

## New records of Ptiliidae (Coleoptera) from the Czech Republic

### Nové nálezy druhů čeledi Ptiliidae (Coleoptera) z České republiky

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**Abstract.** Five species of Ptiliidae are reported from the Czech Republic. *Ptenidium laevigatum* Erichson, 1845 and *Baeocrara variolosa* (Mulsant et Rey, 1867) are reported for the first time from Bohemia, *Acrotichis intermedia* (Gillmeister, 1845) is reported for the first time from Moravia. Findings of *Baeocrara japonica* (Matthews, 1884) and *Acrotichis rosskotheni* Sundt, 1971 from Moravia represent the first records for the Czech Republic. The male and female genitalia are illustrated for *A. rosskotheni* and *A. intermedia*.

The feather-wing beetles (Ptiliidae) constitute a monophyletic family among the staphylinoid Coleoptera (Newton & Thayer 1992). Because of their very small size and the fact that most species are hard to separate on external characters alone they have remained quite unpopular among the collectors and students of Coleoptera. From Europe some 115 species are known. Although the European fauna is the best known in the world, many species remain to be discovered. Except for northern and north-western Europe, the ptiliid fauna in other European countries has not been intensely studied and modern check-lists are wanting in some cases.

Jelínek (1993) published a check-list of Ptiliidae of the former Czechoslovakia based on modern nomenclature and with a critical approach to older records of doubtful nature. The number of ptiliid species in Bohemia and Moravia amounted to 44, with 4 additional species records of questionable value (*Ptenidium laevigatum* Erichson, 1845, *Microptilium palustre* Kuntzen, 1914, *Baeocrara variolosa* (Mulsant et Rey, 1867) and *Acrotichis dispar* (Matthews, 1865)). In this paper we show that two of the four last mentioned species do in fact belong to the fauna of the Czech Republic (and we may add that the remaining two most probably do as well). Moreover, there were 29 species reported from both Bohemia and Moravia in the check-list. Several new records are presented in this paper.

It should be stressed that the Jelínek (1993) check-list differs at some points from the catalogue by Lucht (1987) for Central Europe. As for Ptiliidae the following species lacked for Czechoslovakia in Lucht (1987): *Euryptilium gillmeisteri* Flach, 1889, *Ptinella britannica* Matthews, 1858, *P. microscopica* (Gillmeister, 1845), *Baeocrara variolosa* (Mulsant et Rey, 1867), *Acrotichis dispar* (Matthews, 1865) and *A. pumila* (Erichson, 1845).

This paper focuses on a collection of Ptiliidae from Bohemia and Moravia brought together by the junior author and identified by the senior. Despite a rather limited number of specimens, two

species are established as new for the Czech Republic and the occurrence of two additional species is confirmed. Another species is new to Moravia. For identification purposes, illustrations of both male and female genitalia of *Acrotrichis rosskotheni* and *A. intermedia* are provided.

The nomenclature follows Jelínek (1993). Specimens are deposited in the collection of J. Růžička (Praha) (JRUC) and in coll. M. Sörensson (Lund) (MSOC).

*Ptenidium laevigatum* Erichson, 1845

**Material examined.** Bohemia centr., Zlonín (5852), 27.vi.-3.vii.1997, 1 spec., unbaited pitfall trap with formaldehyde, margin of cereal field close to decomposing plant remnants, P. Nýdrle leg. (JRUC).

A synanthropic species occurring in gardens, barns, stables etc. It occurs in compost, old manure, hay and other mouldy vegetable remnants, less frequently in burrows and nests of small mammals and birds, and occasionally in caves. A widespread western Palearctic species, also occurring in North Africa and the Canary islands besides continental Europe. It was introduced in New Zealand (Johnson 1982). This find confirms its presence in the Czech Republic. Previously only listed as doubtful from Moravia by Jelínek (1993). New species for Bohemia.

