Cytheroidea, terrestrial, meiofauna, distribution

Introduction

Invertebrates play an important ecological role in soil communities, and for this reason many articles about the structure and functioning of such ecosystems use these faunas as models (Einar 2000; Ruan *et al.* 2005). Forest litter biotas are normally composed of a mixture of animals originating from terrestrial (e.g. mites, insects) and freshwater habitats (e.g. nematodes, crustaceans). There is a substantial similarity in representation of major taxonomic groups between lineages from the aquatic meiofauna and those that have invaded damp soil. This led some authors to refer to these communities as litter meiofauna (Krivtsov *et al.* 2006).

Ostracods are small crustaceans characterized by a bivalve carapace that totally encloses the body and appendages (Horne *et al.* 2002). These animals can be found in nearly every conceivable aquatic habitat, e.g. temporary and permanent ponds, lakes, intermittent and permanent streams, ditches and irrigation canals, fens, caves and interstices of aquifers, moist organic mats and in axial cups of certain plants such as bromeliads (Delorme 2001).

The discovery of the first terrestrial ostracod, *Mesocypris terrestris*, by Harding (1953), from a rain forest in South Africa, caused significant scientific impact at the time. However, subsequent studies have shown that the occurrence of ostracods in terrestrial habitats is relatively common and widespread, even though still much more limited than the diversity and distribution of fully aquatic ostracods. The presently-known terrestrial ostracod fauna results from several independent invasions of this habitat. The genus *Terrestricythere* Schornikov, 1969, the only known representative of the superfamily Terrestricytheroidea Schornikov, 1969, colonised the terrestrial habitat from marine or brackish coastal environments. Species of *Terrestricythere*