Research article

On the presence of *Scaurus puncticollis* Solier, 1838 (Coleoptera: Tenebrionidae) in Qatar

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ABSTRACT

As part of the biodiversity surveys conducted by the Department of Biodiversity at the Qatar Environment and Energy Research Institute (QEERI), we can report the presence of *Scaurus puncticollis* Solier, 1838 in Qatar, and confirm the first record for the tribe Scaurini Billberg, 1820 in the country. We found two living specimens and remains of a third one distributed over the year (February, April and October) in three different locations of the Al Rayyan Municipality in Qatar. These findings reveal that the fauna of darkling beetles of Qatar is, despite previous efforts, still underestimated. To document and report the actual Biodiversity Heritage of Qatar, new exhaustive field biodiversity surveys should be conducted to complete the catalogue of Tenebrionoidae for the State of Qatar.

Keywords: Arabian Gulf, Biodiversity conservation, Atlas, Insect, Mapping

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A recent comprehensive treatise on the darkling beetles (Coleoptera: Tenebrionidae) of Qatar has been published with the support of the Friends of the Environment Center in Qatar.\(^1\) This confirmed the presence of 51 species in the country. Soldati\(^1\) produced a solid work. He reported 47 species not previously documented in Qatar, including the description of new taxa, triggering subsequent efforts to complete and document the fauna of one of the most diverse groups of the Qatar Biodiversity, the darkling beetles. Tenebrionidae represent one of the most conspicuous and characteristic groups of insects of desert faunas all over the world.\(^2\)–\(^4\)

Figure 1. Detailed view of the pronotum of *Scaurus puncticollis* from Al-Kiranah. (Photo: Paloma Mas-Peindo).

Figure 2. Posterior end of the elytra of *Scaurus puncticollis* from Al-Kiranah. (Photo: Paloma Mas-Peindo).
Figure 3. Aedeagus: Lateral (left) and ventral (right) view of *Scaurus puncticollis* from Al-Kiranah. (Photo: Francisco Pérez-Vera).

Figure 4. View of the femoral spine of the anterior leg of *Scaurus puncticollis* from Al-Kiranah. (Photo: Paloma Mas-Peinado).
As part of the new surveys conducted by the Department of Biodiversity of the Qatar Environment and Energy Research Institute (QEERI), we can report the presence of *Scaurus puncticollis* in Qatar, therefore adding the first record for the tribe *Scaurini* Billberg, 1820 in the country.

![Figure 5. Specimen of Scaurus puncticollis from Qatar. (Photo: Aitor Valdeón).](image)

![Figure 6. Different locations (green dots) where Scaurus puncticollis has been found in Qatar (see Table 1 for the location name) (Map: Aitor Valdeón).](image)
About 30 species of darkling beetles are included within the genus *Scaurus* Fabricius, 1775 (Tenebrionidae: Scaurini). They are almost exclusively of the Western Paleartic Region, with limited incursions on arid Afrotropical areas. The species of the genus *Scaurus* occupy a large variety of habitats distributed from dry, almost desert areas, to mesic montane temperate regions. The group is easily recognizable morphologically by the presence of toothed femora and the blunt end-segment of their maxillary palps.

Among the species of *Scaurus*, *Scaurus puncticollis* stands out by its wide geographic range. It is distributed from Morocco, to Iran and Armenia, including records from Algeria, Tunisia, Libya, Turkey, Cyprus, Israel, Egypt, Sudan, and Saudi Arabia. *Scaurus puncticollis* is recognized by a pronotum coarsely punctuated (Figure 1), with the lateral and humeral ridges joined to the base of the elytra (Figure 2), by its characteristic aedeagus morphology (Figure 3), and also by its femoral spine, shared by all species of the genus *Scaurus* (Figures 1–5).