*Baeocrara japonica* (Matthews, 1884)

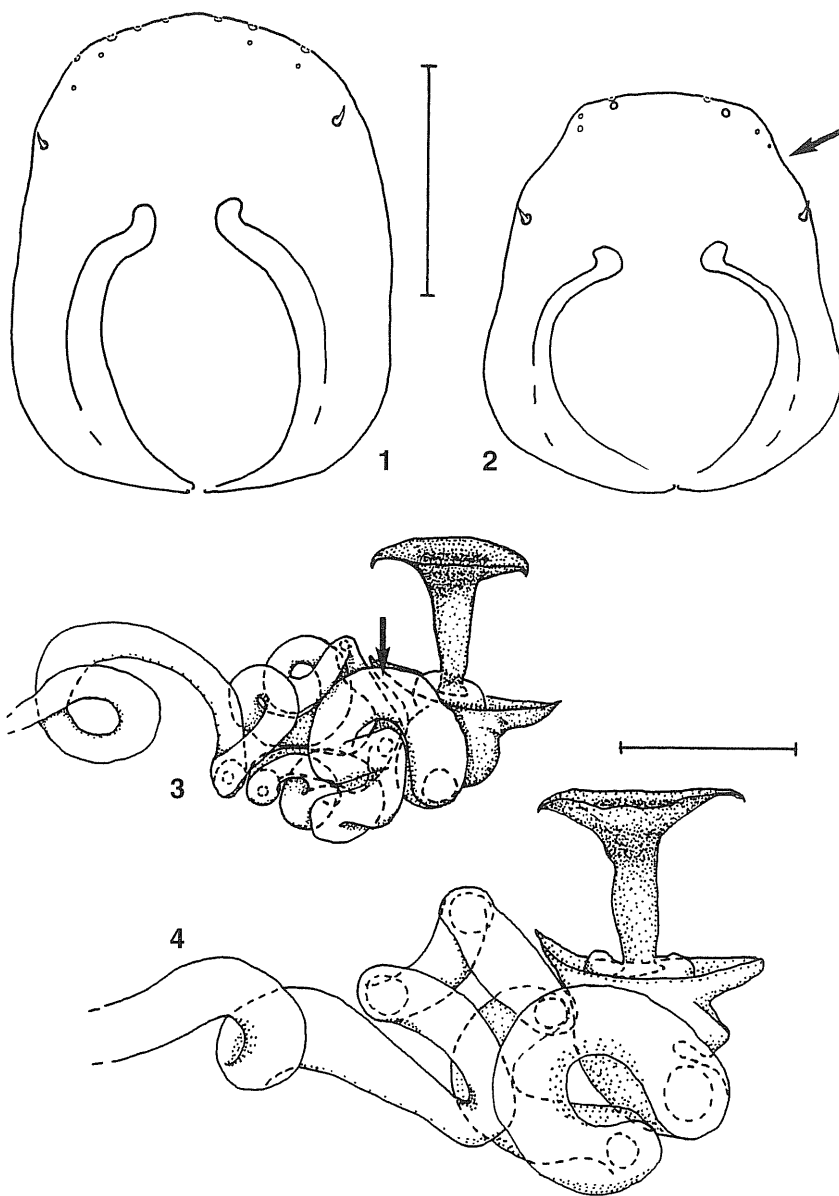
**Material examined.** Moravia mer., Čejč env., Špidlák hill (7067), 1.v.1993, 1 ♀, in flight at sunset above rotting plants, sandy soil, J. Růžička leg. (JRUC).

A partly synanthropic species associated with ephemeral habitats such as decaying vegetable matter, dung and manure in woodland as well as in more open sites. It also occurs in compost heaps and in gardens. Occasionally it is found together with *B. variolosa* (Mulsant et Rey, 1867) but is readily distinguished from the latter by its smaller size and brightly yellow basal segments of antennae. For diagnostic characters, both external and genitalic, see Rutanen & Muona (1977). This is an immigrant from the eastern Palearctic region, in Europe first discovered in Finland (Rutanen & Muona 1977), Sweden and Norway (Ødegaard 1992), recently also recorded from Denmark (Hansen et al. 1993), Austria (Brandstetter & Kapp 1994) and Germany (Köhler 1998, Köhler & Klausnitzer 1998). Probably dispersing westwards, now in Central Europe. New species for the Czech Republic.

*Baeocrara variolosa* (Mulsant et Rey, 1867)

**Material examined.** Bohemia occ., Šumava mts, Městiště (6745), 12.v.1990, wet meadow close to margin of mixed forest, in flight at sunset, 2 spec., J. Růžička leg. (JRUC, MSOC).

This is a woodland species, in general not common but locally abundant. It occurs especially in old dung of badger, deer, moose and other larger mammals, occasionally in old rotting grass, hay and compost. It is a larger species with infuscated basal antennal segments as compared to *B. japonica*. For diagnostic characters, both external and genitalic, see Rutanen & Muona (1977). A North and Central European species, probably of wider western Palearctic range. First certain record from the Czech Republic, so far only a doubtful record from Moravia available (Jelínek 1993). New species for Bohemia.



