

78th Congress of the
Unione Zoologica Italiana

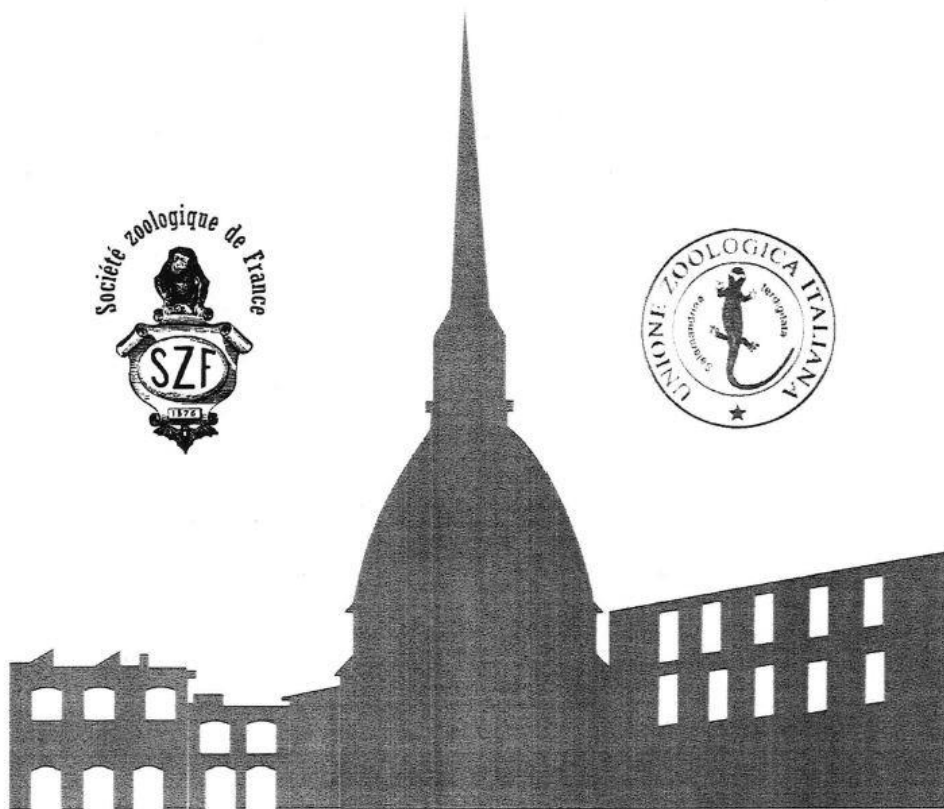
118th Congress of the
Société Zoologique de France

*Second Joint Meeting of Société Zoologique de France and
Unione Zoologica Italiana*

Torino, 18-23 September 2017

The evolution of animal diversity: a comparative approach

Abstract Book



Department of Life Sciences and Systems Biology - University of Torino

AULO MANINO¹, SANDRO BERTOLINO², LUCA CARISIO¹, DANIELA LAURINO¹,
SIMONE LIOY¹, ANDREA ROMANO¹, MARCO PORPORATO¹

¹ Dipartimento di Scienze Agrarie, Forestali e Alimentari, Università di Torino

² Dipartimento di Scienze della Vita e Biologia dei Sistemi, Università di Torino

VESPA VELUTINA (HYMENOPTERA VESPIDAE): A GLOBAL THREAT TO BIODIVERSITY AND FOOD SECURITY

The Yellow Legged Asian Hornet (*Vespa velutina* Lepeletier 1836) is native from South-East Asia. It is rapidly spreading out of its distribution area either in Asia, where at the moment it is present in South Korea and Japan, or in Europe, where it arrived in 2004 in France and is now reported from Spain, Portugal, Belgium, Italy, Germany, Great Britain, and Switzerland. *V. velutina* may invade nearly all the warm-temperate areas of the world with sufficient water available during the summer months. *V. velutina* builds large nests and eagerly preys upon other insects to feed its larvae. In the recently invaded areas, its diet consists of diptera, other vespidae, wild bees, and mostly of the Western Honey Bee (*Apis mellifera* L. 1758). Such a behaviour impacts directly on the biodiversity of these insects and indirectly on the biodiversity of the plants which depend on bee pollination for seed production. On this ground, the European Union recently placed *V. velutina* in its first list of invasive alien species of Union concern even though quantitative data on damages it produces are still rather scarce. Therefore, investigations have been started within the LIFE14 NAT/IT/001128 STOPVESPA project in order to assess the impact of this species on beekeeping and wild pollinators in western Liguria, which is the Italian territory where *V. velutina* is mostly prevalent. The beekeepers who have been interviewed complain about substantial reductions in honey production and the loss of many colonies mostly because the hornets flying near the hives impair the normal fly activity of the honey bees. Nevertheless, these outcomes are unevenly present throughout the area and therefore environmental conditions and colony management may reasonably have some influence on the extent of the observed damages. In 2016 and 2017, wild bee and other pollinating insects were sampled every 20 days by means of pan traps in six localities distributed along western Liguria coast; their abundance tend to change in relation with *V. velutina* density gradient. Altogether, *V. velutina* impact in the studied area appears rather alarming, especially when considering that other invasive alien species of tropical origin, which are also dangerous for bees and beekeeping, are presently spreading from their native areas as a consequence of trade globalization and global warming.