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First occurrence of the crazy ant *Paratrechina longicornis* (LATREILLE) (Hym. Formicidae: Formicinae) in Switzerland

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Paratrechina longicornis (LATREILLE) has been recorded for the first time in Switzerland in the Kloten airport in Zürich. This species originates from the tropics and has been introduced into many parts of the world. In Europe, it was only mentioned from France and the British Isles.

Keywords: Formicidae, ants, *Paratrechina longicornis*, introduced pest ant, tramp species

Paratrechina longicornis (LATREILLE) is a pantropical species introduced into many parts of the world by human activities (KROMBEIN *et al.*, 1979). In December 1999, one of us (KD) found this species for the first time in Switzerland in the airport of Kloten, in Zürich. The ants were located in the Terminal B (arrivals). Twenty workers were collected on 6th December 1999. According to airport employees, these ants had already been present for a few weeks. We found the ants in the Lost Property Office (2 workers) and in an opposite kiosk (18 workers) where they were attracted by a soft drinks dispenser. We could not locate the nest itself. Voucher specimens are deposited in the entomological collections of the Museum of Zoology, Lausanne, and of the Swiss Federal Institute of Technology, Zürich.

Paratrechina longicornis probably originates from the old world tropics (Africa or more likely the Orient, SMITH, 1965) but has been introduced worldwide (especially in tropical regions) by commerce. It now occurs in the southern USA and is well established in many towns and cities of the Gulf Coast region. Further North and inland it is found more sporadically (SMITH, 1965; TRAGER, 1984). It was introduced in Brazil (BANKS & WILLIAMS, 1989), in different Caribbean Islands (HEDGES, 1998), in the Galapagos (BRANDAO & PAIVA, 1994; PEZZATTI *et al.*, 1998), in Polynesia (WILSON & TAYLOR, 1967), in Cameroon (see PASSERA, 1994) and in South Africa (PRINS *et al.*, 1990). In colder climates as in Europe, the crazy ant does not survive outdoors and is limited to interior. It has been recorded in the British Isles were it is frequent (COLLINGWOOD, 1979) and, according to BERNARD (1968), might occur in all large cities of France.

Paratrechina longicornis gets its popular name of crazy ant from its habit of running about very erratically with no apparent sense of direction. In spite of its commonness, its biology is still not well studied. The colonies are generally rather small containing up to 2000 workers and 8 to 40 queens (BLAKE, 1940). However, Blake also mentioned huge colonies numbering tens of thousands of workers and

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living outdoors in Florida and Texas. The crazy ant is highly opportunistic in its nesting sites, colonizing both moist and relatively dry environments (SMITH, 1965). Outside, it is a soil-nesting ant which excavates galleries under stones, boards (HEDGES, 1997) or lives in leaf litter, mulch, cavities in plants and trees, rotten wood, debris, trash, etc. (SMITH, 1965; HEDGES, 1998). In buildings, colonies are found within wall cavities, under carpeting, under and between items stored for long periods of time on the floor and are also common in potted plants (HEDGES, 1997, 1998). This species propensity for nesting in potted plant allows it to be shipped anywhere and this should be propably the most common method of dispersion to new areas (SMITH, 1965; HEDGES, 1998). Colonies of *P. longicornis* are very mobile and will move from one site to another if conditions become unfavorable (HEDGES, 1998).

The crazy ants are omnivorous. They feed on both live and dead insects, seeds, fruits, plant exudates and honeydew obtained by tending Homoptera (plant-lice, mealybugs, scales) (SMITH, 1965). In buildings, workers feed on many household foods such as meats, greases, sweets, fruits and vegetables and on liquids such as soft drinks.

The reproductive strategy of *P. longicornis* is not well known. In tropical and subtropical regions, it may produce sexuals at any time of the year, but in colder climates, alate production is apparently limited to the warm months of May through September (TRAGER, 1984). According to TRAGER (1984), *P. longicornis* does not perform a true nuptial flight. The females seem to mate at the nest entrance where the males are assembled. Colony reproduction must occur via budding (PASSERA, 1994).

The presence of the ants in the arrivals terminal of Zürich airport leads one to suppose that they have probably been introduced with some imported goods. In the building, they have found suitable living conditions. First of all, the inside temperature reaches about 22 °C. Moreover, numerous heat sources are present: motors of the soft drinks and food dispensers and of the fridges in the kiosk, lighting appliances, etc. The food is provided by the kiosk, with the numerous empty cans and other sweets in the trash and some small drops of soft drinks on the floor. The exploitation of soft drink dispensers by *P. longicornis* is well known. In restaurant, it is not uncommon to find this ant readily foraging for sweets on such dispensers (HEDGES, 1998). As *P. longicornis* is a very opportunistic ant, it can nest anywhere in the building which contains thousands of crevices or small hiding-places.

