

Omus audouini

English name Audouin's Night-stalking Tiger Beetle

Scientific name *Omus audouini*

Family Carabidae (Ground and Tiger Beetles)

Tribe Cicindelini (Tiger Beetles)

Other scientific names *Omus ambiguus*, *O. borealis*, *O. californicus audouini*, *O. cephalicus audens*, *O. oregonensis*, *O. rugipennis*, *O. solidulus*

Risk status

BC: critically imperilled (S1); Red-listed; BC Conservation Framework
Highest Priority: 1 (Goal 3, Global response)

Canada: may be at risk (N2); COSEWIC: not yet assessed, status report
commissioned (2012)

Global: secure (G5)

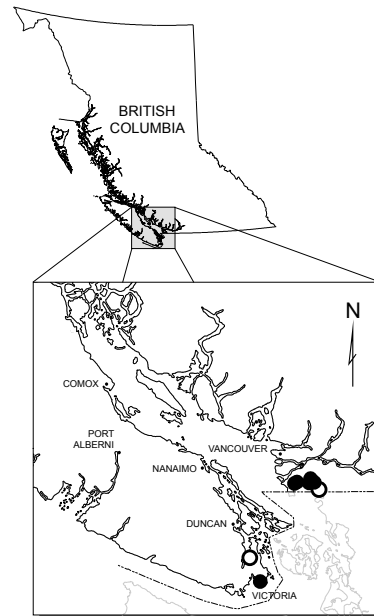
Elsewhere: Washington – secure (S5); Oregon – secure (S5); California –
apparently secure (S4)

Range/Known distribution

Audouin's Night-stalking Tiger Beetle occurs in coastal western North America from extreme southwestern British Columbia to northwestern California. A few inland records are known from central southern Washington and southwestern Oregon. In Canada, this species is restricted to a small area of the Georgia Basin on southeastern Vancouver Island in and around Victoria (one recent and several historical records) and the adjacent mainland in the Boundary Bay area (one historical and several recent records).

Field description

Adults. Adult *Omus* are "tiger beetles", part of the "ground and tiger beetle" family Carabidae. Adult Carabidae can be distinguished from almost all other beetles by the **large fused plate covering most of the first abdominal segment** at the base of the hind pair of legs. Tiger beetle adults are active predators with **large eyes**, distinctive **sickle-like mandibles**, and **thread-like 11-segmented antennae attached to the upper edge of the clypeus** (above the mandibles). Adult *Omus* are distinguished from other tiger beetles (genus *Cicindela*) in British Columbia by their **uniformly dark-coloured appearance, inability to fly, and**



Distribution of *Omus audouini*

- Recently confirmed sites
- Historical sites

Species at Risk in Garry Oak and Associated Ecosystems in British Columbia





Omus audouini

nocturnal habits. Audouin's Night-stalking Tiger Beetle is a relatively "svelte" beetle **14-18 mm long**, with a **slim thorax and abdomen** and **unadorned elytra** (the hardened wing cases on a beetle's abdomen).

Larvae. Larval tiger beetles are grub-like, solitary soil burrowers about 30 mm long at maturity with a **dorsally humped 5th abdominal segment bearing large spines**. *Omus* larvae have **3 pairs of spines on the 5th abdominal segment hump** – all other tiger beetles have 2 pairs. Larvae are sit-and-wait predators, each lying within its burrow with its head plugging the burrow entrance. Their presence is often first noticed by the sudden appearance of a small dark hole in the ground when a disturbed larva retreats deeper into its burrow.

IDENTIFICATION TIPS

Adult *Omus* tiger beetles hide during the day (day-active, brightly patterned, or flying tiger beetles in BC will be *Cicindela*). Greater Night-stalking Tiger Beetle (*Omus dejeanii*) is the only other *Omus* species in BC, and adults are easily distinguished from Audouin's Night-stalking Tiger Beetle by their larger size (18-21 mm), broad "shoulders", thin "waist", rounder abdomen, and about a dozen shallow dimples on each wing case.

Larvae of *Omus* species cannot easily be distinguished from each other.

Life history

The life cycles of most *Omus* tiger beetles appear to be completed in 3 years with much of the time spent as larvae. In general, adult female tiger beetles lay single 2-4 mm long eggs in the soil; in captivity, females may lay 10 to 20 eggs per day. Eggs hatch in 9 to 38 days and larvae excavate long, narrow burrows in which they progress through 3 instars (larval stages). After completion of the 3rd stage, each larva pupates at the bottom of its burrow. Pupation is generally completed in 18 to 30 days but may last overwinter. After pupation, adults emerge from pupal chambers and live for about 8 to 10 weeks. In BC, Audouin's Night-stalking Tiger Beetle adults are present and most active from early May to late July with some individuals present in late April and into September. Adults and larvae prey upon a wide range of insects and other relatively small organisms. Adults actively hunt down their prey; larvae attack prey that venture too close to their burrows.

