

## Dung Beetle Fact Sheet: 8

### *Copris hispanus*



**Size:** up to 25 mm

**Characteristic features:** This is a large-sized, glossy black beetle. Males and females have a curved horn on the head. In 'major' males (top image) this horn is an impressive size, long, robust with pronounced re-curved. Horn morphology in both minor males and females (bottom image) is virtually the same; reduced in size, and poorly recurved. The horn on the pronotum is absent from the latter making the minor morphs resemble females in which these structures are absent making sex determination between the two almost impossible without checking the genitalia! Females and minor males are armed with a simple ridge line across the pronotum (shoulders). In contrast the ridge line in major males is sculptured, ornate and pronounced.

**Origin:** Mediterranean regions of Europe and North Africa.

**Export Distribution:** Australia, New Zealand.

**Expected distribution in New Zealand:** Limited to North Island and annual rainfall under 1000mm per annum.

**Flight Activity:** night-time and especially active at times of rain.

**Seasonal Activity:** April to November

**Dung preferences:** Fresh cattle, horse, sheep manure. This beetle prefers larger volume dung necessary for nest building but has been reported to colonise sheep manure piles (logs and/or pellets clustered together) and bury it with great effect!

**Nesting behaviour:** During the late autumn and winter months new adults fatten up and become sexually mature. Males' in this time construct a nesting chamber 30-40cm beneath soil surface via a tunnel originating from the dung source. The chamber is loaded with a grapefruit-sized dung cake which is used to lure the female for mating. Once mated, the female alone constructs from the cake 4-6 brood balls, each containing a single egg. The female stays entombed with her brood protecting them until the developing young hatch in autumn. Mum and progeny emerge

and repeat or begin the process respectively for 2 -3 years. Female brooding in dung beetles is among the greatest examples of parental care in the insect world.

**Life Cycle:** Egg laying occurs in the spring. Development from egg-adult takes 4-6 months with new adults (and mum) emerging in autumn. Adults are active through winter.

**Abundance:** This beetle does not reach highly abundant populations compared to other species like *Bubas bison* owing to the very low reproductive output (see below). Population growth is therefore slow compared to other species. However, it makes up for its low abundance by burying large volumes of manure in one sitting. Their presence is characteristic of large soil push-ups around the circumference of a manure pile reminiscent in size of those produced by a naked mole rat! The number of dung beetles per farm depends on many criteria but most importantly the amount of fresh dung available, and dung quality. Chemical residues from livestock drenches can be detrimental but not critical to dung beetle population growth. Dung beetle friendly drenches are available. An integrated approach using dung beetles and drenches is recommended with an awareness of the side effects chemical residues in drenches can have on of dung beetles. For information on dung beetles and drenches please refer to the blog page of the Dung Beetle Innovations website: [www.dungbeetles.co.nz/blog/](http://www.dungbeetles.co.nz/blog/)