Conférences publiques de l'Institut Francilien d'Ethologie et
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Amphi 7 - UFR LSHS - UNIVERSITE PARIS 13 Sorbonne Paris Cité

13h30-15h00 : Jan Šobotník - Evolution of termite defence
15h00-15h30 : Pause-café
15h30-17h00 : Martin Seltmann - Of milquetoasts and daredevils: personalities in female eiders

Evolution of termite defence

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Termite colonies consist of several castes, which, unlike in other social insects, result from distinct ontogenetic pathways. Primitive species reveal very plastic ontogeny, while advanced ones show rigid ontogeny with irreversible split between sterile and fertile colony members and task specialization among up to three worker and soldier subcastes.

Soldier caste is a synapomorphy of all termites. Particular lineages reveal different defensive strategies with soldiers being classified as **biting** (crushing, slashing, reaping), **phragmotic**, **snapping** (symmetrical or asymmetrical) or ejecting defensive fluids (**nasutes**, **nasutoids**). Apart from mandibles, soldiers possess two defensive glands (labial and frontal), whose development is usually mutually exclusive. Soldiers also differ in other aspects, like defensive behaviour, size difference compared to workers, or proportion in the colony.

Although soldiers are defenders of prime importance, other castes are often involved in colony defence. Workers always fight during conflicts, and their role is especially important in (i) **building defensive structures** (nests and galleries); (ii) **soil-feeding species** which in general have lower soldier proportion, and complete soldier caste disappearance occurred in several independent linages, with workers showing several features typical of soldiers (high aggressiveness, presence of defensive glands); (iii) **conspecific conflicts** of chemically well-

defended species which developed specific auto-detoxification mechanisms. Imagoes defend against predators before all by synchronization of dispersal flights, but many species reveal presence of the frontal gland, which may in some cases exceed in size the frontal gland of soldiers.

All above-mentioned characters reveal interesting evolutionary history with many examples of convergent evolution. In this talk I will disentangle termite defensive strategies, place them in their ecological context, and emphasise the evolution morphological novelties.

Of milquetoasts and daredevils: personalities in female eiders

Martin Seltmann

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Human personality research has a long history and dates back to the late 19th century. We are very well familiar with personalities in humans, but these patterns are not that clear in non-human animals. Pet owners might disagree and grant personality traits to their animal fellows. But then, what about wild animals? Don't individuals from one species mostly not all look alike and behave the same way? An accumulating body of studies proof that they don't. By studying a population of wild eider ducks (*Somateria mollissima*) on the south-western coast of Finland, we found that also female eiders differ consistently in a suite of behavioural and physiological traits, corresponding to the concept of animal personalities. These behavioural and physiological differences affect females' social role, nest site characteristics and reproductive performance, suggesting that those traits are exposed to natural selection and thereby can evolve. Furthermore, we demonstrate how individual variation in personality and stress coping strategy is linked to the alternative ways in which animals resolve essential life-history trade-offs.

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