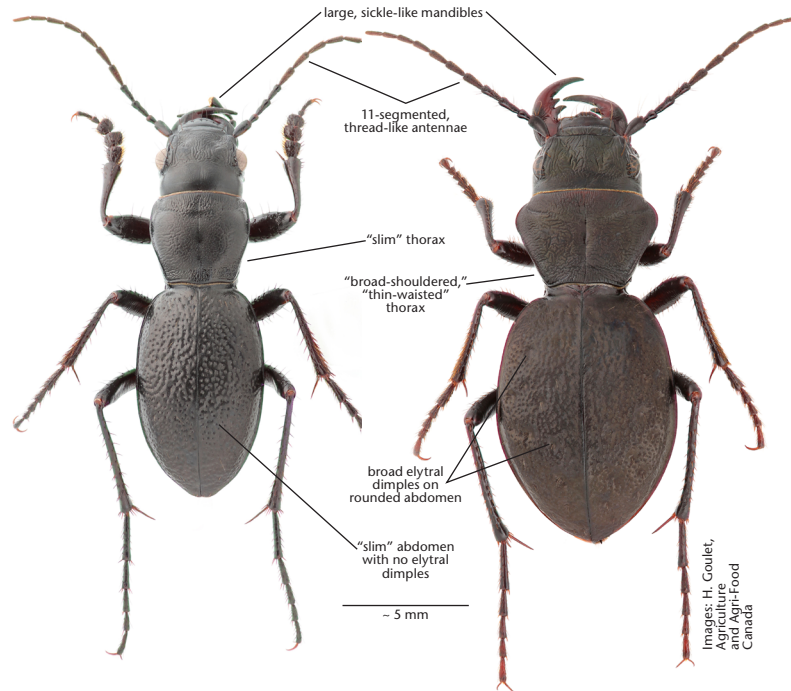
Habitat

Audouin's Night-stalking Tiger Beetle primarily occurs in moist, shaded forest floor habitats of the coastal plains, seaside open meadows, and clay banks. The species is more likely to be found in open habitat than is Greater Night-stalking Tiger Beetle.

In BC, all recent records have been from open areas of relatively natural habitat close to the ocean: a grassy bluff (Dallas Road, Victoria), a sand spit (Blackie Spit, Surrey), and grassy areas near mudflats (Boundary Bay, Surrey). The sites are characterised by relatively loose sandy soils with primarily non-native grasses and native and non-native herbs and shrubs. In BC, Audouin's Night-stalking Tiger Beetle appears to be restricted to open low elevation habitats adjacent or close to saltwater.

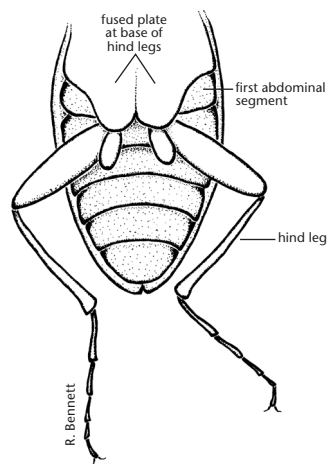
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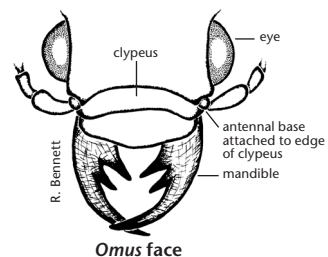


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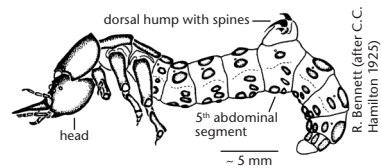
Omus dejeanii



tiger/ground beetle ventral abdomen



Omus face



Omus larva

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Omus audouini

Larval burrows are associated with relatively open, exposed, horizontal clay soils. In BC neither larvae nor oviposition behaviour have been noted. It is unknown if the BC collection sites for adults indicate the presence of populations there or random wandering of foraging individuals from adjacent habitats.

Why this species is at risk

Although additional sites for Audouin's Night-stalking Tiger Beetle may be found, the species is rare and localized in BC and is at risk of extirpation. Of particular concern is the reduction or destruction of suitable open habitat for larvae through invasion by non-native plants, natural habitat succession, and/or development.

All BC records are at low elevation sites in a small area of the Georgia Basin and all but one site (Dallas Road bluffs) may be flooded during winter storm surges. In addition, climate change (sea level rise) and/or geological events (earthquakes and tsunamis) could impact all known BC sites.

What you can do to help this species

Management practices should be tailored to the needs of the site and may require experimentation prior to implementation. **No action should be taken without expert advice. Please refer to the introductory section of this manual.**

Property managers should be made aware of appropriate management practices for existing and any new populations. Management practices include protecting occupied sites, limiting access to sensitive habitat, removing invasive species, monitoring status of known populations, and searching potential habitat for new populations.

If you see this species, DO NOT CAPTURE it, but take clear photographs if possible and record pertinent information such as date observed and the exact location. Detailed information should be given to the BC Conservation Data Centre (www.env.gov.bc.ca/cdc).

References

- Hatch, M.H. 1953. The beetles of the Pacific Northwest. Part 1: introduction and Adephaga. University of Washington Publications in Biology. 16: 1-340
- Pearson, D.L., Knisley, C.B., and Kazilek, C.J. 2006. A field guide to the tiger beetles of the United States and Canada: identification, natural history, and distribution of the Cicindelidae. Oxford University Press, New York, New York. vi + 227 pp.

For further information, contact the Garry Oak Ecosystems Recovery Team, or see the web site at: www.goert.ca.

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