

OR130*Global life trait spectra of resource exploitation in European ants***Kim Cerda**, Javier Retana, Xavier Arnan, Elena Angulo, Raphaél Boulay

The leading dimensions of ecological variation have been widely discussed in plants in the last decade using the effort of generating large datasets about species traits. However, relationships among traits, function and the environment are poorly understood in animals, where large databases are hardly available. Here we seek to identify the main functional spectra of variation among many of the most important functional life traits related to resource exploitation in ants. We have created a global ant trait database of eleven traits recognized as important in resource exploitation by ants from 150 European species including a wide range of species from different biomes. The overall results of the study show wide-ranging evidence that resource exploitation strategies are to a great extent arrayed along two fundamental spectra, with similar patterns of trait relationships seen globally and with species grouped by taxonomy, habitat and climate. The first syndrome is the behavioral dominance spectrum and reflects that behaviorally dominant ants are frequently characterized by large colony size, different nests per colony, worker polymorphism and collective foraging strategies. The second spectrum of resource exploitation is the foraging strategy/diet spectrum, which mainly separates subordinate species and runs from species with diet based on liquid food and group foraging to those with diet based on insects and seeds, individual foraging, larger worker size and strictly diurnal activity. The combination of life traits that define these two spectra of resource exploitation allows classifying ant species into clearly separated guilds. These general patterns have been obtained bringing together a high number of life traits across many taxa and most biogeographical regions in Europe, something very difficult to find in animals.