According to Löbl et al., *S. puncticollis* is subdivided into five subspecies across its geographic range: *S. p. dlabolai*, is only known from a small region in Turkey; *S. p. getula*, from Morocco; *S. p. macricollis*, from Iran, Iraq and Eastern Turkey; *S. p. syriacus*, from Cyprus, Syria and Turkey; and *S. p. puncticollis* distributed over the remaining range of the species in Northern Africa and Western Asia. All subspecies are distributed in relatively arid and/or desertic regions. The presence of *S. puncticollis* in arid regions of Saudi Arabia, suggested that the species could be present in Qatar.

Our surveys, conducted in 2012, rendered positive evidence of the presence of *S. puncticollis* (Figure 6) in Qatar, by the findings in 2012 of elytral remains of one specimen in February, and two living specimens, one in April and the other one in October. All the specimens were found in the Al Rayyan municipality (Figure 6, Table 1) in a similar type of habitat, characterized by having open soil with disperse bushes and some small *Acacia* trees (Figures 7–9).

Table 1. Records of the presence of *Scaurus puncticollis* in Qatar.

<table>
<thead>
<tr>
<th>Date</th>
<th>Municipality</th>
<th>Location</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Altitude</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Feb 2012</td>
<td>Al Rayyan</td>
<td>4 Km NO of Al Aamiriyah</td>
<td>24.84572°N</td>
<td>51.04275°E</td>
<td>50 m</td>
<td>Remains (elytra) of one specimen</td>
</tr>
<tr>
<td>20 Apr 2012</td>
<td>Al Rayyan</td>
<td>9.2 Km NE of Al-Kiranah</td>
<td>25.06594°N</td>
<td>51.10879°E</td>
<td>50 m</td>
<td>One specimen</td>
</tr>
<tr>
<td>10 Oct 2012</td>
<td>Al Rayyan</td>
<td>3.5 Km NW of Al Jumayliyah</td>
<td>25.64565°N</td>
<td>51.05907°E</td>
<td>31 m</td>
<td>One specimen</td>
</tr>
</tbody>
</table>

Figure 7. Type of habitat where *Scaurus puncticollis* has been found in Al-Aamiriyah. (Photo: Aurora M. Castilla).
These records allow us to confirm the presence of *S. puncticollis* in Qatar partially filling one of the gaps in its wide distribution range. The finding of a relatively common species as *S. puncticollis* in Qatar, revealed that the tenebrionid fauna of the Arabian Peninsula is far from being accurately explored and documented, despite the impressive work of Kaszab.\textsuperscript{19,25-1} This argues for the need of further fieldwork explorations in Qatar.

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**Figure 8.** Type of habitat where *Scaurus puncticollis* has been found in Al-kiranah. (Photo: Aurora M. Castilla).

**Figure 9.** Type of habitat where *Scaurus puncticollis* has been found in Al-Jumayliyah. (Photo: Aurora M. Castilla).
the Finances department, for their continuous support and invaluable help. We acknowledge the logistic support of the Ministry of the Environment in Qatar, particularly to Mr Ahmad Amer Mohd Al-Hemaidi (Minister of Environment), to Mr Mohammed El-Mohanady (Director of Biotechnology Center) and Mr Khaled Helal Al-Enazi (Head of Wildlife Research Section). To Dr. Anthony Herrel and Dr. Pablo Serra for their help during field research, and to the reviewers for their constructive comments. We are grateful to Dr. Mr. Francisco Pérez-Vera for his help using morphological techniques, and to Dr. Saif Ali Al-Hajari for kindly providing access to one of the books (Qatar Darkling Beetles) from Friends of Environment Center to the library of QEERI. PMP was supported by Instituto de Estudios Científicos. The Project CGL2010–15786 of the Ministerio de Ciencia e Innovación of Spain (awarded to MG-P) made collaborative research between MGP and LJR possible. The Department of Education of the Government of Navarre granted funds to AV. This study and publication has been possible by the QEERI Project #QF.00.307.722011.QE11 (Qatar Foundation), awarded to AMC.

REFERENCES
[1] Soldati L. The Darkling Beetles (Coleoptera: Tenebrionidae) of Qatar. Warszawa, Poland: Natura optima dux Foundation; 2009:p.120.