

ELIMINATION OF A UNICOLONIAL TERMITE (ISOPTERA) POPULATION IN AN UNCOMMON URBAN SITE

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Abstract Ten years ago we identified a new European termite species called *Reticulitermes urbis* in the city of Domène (near Grenoble) in the French Alps. Subsequently our team established a contract with Domène city officials to describe this new taxon and evaluate the termite population in an effort to devise an eradication strategy. Genetic analysis demonstrated novel findings. Despite recent introduction (less than 40 years) in this unusual and previously unoccupied site, the colony covered nearly 7 ha. The colony structured consisted of an extended family with separate reproductive centers. Since there was no aggression among different nests within the colony, we defined this “genetic entity” as a supercolony. Study data also indicated significant isolation by distance among the collection points. Based on these findings we speculated that the termites had spread throughout the old town from a single zone by budding and/or human dispersion. Using this working hypothesis, a large-scale termite eradication program using baiting techniques was initiated in the old-town center in 2004 and in the rest of the city in 2005. Nearly all city inhabitants participated. In 2007 after only two years, 98% of the contaminated area was free of termites. Unicoloniality was certainly a major factor in achieving these spectacular results since the entire domenoise colony had the same origin and presented similar sensitivity to the IgR toxin. Following two previous descriptions involving *Coptotermes floridanus* and *R. santonensis/flavipes*, this is the third report describing a subterranean termite biological invasion.