
Introduction and dispersal of an American termite in Paris

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Abstract

Reticulitermes flavipes is a North American subterranean termite that has been introduced to countries all over the world, including France. The species arrived in the 18th century from Louisiana, landing on the French Atlantic coast. It subsequently spread throughout the country and was recorded for the first time in Paris in 1945. At present, Paris is highly infested by this termite species. We set up collaboration with the city of Paris to study this species' infestation dynamics in urban areas. One main objective was to identify the factors involved in its introduction and characterize its modes of dispersal; ultimately, we wished to describe the life history patterns seen in Paris and the species' spread. We analyzed the geographical distribution of termite infestations, as reported by city residents. The results indicate that the railway network may have played a role in the introduction and propagation of termites in Paris. Concomitantly, genetic analyses of sampled termites revealed the presence of secondary reproductives (neotronics), which suggests dispersal has occurred via budding rather than via swarms composed of primary reproductives. Taking into account this dispersal mode, we employed a landscape genetic approach to identify dispersal distances in our urban studied area.

Keywords: Landscape Genetics, Dispersal, Biological Invasion

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