The so-called “sclerotized gland capsules” recorded for *Ptinella* and *Pteryx* (Coleoptera Ptiliidae)

Note 06 (Staphylinoidea), released by Luigi De Marzo on September 2012 – Something is referred about these abdominal organs thirty years later their description. l.demarzo@alice.it www.luigidemarzo.eu

SUBJECTS

- Dybas (1978) reported about the general presence of “an internal cluster of sclerotized gland capsules on each side of tergum VIII” for members of the genus *Ptinellodes*
- and figured them for a species occurring in S/O USA, *Ptinellodes lecontei* (Gemminger & Harold).
- Now, occurrence of the same organs in members of the genera *Pteryx* and *Ptinella* is recorded.

MATERIAL AND METHODS

- Examined species are listed in Table A (in agreement with Smetana, 2004) together with morphs, sex and number of specimens;
- they were identified on the females of each sample by looking at the shape of their spermatheca, which was figured by Besuchet & Sundt (1971) and Mlynarski (1984).
- Specimens were previously killed with ethyl-acetate vapours, preserved in a mixture 1:1 of ethanol 70% and glycerol and examined on slides in glycerol.
- Most examined specimens of *Ptinella mekura* were obtained by cultures in jars (De Marzo, 1997, 2009).

RESULTS

- The “glandular capsules” of *Ptinella mekura* were easy to recognize because of both position and morphological outlines (Fig. 1), which agree with those reported by Dybas (l.c.) for *Ptinellodes* (Fig. 2).
- Each of them included a cluster of 3 cuticular vesicles nearly 20 µm in diameter and seemingly opens on the intersegmental membrane between the abdominal segments VIII and IX.
- Although they were somewhat difficult to be observed, the same organs were detected in *Ptinella denticollis* and *Pteryx suturalis* (Table A).
- No morphological difference depending upon either morph or sex was detected.
Table A – Ptiliidae provided with “sclerotized gland capsules”: species, sexes, morphs and number of examined specimens

<table>
<thead>
<tr>
<th>Species</th>
<th>Sexes</th>
<th>Number of Examined Specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ptinella mekura</em></td>
<td>Wingless females: n=30</td>
<td></td>
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<tr>
<td></td>
<td>Winged female: n=9</td>
<td></td>
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<td></td>
<td>Wingless male: n=11</td>
<td></td>
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<tr>
<td><em>Ptinella denticollis</em></td>
<td>(Fairmaire) Wingless females: n=6</td>
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<tr>
<td></td>
<td>Winged females: n=9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wingless males: n=11</td>
<td></td>
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<tr>
<td><em>Pteryx suturalis</em></td>
<td>(Heer) Wingless females: n=3</td>
<td></td>
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<td></td>
<td>Winged females: n=2</td>
<td></td>
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<tr>
<td></td>
<td>Wingless females: n=2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Winged males: n=2</td>
<td></td>
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<td></td>
<td>Wingless males: n=1</td>
<td></td>
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</tbody>
</table>

DISCUSSION

• Dybas (l.c.) stated that: (a) the “sclerotized gland capsules” do occur in both sexes of *Ptinellodes lecontei*; (b) their presence is general in *Ptinellodes*, including many undescribed species of this genus;
• in his generic diagnosis of *Ptinellodes*, he supposes this belongs to a single family section together with *Pteryx*, *Ptinella* and *Pterycodes*;
• anyhow, he reports the above type of glands only to *Ptinellodes*.
• The new observations show the same organs to be present in both males and females of the genera *Pteryx* and *Ptinella*, including both winged and wingless morphs.
• Although the methods applied in the present study didn’t allow displaying the epithelial parts, there is little doubt about the glandular significance of these organs.
• Because of their occurrence in the parthenogenetic species, *Ptinella mekura*, these glands can’t be regarded as source of pheromones,
• and their presence in males doesn't play about an importance in oviposition.
• Their position on the abdominal membrane suggests a defensive function as reported for the intersegmental glands occurring in several Staphylinidae (Araujo, 1978).

REFERENCES


Fig. 1 – *Ptinella mekura* Kubota, female: position of the “sclerotized gland capsules” (original drawing).

Fig. 2 – *Ptinellodes lecontei* (Gemminger & Harold): position of the “sclerotized gland capsules” (scheme redrawn from Dybas, 1978).