

## Biodiversity Record: Population explosion of the beetle, *Alissonotum* sp., in Singapore

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**Subjects:** *Alissonotum* undetermined species (Insecta: Coleoptera: Scarabaeidae: Dynastinae).

**Subjects identified by:** Isaac Seow-En.

**Location, date and time:** Singapore Island, Keppel Club, Bukit Chermin Road; 25 November 2019; around 2230 hrs.

**Habitat:** Suburban. Compound of a recreational facility at the edge of a small secondary forest patch, at ground level.

**Observer:** Isaac Seow-En.

**Observation:** Hundreds of small black beetles, each measuring about 10 to 12 mm, were found within the grounds of the club, particularly at the golf driving range (Fig. 1) and along the lighted footpaths. Some specimens were collected (Fig. 2) by the first author, and photographed ex-situ (Fig. 3). Curiously, not a single specimen was present when the second author returned to the same site two and four days later (27 and 29 November 2019), at approximately the same time. It is not known if insect control measures were administered by the club.



Fig. 1. Golf driving range at Keppel Club where large numbers of *Alissonotum* sp. was observed on 25 November 2019. (Photograph by: Maosheng Foo). Fig. 2. Some of the *Alissonotum* sp. specimens collected. (Photograph by: Isaac Seow-En).

**Remarks:** The subfamily Dynastinae, or rhinoceros beetles, comprises several of the largest beetle genera in the world, such as *Dynastes*, *Megasoma* and *Chalcosoma*. At the other end of the spectrum, the smallest, and lesser known species can be found amongst the genus *Alissonotum* Arrow (1908). All species of *Alissonotum* are small black beetles without the striking sexual dimorphism seen in their aforementioned cousins. This genus has apparently not been previously recorded in Singapore, and is not currently listed on the website of The Biodiversity of Singapore (2022).

Two species, *Alissonotum impressicolle* and *Alissonotum pauper*, are known to be agricultural pests of sugarcane in several Southeast Asian countries, but only appear to be of significant economic importance in Vietnam and mainland China. The larvae damage the roots of sugarcane while the adults feed on the stem. It is possible that *Alissonotum* was imported along with sugarcane and thrived under specific conditions resulting in the reported population explosion. Singapore imports almost all its sugarcane from Malaysia, where *Alissonotum* has not been reported as an agricultural pest. *Alissonotum* beetles collected from Bukit Chermin have been observed by the authors to feed readily on apple and other ripe fruit offered to them, suggesting that besides sugarcane, these beetles could have been imported with fruit instead. To date, the authors have not seen any more *Alissonotum* beetles in Singapore since November 2019. It is not

known what could have caused the population explosion then, but the apparent absence of these beetles may reflect the lack of appropriate conditions for the persistence of the species in Singapore.



Fig. 3. Dorsal (left) and ventral (right) views of *Alissonotum* sp. from Bukit Chermin, showing the longitudinal elytral punctations. (Photographs by: Isaac Seow-En).

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