

**Foraging of *Bombus terrestris* (L.) (Hymenoptera, Apidae)
in relation to wind**

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Bumblebees present a great ability of individual learning. This learning can be observed through the forager's fidelity to a single kind of flower morphology and to a single foraging place. For example, foragers of *Bombus terrestris* (L.) choose the best nectar and/or pollen producing flowers, with bilateral symmetry (as Fabaceae). Likewise, facing the same flowers, foragers choose the biggest and nearest patch from the nest. These facts are included in the « optimal foraging » theory postulating a selection pressure for energetic costs' optimisation linked to harvesting of food resources (pollen and nectar). As a part of this theory, the influence of eco-climatic factors, i.e. wind, is badly known. On places bearing frequent winds, do bumblebees take wind axis, direction and/or velocity in account for their foraging?

Two breeding colonies of *B. terrestris* were placed among fields at Pla del Bac (Eyne, Pyrénées-Orientales, France), a well-known place for its frequent winds. Each worker of these colonies was marked with a little coloured and numbered label. Flower patches of Pla del Bac have been exhaustively mapped and described. Afterwards, we walked all over the fields looking for the marked foragers. The position of each re-capture was recorded thanks to GPS. The velocity and direction of wind were measured each half an hour.

We show that re-visitation frequencies are higher on patches of *Vicia cracca* L., in the near vicinity of the nest (between 31m-68m). These patches are located in the main wind axis. Other patches of

V. cracca or more attractive flowers (i.e., *Trifolium pratense* L.) located outside this main axis, are less visited. On the one hand, it seems that the wind axis influences the foraging of bumblebees. On the other hand, no influence of the wind direction and velocity is observed.