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Poster session

Maddalena Giuggioli a, Farid Dahdouh-Guebas b & Stefano Cannicci c

a Dipartimento di Biologia Animale e Genetica «Leo Pardi», Università di Firenze, via Romana 17, Firenze, I-50125, Italy
b Kenyan Belgian Project, Vrije Universiteit Brussel, Labo voor Ecologie, Pleinlaan 2, Brussel, 1050, Belgium
c Dipartimento di Biologia Animale e Genetica «Leo Pardi», Università di Firenze, via Romana 17, Firenze, 1-50125, Italy

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Competition and predation between the river crab *Potamon fluviatile* and the crayfish *Austropotamobius pallipes*

PAOLA DARDI
FRANCESCA GHERARDI
Dipartimento di Biologia Animale e Genetica «Leo Pardi»
Università di Firenze
via Romana 17, 1-50125 Firenze (Italy)

In decapods, intraspecific competition has been generally invoked as the main factor conditioning both the partitioning of fundamental resources (e.g., food, shelter, and sexual partners) and the spatial segregation of the examined populations. In contrast, only anecdotal information has been provided concerning the influence that interspecific competition might exert on the exploitation of common resources, as well as on the geographic distribution of the species.

*Potamon fluviatile* (Herbst) and *Austropotamobius pallipes* (Faxon) are widely diffused in Appennine streams. Previous field studies (Froglia, 1978; Hynes, 1970; Tarducci, 1987) showed that the two species do not share the same rivers; only *A. pallipes* is found on the north side of the Tuscan-Emilian Appennine, while both species are present on the south side, but never coexist in the same stream.

The two species have been studied in the laboratory, with the aim of understanding this sharp geographical segregation. Experiments showed that the larger the individual decapod is, the higher is the probability of winning a contest with a heterospecific. In both species, individuals of medium and small size used weak agonistic patterns (e.g., avoidance), and only large crayfishes showed a high aggressivity towards immature crabs. *P. fluviatile* had the stronger aggressive repertoire, usually preying upon *A. pallipes* of medium and small sizes.

Within the framework of the paleo-ecological studies of Pretzmann (1987), an ethological hypothesis was set forth which explains that *A. pallipes* is confined to less favourable habitats (where, e.g., temperature is at the limit of the physiological tolerance of the species) in order to avoid the strong predatory pressure exerted by the dominant freshwater crab.

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REFERENCES