Figs 1-4. 1, 3 – *Acrotrichis intermedia* (Gillmeister); 2, 4 – *A. rosskotheni* Sundt. 1, 2 – aedeagus ventrally; 3, 4 – spermatheca dorsally. Scale bar 0.1 mm for Figs 1-2, 0.05 mm for Figs 3-4. Arrows on Figs 2 and 3 indicate morphological differences of both species, see text (after Sörensson 1988).

Obr. 1-4. 1, 3 – *Acrotrichis intermedia* (Gillmeister); 2, 4 – *A. rosskotheni* Sundt. 1, 2 – aedeagus ventrálně; 3, 4 – spermatéka dorsálně. Měřítko 0,1 mm pro obr. 1-2, 0,05 mm pro obr. 3-4. Šipky na obr. 2 a 3 zdůrazňují morfologické odlišnosti obou druhů, blíže viz text (podle Sörenssona 1988).

*Acrotrichis intermedia* (Gillmeister, 1845)

**Material examined.** Moravia mer., Podyjí National Park, 1 km south-east of Zadní Hamry, Ledové sluje (7161a), 360 m a.s.l., 19.vi.-11.xi.1994, 2 spec., baited pitfall trap with fish meat and ripen cheese, in pseudocarst cave No. 15, close to entrance, J. Růžička leg. (JRUC, MSOC).

A very common and widespread woodland species. It lives in forest litter, occasionally in decaying vegetable matters. Externally very similar to *A. rosskotheni* Sundt, 1971; with the upper surface slightly duller and less shining and the pronotal side margin less curved (Sörensson 1988). Genitalia as in Figs 1, 3. Western Palearctic species, from the Czech Republic reported only from Bohemia (Jelínek 1993). This finding was published as *Acrotrichis* sp. by Růžička (1996). New species for Moravia.

*Acrotrichis rosskotheni* Sundt, 1971

**Material examined.** Moravia mer., Podyjí National Park, 1 km south-east of Zadní Hamry, Ledové sluje (7161a), 300 m a.s.l., 24.iv.-18.vi.1994, 3 spec., baited pitfall trap with fish meat and ripen cheese, margin of deciduous forest, J. Růžička leg. (2 spec. in JRUC, 1 spec. in MSOC).

Not a common species, although it locally occurs in great numbers and sometimes exceeds the more common *A. intermedia*. It favours rather shady sites in more-or-less moist deciduous forests, often close to water edges. It occurs primarily in decaying litter and vegetable matter, sometimes in exposed habitats in rotting hay and grass, and occasionally in dung and alike. Externally very similar to *A. intermedia* and *A. sitkaensis* Motschulsky, 1845, intermediate in characters of external morphology. For diagnostic characters, see Sörensson (1988; under *A. fraterna* Johnson, 1975, the junior synonym of *A. rosskotheni*). Recognized by the structure of the genitalia (aedeagus with well-marked antero-lateral impressions, spermatheca with basal loops below the collar thicker than distal ones – Figs 2, 4) in combination with external features. Obviously a widespread species in Europe but previously overlooked. Western Palearctic distribution. This finding was published as *Acrotrichis* sp. by Růžička (1996). New species for the Czech Republic.

## REFERENCES

- BRANDSTETTER C. M. & KAPP A. 1994: Interessante Käferfunde aus Vorarlberg (Österreich) und dem Fürstentum Lichtenstein (Coleoptera). *Koleopterologische Rundschau*, 64: 279-290.
- HANSEN M., LILJEHULT H., MAHLER V. & PALM E. 1993: 12. tillæg til "Fortegnelse over Danmarks biller" (Coleoptera). (12th supplement to the list of Danish Coleoptera). *Entomol. Meddelelser*, 61: 85-114 (in Danish, English summary).
- JELÍNEK J. 1993: Ptiliidae, pp. 32-33. In: JELÍNEK J. (ed.): Check-list of Czechoslovak insects IV (Coleoptera). Seznam československých brouků. *Folia Heyrovskyana*, Suppl. 1: 3-172 (in English and Czech).
- JOHNSON C. 1982: An introduction to the Ptiliidae (Coleoptera) of New Zealand. *New Zealand J. Zool.*, 9: 333-376.
- KÖHLER F. 1998: 21. Familie: Ptiliidae, pp. 117-118. In: LUCHT W. & KLAUSNITZER B. (eds): *Die Käfer Mitteleuropas. Band 15. 4. Supplementband*. Goecke & Evers, Krefeld, 398 pp.
- KÖHLER F. & KLAUSNITZER B. (eds) 1998: Verzeichnis der Käfer Deutschlands. Entomofauna Germanica. *Entomol. Nachrichten und Berichte* (Dresden), Beiheft 4: 1-185.
- LUCHT W. H. 1987: *Die Käfer Mitteleuropas. Katalog*. Goecke & Evers, Krefeld, 342 pp.
- NEWTON A. F. Jr. & THAYER M. K. 1992: Current classification and family-group names in Staphyliniformia (Coleoptera). *Fieldiana: Zoology, New Series*, 67: 1-iv+1-92.
- ØDEGAARD F. 1992: Tre Coleoptera nye for Norge. [Three new beetles for Norway]. *Fauna Norvegica* 4, Ser. B (Norwegian J. Entomol.), 39: 89-90 (in Norwegian, English abstr.).

