

## ***Okeniella caudata* (Zetterstedt) (Diptera, Scathophagidae) a new genus and species for the British Isles**

**IAIN MACGOWAN**

Scottish Natural Heritage, Battleby, Redgorton, Perth PH1 3EW, Scotland

E-mail: iain.macgowan@snh.gov.uk

### **Summary**

The scathophagid *Okeniella caudata* (Zetterstedt, 1838) is recorded as a genus and species new to the British Isles from the Scottish Highlands. This distinctive species is an addition to a very small group of brachyceran Diptera that are considered to be restricted to the highest British mountains.

### **Introduction**

Whilst sorting through an otherwise relatively routine sample of montane Diptera, I noticed some rather striking scathophagids, with which I was not familiar. With a fringe of long golden setulae on male genitalia they most resembled *Pogonota barbata* (Zetterstedt, 1838), a species of bogs and wet woodlands at lower altitudes. The most striking feature was, however, the entirely lemon-yellow face, antennae and anterior part of the frons, a feature not found in *Pogonota*. After consulting the key by Gorodkov (1988), checking against specimens in the National Museums of Scotland and a useful e-mail exchange with Stuart Ball, it was established that the specimens were of *Okeniella caudata* (Zetterstedt, 1838), a species and genus not previously recorded from the British Isles.



1



2

**Plates 1-2. *Okeniella caudata*: 1, lateral view of male; 2, detail of male genitalia.**

### Identification

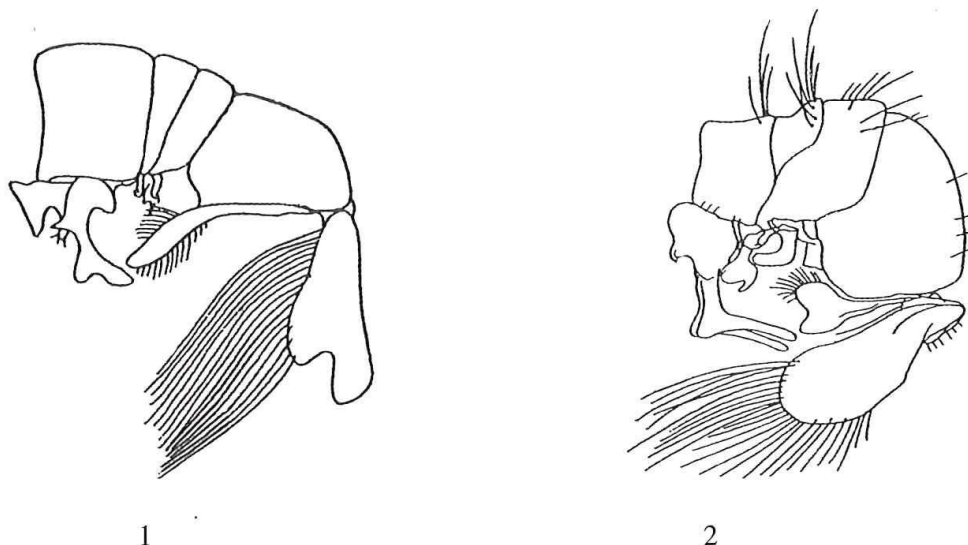
In the key to genera of Scathophagidae (Gorodkov 1988), *Okeniella* keys out close to the similar *Pogonota* but it is distinguished by the lack of a “beard” of long setulae on the genae below the eye. In *Pogonota* males, these extend ventrally below the genae, almost equalling in length the height of the head. They are also present, although shorter in length, in the females.

There are two species of *Okeniella* which occur in Scandinavia, *O. caudata* and *O. dasyprocta* (Loew, 1864). The separation of these is relatively easy as *O. caudata* has a group of very elongated setulae on the wing at the ventral surface of the costa, between the insertion of Sc and R<sub>1</sub> which is not found in *O. dasyprocta*; the male genitalia are also distinct (Gorodkov 1988).

In the British fauna, the only species which *O. caudata* may be confused with is *Pogonota barbata*, with which it shares the feature in males of a long fringe of apical setulae on the cerci. In addition to the facial “beard” mentioned above, the following characters also serve to distinguish the species:

*P. barbata*. Males: antennae entirely dark; anterior genal setae dark; wings with additional cross veins; genitalia (Fig. 1) with cerci not paddle-shaped, with a broad apical notch, bearing an apical fringe of fewer, long, yellowish setulae; ventral process smaller, not L-shaped. Females: a short facial beard present; thoracic dorsum, scutellar disc and tergites heavily grey-pollinose.