This high adaptability added to the particular social structure of *P. longicornis* (polygyny, polydomous, reproduction by budding) make the elimination of this ant very difficult. According to HEDGES (1998), "it is one of the most difficult structural pests of any kind to control", especially where this species is well established. This ant does not cause damage to buildings, but it can become very invasive, especially near food sources. Its possible expansion to sensitive locations should be closely watched.

In Switzerland, three other introduced pest ants are present: *Monomorium pharaonis* (L.) (FOREL, 1920), *Tapinoma melanocephalum* (FABRICIUS) (DORN *et al.*, 1997) and *Linepithema humile* (MAYR) (KUTTER, 1981). A fifth introduced ant, belonging to the genera *Cardiocondyla*, was found by K. DORN in the tropical house of the botanical garden in Zurich in 1995 (the species could not be identified because no sexuals were caught). A particular attention to such pest species should be paid. The introduction of tramp species in sensitive areas (homes, food processing plants, hospitals, etc.) is not only a nuisance, but may cause serious hygienic problems.

RÉSUMÉ

Paratrechina longicornis (LATREILLE) a été découverte pour la première fois en Suisse à l'aéroport de Kloten à Zurich. Cette fourmi d'origine tropicale a été introduite dans de nombreuses régions du globe mais n'était connue en Europe qu'en France et en Grande-Bretagne.

REFERENCES

BANKS, W.A. & WILLIAMS, D.F. 1989. Competitive displacement of *Paratrechina longicornis* (Latreille) (Hymenoptera Formicidae) from baits by fire ants in Mato Grosso Brazil. *J. Entomol. Sci. 24*: 381–391.

BERNARD, F. 1968. *Les fourmis (Hyménoptères: Formicidae) d'Europe occidentale et septentrionale*. Masson et Cie, Paris, 411 pp.

BLAKE, C.H. 1940. Notes on economic ants. Parts I & II. *Pests 8 (11–12)*: 16–18, 8–10.

BRANDAO, C.R.F. & PAIVA, R.V.S. 1994. The Galapagos ant fauna and the attributes of colonizing ant species. *In:* WILLIAMS, D.F. (ed.), *Exotic ants. Biology, impact, and control of introduced species*, pp. 1–10. Westview Press, Boulder.

COLLINGWOOD, C.A. 1979. *The Formicidae (Hymenoptera) of Fennoscandia and Denmark*. Scandinavian Science Press Ltd, Klampenborg, 174 pp.

DORN, K., LANDAU, I. & CHERIX, D. 1997. Einschleppung von *Tapinoma melanocephalum* (Formicidae) in der Schweiz. *Mitt. Schweiz. Ent. Ges. 70*: 242–243.

FOREL, A. 1920. *Les fourmis de la Suisse*. Le Flambeau, La Chaux-de-Fonds, 333 pp.

HEDGES, S.A. 1997. Chapter 12: Ants. *In:* HEDGES, S.A. (ed.), *Mallis Handbook of pest control*, pp. 503–589. Franzak & Foster, Cleveland.

HEDGES, S.A. 1998. *Field guide for the management of structure-infesting ants*. G.I.E. Inc., Cleveland, 304 pp.

KROMBEIN, K.V., HURD, P.D.J., SMITH, D.R., & BURKS, B.D. 1979. *Catalog of Hymenoptera in America North of Mexico. Volume 2: Apocrita (Aculeata)*. Smithsonian Institution Press, Washington, 2209 pp.

KUTTER, H. 1981. *Iridomyrmex humilis* (Hym., Formicidae), Gattung und Art neu für die Schweiz. *Mitt. Schweiz. Ent. Ges. 54*: 171–172.

PASSERA, L. 1994. Characteristics of tramp species. *In:* WILLIAMS, D.F. (ed.), *Exotic ants. Biology, impact, and control of introduced species*, pp. 23–43. Westview Press, Boulder.

PEZZATTI, B., IRZAN, T., & CHERIX, D. 1998. Ants (Hymenoptera, Formicidae) of Floreana: lost paradise? *Noticias Galápagos 59*: 11–20.

PRINS, A.J., ROBERTSON, H.G., & PRINS, A. 1990. Pest ants in urban and agricultural areas of southern Africa. *In:* VAN DER MEER, R.K., JAFFE, K., & CEDENO, A. (eds), *Applied myrmecology. A world perspective*, pp. 25–33. Westview Press, Boulder.

SMITH, M.R. 1965. *House-infesting ants of the eastern United States. Their recognition, biology, and economic importance*. Technical Bulletin n° 1326, Agricultural Research Service, United States Department of Agriculture, Washington DC, 105 pp.

TRAGER, J.C. 1984. A revision of the genus *Paratrechina* (Hymenoptera: Formicidae) of the continental United States. *Sociobiology 9*: 51–162.

WILSON, E.O. & TAYLOR, R.W. 1967. The ants of Polynesia (Hymenoptera: Formicidae). *Pacific Insects Mono. 14*: 1–109.

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