- RUTANEN I. & MUONA J. 1977: *Baeocrara japonica* found in North Europe (Coleoptera, Ptiliidae). *Notulae Entomol.*, 57: 95-96.
- RŮŽIČKA J. 1996: Brouci (Insecta: Coleoptera) Ledových slují a okolí. (Beetles (Insecta: Coleoptera) of the Ledové sluje caves and adjacent area). *Příroda, Sborn. Prací z Ochrany Přírody* (Praha), 3: 133-139 (in Czech, English summary).
- SÖRENSON M. 1988: Studies on Danish Ptiliidae (Coleoptera). *Entomol. Meddelelser*, 56: 35-48.

## SOUHRN

V celé Evropě je známo kolem 115 druhů pírníků (čeď Ptiliidae). S výjimkou severní a severozápadní části Evropy tato skupina nebyla v současnosti intenzivně studována. Jelínek (1993) udává z území České republiky 44 druhů, další 4 druhy uvádí pouze na základě pochybných či nejistých nálezů.

Na základě materiálu sebraného druhým autorem a determinovaného prvním autorem uvádíme údaje o výskytu následujících pěti druhů v České republice:

*Ptenidium laevigatum* Erichson, 1845 je západopaleaktický druh, z České republiky uvádí Jelínek (1993) jeho výskyt pouze na Moravě, navíc jako nejistý nález. Na základě recentního nálezu ze Zlonína potvrzujeme výskyt tohoto druhu v ČR a poprvé jej uvádíme z Čech.

*Baeocrara japonica* (Matthews, 1884) je východopalearktický druh, recentně nalezený také ve Finsku (Rutanen & Muona 1977), Švédsku a Norsku (Ødegaard 1992), Dánsku (Hansen et al. 1993), Rakousku (Brandstetter & Kapp 1994) a Německu (Köhler 1998, Köhler & Klausnitzer 1998). Tento druh se pravděpodobně v současnosti ve střední Evropě šíří, na základě nálezu z Čejče jej poprvé udáváme z území České republiky.

*Baeocrara variolosa* (Mulsant et Rey, 1867) je rozšířen v severní a střední Evropě, z České republiky uvádí Jelínek (1993) jeho výskyt pouze na Moravě, navíc jako nejistý nález. Na základě recentního nálezu ze Šumavy potvrzujeme výskyt tohoto druhu v ČR a poprvé jej uvádíme z Čech.

*Acrotichis intermedia* (Gillmeister, 1845) je západopalearktický druh, z České republiky jej uvádí Jelínek (1993) pouze z Čech. Na základě nálezu z Podyjí jej uvádíme poprvé z Moravy.

*Acrotichis rosskotheni* Sundt, 1971 je nedávno popsáný druh, rozšířený v západním Palearktu. Tento druh je pravděpodobně rozšířen po celé Evropě, ale bývá přehlížen a zaměňován s předchozím druhem. V práci jsou stručně popsány diferenciální znaky druhů *Acrotichis intermedia* a *A. rosskotheni*, pro eventuální spolehlivou determinaci dalšího materiálu jsou vyobrazeny aedeagy i spermatéky obou druhů (obr. 1-4). Aedeagus druhu *A. intermedia* je apikálně pravidelně klenutý (obr. 1), u druhu *A. rosskotheni* je lateroapikálně vykrojený (obr. 2). Spermatéka druhu *A. intermedia* je na bázi s tlustším vinutím než distálně (obr. 3), u druhu *A. rosskotheni* je vinutí bazálně i distálně zhruba stejně silné (obr. 4). Na základě nálezu z Podyjí uvádíme *A. rosskotheni* poprvé z území České republiky.