Identification

*Pygmaeascincus sadlieri* is a tiny skink (snout-vent length (SVL) 30 mm; Cogger 2000), pale brown with a paler narrow dorsolateral stripe and dark brown flanks. Lips are whitish, flecked with brown and the ventral surface is also pale brown (Wilson 2005). Frontoparietals and interparietals are fused to form one large shield. Two pretemporal scales, and enlarged upper palpebrals (see Greer 1991 or an appropriate reptile field guide for diagrams). *Pygmaeascincus sadlieri* also has four fingers, five toes and unblinking, fused lower eyelids (Vanderduys 2005).

Within its range, *Pygmaeascincus sadlieri* may be confused with a similarly small skink *Lygisaurus foliorum*, but the latter may be distinguished by free frontoparietal and interparietal scales, its lack of dorsolateral colour separation, greater leg length relative to body length as the front and hindlimbs will overlap when pressed close against the body, and slightly larger size (SVL 35 mm; Cogger 2000; Vanderduys 2005). May also be confused with *Pygmaeascincus timlowi*, but it has only one pretemporal scale, lacks dorsolateral colour separation and has fine dark spotting on flanks and sides of tail (Wilson and Swan 2010). *Pygmaeascincus timlowi* has not yet been recorded from Magnetic Island, and *P. sadlieri* has not been recorded from the mainland, so there may be no overlap between the two species.

Distribution

Endemic to Magnetic Island, Queensland. However, this species has been poorly surveyed and may occur on parts of the mainland around the Townsville area.
Habitat

*Pygmaeascincus sadlieri* has been recorded predominantly in lowland areas of Magnetic Island (Vanderduys 2005), probably reflecting ease of access to these areas, as one individual was recorded within 200 m of the summit of Mt Cook (E. Vanderduys pers. obs.), the highest point on Magnetic Island. Individuals have been captured in or adjacent to eucalypt forest dominated by grey bloodwood *Corymbia clarksoniana* and poplar gum *Eucalyptus platyphylla* with occasional broad-leaved paperbark *Melaleuca leucadendra* and screw pine *Pandanus cookii*, and a grassy ground layer on alluvial plains (RE 11.3.35) (Vanderduys 2005; Borsboom 2005); in *Melaleuca* woodland on alluvial plains; in forest sheoak *Allocasuarina torulosa* dominated forest, with a ground layer dominated by native ginger *Alpinia caerulea* on the slopes of Mt Cook; in northern swamp mahogany *Lophostemon grandiflorus / Melaleuca leucadendra* closed forest ecotonal areas along creek lines with predominately dry rainforest species in the subcanopy (E. Vanderduys pers. comm. 2013). The original specimen was found in a rocky gully, amongst dry rainforest (semi-evergreen vine thicket and microphyll vine forest, RE 11.12.4) (Vanderduys 2005). It has also been captured in urban non-remnant vegetation including backyard gardens (Vanderduys 2005), in buildings and around building infrastructure (E. Vanderduys pers. comm. 2013).

*Pygmaeascincus sadlieri* is probably largely diurnal and typically inhabits areas with a thick leaf litter.

Seasonal and timing considerations

Vanderduys (2005) reported the capture of a gravid female in February which subsequently laid a clutch of eggs in March. This indicates that *P. sadlieri* breeds in the late summer/early autumn months, although it could also breed outside of this period, as many reptiles lay multiple clutches.

Surveys should be carried out during warmer months (September to March) of the year, and are best conducted on warm, dry days within the survey period.

Recommended survey approach

*Pygmaeascincus sadlieri* can be surveyed using standard capture techniques.

Pitfall and funnel trapping

Pitfall arrays with drift fences can be placed amongst leaf litter in suitable remnant vegetation, and in non-remnant urban vegetation in areas across Magnetic Island and possibly the adjacent mainland. Smaller pitfall traps (e.g. two litre containers) can also be used to specifically target this small species in rocky areas. Avoid drain holes or place fine mesh over any holes as *Pygmaeascincus sadlieri* are very small and will escape through small holes.

Active diurnal search

Active diurnal searches can achieve greater coverage within project areas and therefore, should be included in targeted surveys for this species.

Active searches can be conducted in a wide range of vegetation types, but may be particularly useful in urban garden vegetation and rocky areas where pitfall trapping is more difficult. As *P. sadlieri* inhabits the leaf litter, active searches should include raking through leaf litter and the shuffling of feet through litter, scanning in front of this disturbance looking for the species rapidly darting away into other cover (E. Vanderduys pers. comm. 2013). Logs and rocks should also be rolled and replaced after inspection.
Under optimal conditions, searches are best conducted in the morning when individuals are likely to be starting to become active. However keep in mind, the optimal time of day, and day within the survey period, to conduct active diurnal searches depends heavily on season and weather conditions on adjacent days.

**Survey effort guide**

The recommended effort below may provide a reasonable opportunity to record *P. sadlieri* within the survey area.

### Minimum effort within suitable habitat during optimal conditions

<table>
<thead>
<tr>
<th>Survey technique</th>
<th>Effort per survey period</th>
<th>Effort per survey</th>
<th>Number of survey periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitfall traps</td>
<td>32 pitfall trap nights per 5 ha</td>
<td>4 nights</td>
<td>2 surveys</td>
</tr>
<tr>
<td>Active diurnal searches (50 m x 50 m plot)</td>
<td>60 minutes per plot, 2 plots per 5 ha or 3 plots if &lt; 5 ha</td>
<td>Two 30 person-minute searches</td>
<td>2 surveys</td>
</tr>
</tbody>
</table>

E.g. Two sites of 4 pit traps set for 4 consecutive nights per survey. Active searches of 30 minutes (1 person) or 15 minutes (2 people) per survey site within the survey period.

**Ethical and handling considerations**

**Pitfall trapping**

- Traps must be thoroughly checked early in the morning before temperatures become too hot.
- Shelter should always be provided in the bottom of the buckets to reduce predation and exposure (heat, cold and dehydration) of trapped animals. Dehydration can be a problem, especially for amphibians, so measures should be put in place to reduce this risk (e.g. moistening the soil).
- Floats should be added to the bottom of buckets (e.g. piece of closed cell foam or cork) to reduce the risk of drowning from unexpected rain or storms. Buckets must be closed if they begin to fill with water and should not be reopened until the risk of drowning has passed.
- Ants predating trapped animals can be a problem so locate traps away from obvious ant nests and be vigilant for ant activity. If they become a problem (e.g. they are attacking captured animals) and can not be controlled the traps should be immediately closed.
- Exercise caution when checking pitfalls as they will trap venomous animals including snakes and spiders. Personnel should be trained to remove venomous snakes.
- Consider weed and pathogen spread when using equipment in multiple locations as soil, seeds and spores can be transported in and on buckets, pegs and drift fence.

**Active diurnal searches**

- Always replace habitat to the best of your ability, such as re-rolling rocks and logs back into place. This is particularly important in fragmented habitats or isolated patches.
- Every attempt should be made to keep damage from active searches to a minimum.
- Any captured animals should be released at the site of capture as soon as possible after identification.
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Citation


Key references


