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### Poster session

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## The flocking behaviour of migrating honey buzzards

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The raptors that employ mostly soaring flight during migration over land, use flocking behaviour for the location of the thermals (Kerlinger, 1989; Agostini, 1992). Observations carried out at Cap Bon in the first half of May 1990, stressed that, for honey buzzard (*Pernis ptilorvus*), this strategy is also very important during the crossing of large surfaces of water. Honey buzzards, in fact, like the black kite (*Milvus migrans*) (Agostini & Duchi, in press), tend to cross the Sicilian Channel more frequently when they migrate in large flocks. However, being also influenced by wind strength and direction (Agostini *et al.*, in press), they generally hesitate to undertake the crossing. The flocks tend to remain united on arriving on the promontory of the Tunisian peninsula, because the first individuals taking a decision (crossing or not) are followed by the others.

Studying the autumn honey buzzards migration above Malta, Thake (1980) hypothesized that flocking behaviour can also be utilized to diminish orientation errors through information transmission. Such a hypothesis would imply a contemporaneous migration of adults (expert individuals) and the young (inexpert individuals). This, however, does not occur among long distance migrating raptors because the adults precede the young during the spring migration (Kerlinger, 1989). Observations carried out on the Calabrian Appennines from 24 August to 5th October 1993, have moreover showed that this tendency, in the honey buzzard, is also evident during autumn migration.

This difference in the period of migration seems to confute Thake's theory. On the contrary, the behaviour of raptors at Cap Bon suggests that gregariousness is important for the crossing of large surfaces of the water, because an increase in flock size increases the probability that the flock will contain one or more individuals with a pronounced tendency to continue migrating.

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## Wintering activities of *L. ridibundus* (Black-headed gull) in four typical coastal areas of Campania

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We monitored activities of wintering of the black-headed gull in four coastal areas of Campania where they look for food: Cuma, Coroglio, Castellammare di Stabia and Salerno. The characteristics of these places are generally the presence of seasonal rivers and the drains of heavily built-up areas; they are rich in trophic material, and they are surrounded by a man-made stretch of sand (Grotta *et al.*, 1988).

We attempted to monitor the presence of food searching activity, as well as its temporal pattern every twenty days from November to February. In an area of approximately 0.5 ha we noticed the presence of two forms of behaviour: 1) food searching and absence of aggressive behaviour; 2) food searching and temporary defence of a small and variable area.

In comparison with the type 2, the type 1 birds present a higher activity, both moving on ground and flying; anyway, during the wintering, the time taken by the type 1 birds in their different locomotory activities is almost constant, but this does not happen for birds of type 2.

In Salerno the birds of type 2 present more aggressive interactions than the birds of other areas.

The preference for habitats in which the birds find their food (foreshore, river mouth and beach) is different in the considered areas. Particularly, in Salerno the gulls prefer the river mouth, in Coroglio both the river mouth and the beach, in Castellammare di Stabia the foreshore and the river mouth, and in Cuma the foreshore.

From November to February there is an increase of trophic exploitation of habitats in Salerno and in Coroglio.

Swell and wind seem to be the main climatic factors affecting motor activities related to food searching behaviour.

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