

# Northern Dune Tiger Beetle

## *Cicindela hybrida*



Top: Adult Northern Dune Tiger Beetle, Bottom: Northern Dune Tiger Beetle head © Alex Hyde

### Identification

Northern Dune Tiger Beetles are closely related to the Dune Tiger Beetle but, despite occupying the same habitat, occur in different regions within the UK. It is also related to the Heath Tiger Beetle but, as the name suggests, this is found only on heathlands. These three species have similar characteristics but should never be confused due to their unique ranges.

Northern Dune Tiger Beetles can be identified by their large size, red/brown appearance, three white/cream coloured bands on each wing case, large mandibles and an iridescent green underside. Their behaviour can also aid with identification, moving in short, sharp bursts, stopping for a second before moving again. When disturbed, they fly in short arches landing just a few meters away.

### Surveying

**Where:** Northern Dune Tiger Beetles are found in just two locations in the UK, the coastal sand dunes of Merseyside and Cumbria in the north-west of England. Surveys should be focussed where the right habitat characteristics are present, specifically an abundance of bare sand, undulating terrain and sparse vegetation. Use aerial imagery to identify areas of bare sand and start surveying from there. As you carry out more surveys, extend your search area to surrounding habitat which may be less ideal.

Northern Dune Tiger Beetles will bask on sunny, sheltered, southerly-facing slopes but will spend time hunting in any area of bare sand regardless of orientation, surveys should therefore focus on all areas of bare sand.

**When:** There are two co-existing populations of Northern Dune Tiger Beetles that emerge at different times of the year. Surveys should therefore be timed to coincide with the emergence of each population, the first in late-April to June and the second from late-July to September.



*Northern Dune Tiger Beetle adult burrows © Fiona Sunners*

Surveys should be carried out in warm, sunny, still conditions. Adults emerge from their burrows between the hours of 7am-10am when the entrances reach 19°C and on hot, sunny days are most active between 10am-12pm when surface temperature is between 35°C and 42°C. Morning surveys are therefore more productive than afternoon surveys, especially on very hot days. In the afternoon, when surface temperature rises above 42°C, beetles begin to retreat to burrows or seek shade to cool down. By 6pm, most individuals will have returned to their burrows.

Avoid surveying on cold and/or windy days and also in the afternoon on very hot days. These conditions are unsuitable for population counts but may provide an opportunity to search new areas for evidence of presence/absence in the form of adult or larval burrows. The gap between the two populations through June to late-July should be avoided; some individuals may be present but not enough to make population counts worthwhile.

**How:** Split the site into manageable survey areas, it should be possible to survey each area within 2-3 hours. Carry out a visual search of your survey area, walk slowly scanning a couple of meters ahead of you as you walk. Once a Northern Dune Tiger Beetle has been spotted, record the grid-reference and search the surrounding 5m radius, counting all individuals seen. Move on and take the next grid reference when you spot the next un-counted beetle, record and repeat.

Repeat the surveys, following the same route, a minimum of four times across each population (eight times

throughout the whole season) in favourable weather. Compare the four (or more) surveys for each population, taking the highest daily count per area. For each survey area, you should have two peak counts from the May and August population, combine these for a total population estimate.

Where habitat conditions appear suitable but there is an apparent lack of Northern Dune Tiger Beetles, time should be spent searching for larval and adult burrows to determine presence or absence. These are not reliable for population surveys, as adults may dig new burrows each night. If burrows are found but no individuals are observed, return on another day in suitable weather to observe adult beetles and carry out a population count.

### What to record

Records in the field should be captured on a recording form or in a notebook. For each survey, the date, start time, end time and weather conditions should be recorded. For each sighting, record the 10-figure grid reference (British National Grid), species and abundance. Grid references can be captured using a handheld GPS or mobile phone with a grid-reference app.

### Protection

Northern Dune Tiger Beetles are protected in the UK under the Wildlife and Countryside Act 1981 and listed as a species “of principal importance for the purpose of conserving biodiversity” covered under section 41 (England) of the NERC Act (2006) and a priority species under the UK Biodiversity Action Plan (UK BAP). Always obtain the landowners permission prior to carrying out any surveys.

### Personal safety

All lone-working should be avoided if possible. Where this isn't possible, a buddy system must be enforced; provide someone local with your start and estimated end time, mobile phone number and the location of your survey area.