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Food Relocation Behaviour in *Pimelia*

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*Pimelia sp.* is a tenebrionid beetle quite common in Italian coastal dunes. It is an organism that occasionally performs a behavioural strategy (Food Relocation) consisting in the active space-time separation between food achievement and its use.

All hypothesis about origin and evolution of behaviours which involve Food Relocation Behaviour (Food Caching, Food Hoarding, Nest Provisioning, etc.) postulate that the condition in which food is consumed on the spot is the primitive one. *Pimelia* in natural conditions, show Food Relocation occasionally and in rudimentary manner. In laboratory it's possible to induced this behavioural strategy. In fact, in condition of previous starving and, of strong intra- and interspecific competition determined by high density of individuals, there is a high frequency of relocations.

This is very important for the study of evolution of this behaviour because give the support to the hypothesis that the Food Relocation Behaviour originates as a tactic whose meaning is tied to competition for food and space.

#### REFERENCES

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## Life cycle of dung beetles

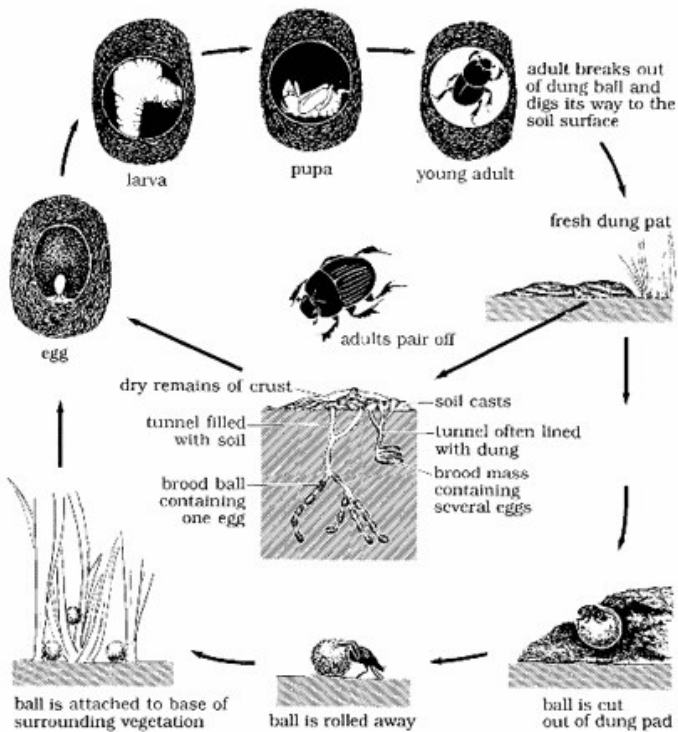
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Dung beetles, known as *rollers*, are noted for rolling dung into spherical balls, which are used as a food source or brooding chambers. Other dung beetles, known as *tunnellers*, bury the dung wherever they find it. A third group, the *dwellers*, neither roll nor burrow: they simply live in manure.

The size of a dung beetle varies from species to species. The "dwellers" are usually small and elongate. Dung beetles are basically black or brown in colour; some are of metallic lustre, especially the tropical species. Most dung beetles have a flattened, but stout body. The male of some species has horns at the head or thorax. Some dung beetles, other than the "dwellers", have strong, often "toothed" legs specialised for rolling dung and burrowing. The tarsi at the forelegs of an old dung beetle are usually damaged or lost owing to the labor of burrowing - some species do not have tarsi at the forelegs at all. Dung beetles live in many different habitats, including desert, farmland, forest, and grasslands. They do not like extremely cold or dry weather.

The behaviour of the beetles is so interesting, that it fascinated Jean Henri Fabre, in the early 20<sup>th</sup> century.

The life cycle is shown in the following diagram.



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