

Ptiliidae (Coleoptera)

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ABSTRACT

Four rather common European species of featherwing beetles (Coleoptera: Ptiliidae) from the “Bosco della Fontana” nature reserve (Lombardy region, Mantua province) are presented: *Nossidium pilosellum*, *Ptenidium pusillum*, *Acrotrichis fascicularis* and *A. sitkaensis*. *A. sitkaensis* is new for Lombardy. It is assumed that further species from the area remain to be discovered. The total number of species of Ptiliidae from Italy (73) and from northern Italy (61) are commented upon.

Key words: Ptiliidae, Acrotrichis, Ptenidium, Nossidium, smallest, featherwing beetles, checklist, Italy.

RIASSUNTO

Ptiliidae (Coleoptera)

Quattro specie europee abbastanza comuni di Ptiliidae sono segnalate per la Riserva di Bosco della Fontana: *Nossidium pilosellum*, *Ptenidium pusillum*, *Acrotrichis fascicularis* e *A. sitkaensis*. Quest'ultima specie è nuova per la Lombardia. Si ritiene che altre specie restino da scoprire nell'area. Sono infine commentati il numero totale di specie di Ptiliidae segnalate d'Italia (73) e dell'Italia settentrionale (61).

INTRODUCTION

Featherwing beetles – Ptiliidae – are the smallest beetles of all (0.3 – 4 mm). Their smallness and cryptic life style make them one of the least known families and they were often neglected. As a consequence the ptiliid fauna of many countries remains more or less unstudied. In Europe the long entomological tradition has ensured a reasonable knowledge of the group, although much remains to be done, both taxonomically and faunistically.

In the latest checklist of Italian Ptiliidae (Angelini et al. 1995) 75 species names are listed, a comparatively high figure. Angelini & Sörensson (1997) added two more, *Acrotrichis arnoldi* Rosskothén, 1935 and *A. danica* Sundt, 1958. Moreover, Ratti (1978), Kahlen et al. (1994) and Johnson (2003) added *A. parva* Rosskothén, 1935, bringing the total to 78. A few of them are unavailable names, unpublished synonymies, etc. so this figure should, in fact, be reduced to 73 (cf. Johnson 2001, 2003). On the other hand, this figure will be re-altered in the opposite direction due to a number of new species being prepared for description (Sörensson, unpublished data). Angelini et al. (1995) cite 55 ptiliid species for northern Italy (= “N”) and an additional 6 questionable species marked by a “?”. Among those 61 species there are 3 hidden

synonyms, however (*Ptilium canaliculatum* Erichson, 1845, *Ptiliolium depressum* (Motschulsky, 1845) and *Ptinella perrini* (Reitter, 1906) (cf. Johnson 2001, 2003)) which should be deleted, reducing the figure to 58. With the addition of *Acrotrichis parva*, *A. danica* (vide above), and *A. sitkaensis* (Motschulsky, 1845) (Kahlen et al. 1994), which also occur in northern Italy, the true current figure is 61.

STUDY AREA

The nature reserve of “Bosco della Fontana” (northern Italy, Lombardy region, Mantua province, Marmirolo) occupies a surface of about 233 ha, 198 of which are covered by trees, 2 are occupied by an artificial flooded wetland and the remaining 33 are covered by a grassland area and by 52 forest roads. It is one of the last oak-hornbeam relicts still existing on the Po plain. For further information regarding this reserve vide Mason et al. (2002).

RESULTS AND DISCUSSION

The material examined is kept in the collection of the “Centro Nazionale per lo Studio e la Conser-

vazione della Biodiversità Forestale” of Marmirolo (Mantua). Dates indicated for trapped specimens correspond to the date of emptying of the trap, which had been active for a fortnight. General information provided for each species was taken from various sources (Angelini & Sörensson 1997; Sörensson, unpublished data). Species are listed in alphabetical order.

Acrotrichis fascicularis (Herbst, 1793)

MATERIAL EXAMINED. **Rides 13–14–17**, 15.V.1998, A. Tagliapietra legit, autocatcher between 18–19 pm, 3 exs. **Rides 34–36–25–29**, 15.V.1998, A. Tagliapietra legit, autocatcher between 18–19 pm, 4 exs. **Rides 3–4**, 16.VI.1998, A. Tagliapietra legit, autocatcher between 18–19 pm, 2 exs. **Rides 51–38–36–33**, 16.VI.1998, A. Tagliapietra legit, autocatcher between 18–19 pm, 1 ex.

Acrotrichis sitkaensis (Motschulsky, 1845)

MATERIAL EXAMINED. **Rides 34–36–25–29**, 15.V.1998, A. Tagliapietra legit, autocatcher between 18–19 pm, 1 ex. **Stand 3**, 2.III.1999, A. Tagliapietra legit, pitfall trap n.15, 1 ex.

Nossidium pilosellum (Marshall, 1802)

MATERIAL EXAMINED. **Stand 21**, 27.VI.2000, F. Mason legit, window flight trap Qr2A3 [= trap on a naturally fallen *Quercus robur* tree], 1 ♀.