*O. caudata*. Males: antennae entirely yellow; anterior genal setae almost all pale; wing venation simple; genitalia (Fig. 2) with cerci paddle-shaped, bearing an apical fringe of rather numerous, long, golden-brown setulae; an obvious large L-shaped ventral process present lying just anterior to the cerci. Females: no facial beard; antennae dark as in *Pogonota* but thoracic dorsum, scutellar disc and tergites sub-shining black.



Figs 1-2. Slightly expanded lateral view of male terminalia: 1, *Pogonota barbata*; 2, *Okeniella caudata* (after Gorodkov 1988).

### Records, distribution and ecology

#### British Isles

Scotland: Angus, Meikle Kiltrannoch, NO2277, 2.vii.2015, sweeping flushes and freshwater margins, 860m, I. MacGowan, 3♂, 3♀; Perth & Kinross, Glas Maol, NO1676, 4.vii.2015, sweeping around peaty pools, 900m, I. MacGowan, 1♂.



Despite collecting in the Scottish mountains for the past 25 years, including on several occasions on Glas Maol, this is the first time I have knowingly come across this species. The distinctive males may have a relatively short flight period or they may prove to be restricted to the more geologically rich parts of the south-eastern Cairngorms

## Europe

Šifner (2008) gave the European distribution of *O. caudata* as Finland; Norway; Russia – European Russia, West Siberia, East Siberia, and Sweden. He provided some more detailed habitat information on the Swedish syntypes, which were taken in Torne Lappmark in northern Sweden where they were “found among grasses and leaves of *Salix glauca* L.” and “in grasses” at Stensele, Umeå and Vilhelmina, all in Västerbotten province. Dahl (1968) recorded *O. caudata* in good numbers in coastal areas of Norway north of the Arctic Circle in “grass meadow” and “bog meadow” habitats. Gorodkov (1986) stated “forest tundra” and “northern tundra” as a habitat for this species.

There are five specimens in the National Museums of Scotland, which were donated as part of the Mike Nelson collection. These include two males from Norway which have altitudinal information attached; one from Grønbygg, Dovrefjell was captured at 940m, whilst the other from Heinstjorna, Buskerud was captured at 1118m.

The larval biology is unknown, but it is most likely that *O. caudata* belongs to the group of species, within the Scathophagidae, which have predatory aquatic larvae.

This is clearly a boreal species of tundra-type habitats and as such *O. caudata* joins the select group of montane Brachycera in the British Isles as identified by Horsfield and MacGowan (1998). On the basis of its current known distribution it would fall within what they identified as the most restricted “Grampian group” which contains six species apparently confined to the high mountains of the Central Highlands, extending from Ben Nevis in the west to the elevated plateaux of the eastern Cairngorms.

## Acknowledgements

I thank Richard Lyszkowski for photographing the specimen and Stuart Ball for his comments.

## References

- Dahl, R. 1968. Studies on the Diptera Brachycera fauna of the sea shore in North Norway. *Norsk entomologisk Tidsskrift* **15**, 19-27.
- Gorodkov, K.B. 1986. Family Scathophagidae. pp 11-41. **In** Soós A. and Papp L. (Eds). *Catalogue of Palaearctic Diptera* **11**, 346 pp. Akadémiai Kiadó, Budapest.
- Gorodkov, K.B. 1988. Family Scatophagidae (Cordyluridae, Scatomyzidae, Scopeumatidae). **In** Bei-Bienko, G.Y. and Steyskal, G. (Eds) *Keys to the Insects of the European Part of the USSR. Volume V, Diptera and Siphonaptera, Part II*. 1505 pp. Amerind Publishing, New Delhi.
- Horsfield, D. and MacGowan, I. 1998. *An assessment of the distribution and status of montane Brachycera (Diptera) in Scotland*. Malloch Society Research Report No. 3.
- Šifner, F. 2008. A catalogue of the Scathophagidae (Diptera) of the Palaearctic region, with notes on their taxonomy and faunistics. *Acta Entomologica Musei Nationalis Pragae* **48**(1), 111-196.