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

***Ptinella mekura* Kubota**, wingless females (n=30)
***Ptinella denticollis* (Fairmaire)**, wingless females (n=6)
----- winged females (n=9)
----- wingless males (n=11)
***Pteryx suturalis* (Heer)**, wingless females (n=3)
----- winged females (n=2)
----- wingless females (n=2)
----- winged males (n=2)
----- wingless males (n=1)

DISCUSSION

• Dybas (l.c.) stated that: (a) the "sclerotized gland capsules" do occur in both sexes of *Ptinellodes leconteï*; (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

Araujo J., 1978 - Anatomie comparée des systèmes glandulaire de défense chimique des Staphylinidae. Arch. Biol., Bruxelles, 89: 217-250.

De Marzo L., 1997 - Appunti di storia naturale su uno Ptilide partenogenetico: *Ptinella mekura* Kubota (Coleoptera). *Entomologica*, Bari, 30 (1996): 185-195.

De Marzo L., 2009 - Valutazione in laboratorio del potenziale riproduttivo di *Ptinella mekura* Kubota (Coleoptera Ptiliidae). *Entomologica*, Bari, 40 (2006-2007): 75-82.

Dybas H.S., 1978 - Polymorphism in featherwing beetles, with a revision of the genus *Ptinellodes* (Coleoptera: Ptiliidae). Fieldiana Zool., Chicago, 71: 695-714.

Smetana A., 2004 - Staphylinoidea. In: Löbl I. & Smetana A. (eds.), Catalogue of Palaearctic Coleoptera, Apollo Books, 2, 942 pages.

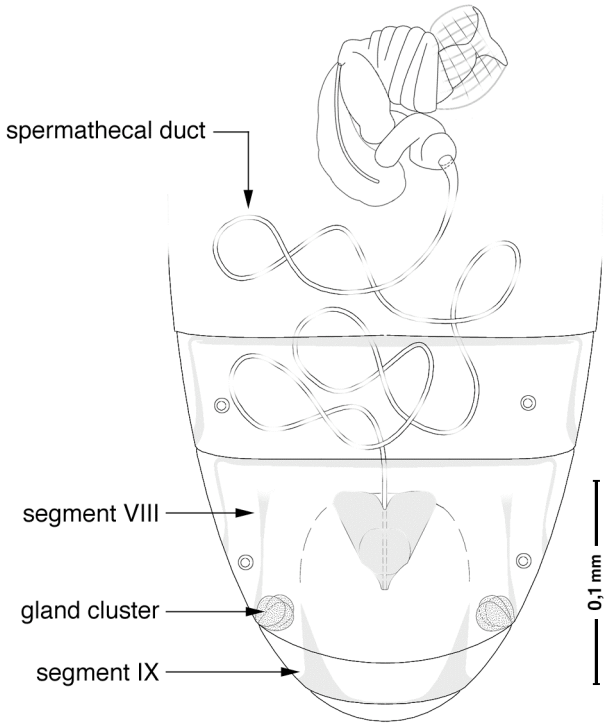

Fig. 1 – *Ptinella mekura* Kubota, female: position of the “sclerotized gland capsules” (original drawing).

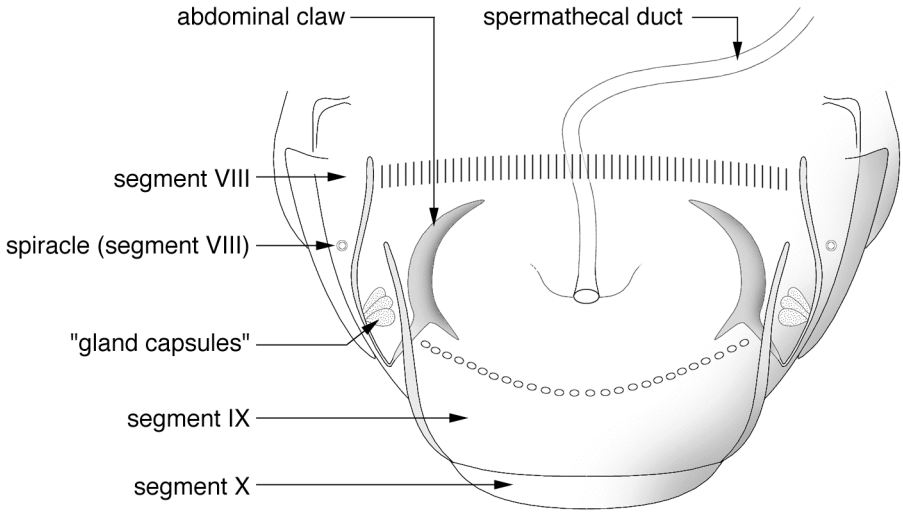

Fig. 2 – *Ptinellodes lecontei* (Gemminger & Harold): position of the “sclerotized gland capsules” (scheme redrawn from Dybas, 1978).