Ptenidium pusillum (Gyllenhal, 1808)

MATERIAL EXAMINED. **Stand 16**, 9.VIII.2000, F. Mason legit, window flight trap Pt1tA2 [= trap on an untreated standing *Platanus hybrida* tree], 1 ex.

The only previous record of Ptiliidae from “Bosco della Fontana” was made by Poggi (2002), who recorded “*Acrotrichis* sp.” on the basis of the above-mentioned specimens and species.

Acrotrichis fascicularis is a common, eurytopic and widespread species in Europe and adjacent parts of the Palaearctic region, and occurs primarily in rather humid forest litter and flood refuse, secondarily also

in compost, dung, fungi, etc. It has expanded its range into the Nearctic region as well as into New Zealand rather lately.

Acrotrichis sitkaensis is a stenoeicous, usually rather local species, confined to wet litter, moss and refuse of marsh- and fenland as well as along margins of streams, lakes and ponds, usually in shady sites. It is rather common in northern Europe but becomes more local and less common towards southern Europe, except in the mountainous regions. This is the first record for Lombardy; in Italy this species was known so far from South Tyrol (Kahlen et al. 1994), Tuscany (Bordoni & Rocchi 2003), Basilicata (Angelini 1986) and Puglia (Angelini & Sörensson 1997).

Another two specimens of Ptiliidae, representing two additional species, were captured in window traps: a female of *Nossidium pilosellum* and one specimen of *Ptenidium pusillum*. Both species are widely distributed in Europe, although *Nossidium pilosellum* obviously lacks in northern and northeastern parts, being confined to the nemoral forest region and reaching as far east as the Caucasus and Iran. *Nossidium pilosellum* is primarily a saproxylic species attracted to various polypore fungi growing in tree hollows, at tree bases, etc. and to rotten, fungus-infested deciduous wood in various stages of decay. A broader and more general ecology is shown by *Ptenidium pusillum*, which is one of the most common European ptiliid species. It develops in all kinds of rotting organic substances, like compost, dung, carcasses and fungi, in forests as well as in open landscapes. It is also nidicolous and anthropophilic and has spread secondarily to other continents.

There are certainly many more ptiliid species to be detected at “Bosco della Fontana”. However, it might take complementary collection techniques (sieving, Berlese funnel extraction, etc.) to make the sampling of Ptiliidae more efficient in the future. Special emphasis should be put on certain ecological niches, biocoenoses and environments, like rotting wood and litter of swamps, marsh- and fenland, as well as banks and margins along rivers and streams. From a conservation point of view such habitats are also generally of high value.

REFERENCES

- Angelini F., 1986. Coleotterofauna del Massiccio del Pollino (Basilicata–Calabria) (Coleoptera). *Entomologica*, 21: 37–125.
- Angelini F., Audisio P., Castellini G., Poggi R., Vailati D., Zanetti A. & Zoia S., 1995. Coleoptera Polyphaga II (Staphylinoidea escl. Staphylinidae), pp. 1–39. In: Minelli A., Ruffo S. & La Posta S. (eds.), Checklist delle specie della fauna italiana. 47. Calderini, Bologna.
- Angelini F. & Sörensson M., 1997. Materiali per una coleotterofauna dell'Italia meridionale e della Sicilia. Ptiliidae. (Coleoptera). *Annali del Museo Civico di Storia Naturale "G. Doria"*, 91: 555–587.
- Bordoni A. & Rocchi S., 2003. Ricerche sulla Coleotterofauna delle zone umide della Toscana. I. Padule di Bientina (Coleoptera). *Quaderni della Stazione di Ecologia del civico Museo di Storia naturale di Ferrara*, 14 (2002): 7–98.
- Johnson C., 2001. Notes on Palaearctic Ptiliidae (Coleoptera). *Entomologist's Gazette*, 52: 129–137.
- Johnson C., 2003. Further notes on Palaearctic and other Ptiliidae (Coleoptera). *Entomologist's Gazette*, 54: 55–70.
- Kahlen M., Hellrigl K. & Schwienbacher W., 1994. Lista rossa dei Coleotteri (Coleoptera) minacciati in Alto Adige, pp. 178–301. In: Gepp J. (ed.), Lista rossa delle specie minacciate in Alto Adige. Provincia Autonoma di Bolzano / Alto Adige, Ripartizione Tutela del paesaggio e della natura.
- Mason F., Cerretti P., Tagliapietra A., Speight M. C. D. & Zapparoli M. (eds.), 2002. Invertebrati di una foresta della Pianura Padana, Bosco della Fontana, Primo contributo. *Conservazione Habitat Invertebrati*, 1. Gianluigi Arcari Editore, 176 pp.
- Poggi R., 2002. Ptiliidae, p. 65. In: Mason F., Cerretti P., Tagliapietra A., Speight M. C. D. & Zapparoli M. (eds.), *Invertebrati di una foresta della Pianura Padana, Bosco della Fontana, Primo contributo. Conservazione Habitat Invertebrati*, 1.
- Ratti E., 1978. Reperti di Coleoptera su carpofori di *Gyromitra esculenta* (Pers.) Fries (Ascomycetes) nelle Dolomiti con segnalazione di un Ptiliidae nuovo per l'Italia. *Società Veneziana di Scienze Naturali – Lavori*, 3: 46–48.

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