

# ***Pambolus (Phaenodus) pallipes* Förster, 1862, a species and subfamily (Hymenoptera, Braconidae, Pambolinae) reported for the first time from Norway**

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*Pambolus (phaenodus) pallipes* is reported for the first time in Norway. This also represent the first Norwegian record of the subfamily Pambolinae (Hymenoptera, Braconidae).

Key words: Hymenoptera, Braconidae, Pambolinae, *Pambolus (phaenodus) pallipes*, Norway, Agder, new record.

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## **Introduction**

Museum Stavanger (MUST) has been running a malaise trap project since 2019, so far with 40 locations sampled. Malaise traps are set mostly in Rogaland County, to measure insect abundance and diversity of selected species groups. One trap has been placed farther east in Evje og Hornnes Municipality in Agder County. One female and nine males of an unusual-looking Braconidae were discovered in a sample from 29 June–7 August 2021, from a malaise trap set in mixed forest in Breidalsmyra, Evje og Hornnes Municipality, Agder County in 2021. The single female had a broad band of white flagellomeres and long tubercles protruding from the propodeum, two features that made it rather eye-catching.

## **Material and methods**

The malaise traps are all standard Bugdorm traps, black with a white roof. In 2021 the trap in Evje og Hornnes was placed at Breidalsmyra in a forest clearing in a mixed habitat dominated by spruce (*Picea*) and birch (*Betula*). The trap was active from 24 April until 5 November, and emptied approximately once a month. Samples were conserved in 75% alcohol. All insects were weighed (weight of wet sample) and sorted. MUST collect and preserve a selection of Braconidae and Ichneumonidae for our entomology collection, and this rather peculiar Braconidae was removed from the sample, mounted on pointed cardboard and photographed. A number of males that also had the same long tubercles on the propodeum was assumed to belong to the same species,

and a couple of those were also mounted and photographed. Not knowing where to start searching, pictures of both male and female were posted on the Facebook-group «European Ichneumonoidea». The genus was identified as *Pambolus* Haliday, 1836 (V. Zikic pers. com.) and subsequently as *Pambolus (Phaenodus) pallipes* (A. Humala pers. com.). The identification was confirmed with Tobias *et al.* (1995).

### The records

**Material:** AAI, Evje og Hornnes, Breidalsmyra (58.5301°N, 7.7629°E) malaise trap, 1♀9♂♂ 29 June–7 August 2021, 1♂ 7 August–11 September 2021 (leg: Lars Breistøl, det. Vladimir Zikic & Andrei Humala, coll. MUST).

### Discussion

*Pambolus (Phaenodus) pallipes* (Figures 1–3) is a rather small species, 3–4 mm. The front wings are

similar to Doryctinae, T1 striate/sculptured, while T2 is smooth and covering most of abdomen, more so in males than females. The female specimen had 23 flagellomeres, 12–19 white, two basal orange-brown grading into darker. The males had all-dark antenna and were highly variable with respect to number of flagellomeres, ranging from 22–30 with number of flagellomeres seemingly corresponding to body size. A prominent feature was the long tubercles on the propodeum in both sexes (Figure 3). We have not been able to find any detailed description of the species, but it is supposed to be rather variable (A. Humala pers. com.). Pambolinae belongs to the cyclostomes, a monophyletic clade within Braconidae where the lower part of the clypeus is sharply recessed, exposing a concave labrum (Zaldivar-Riverón *et al.* 2006). In the past they have been placed both within Hormiinae and Rogadinae, but were treated as a separate subfamily by van Achterberg (1993). This treatment is now widely accepted (Quicke 2015). *Phaenodus* is a subgenus of *Pambolus*, and the separation of subgenus *Pambolus* and



FIGURE 1. *Pambolus (Phaenodus) pallipes* Förster, 1862 female. Photo: Kåre Solheim.



**FIGURE 2.** *Pambolus (Phaenodus) pallipes* Förster, 1862 male. Photo: Kåre Solheim.



**FIGURE 3.** *Pambolus (Phaenodus) pallipes* Förster, 1862 male, detail showing tubercles on propodeum. Photo: Kåre Solheim.



*Phaenodus* is explained by Gupta *et al.* (2022).

The genus *Pambolus* is rarely collected in Northern Europe, for instance there are no *Pambolus* from any of the Nordic countries represented in BOLD. So far no identified specimens of *Pambolus (Phaenodus) pallipes* have been barcoded. Four species of *Pambolus* have been published from Finland, including four records of *P. pallipes* (FinBIF 2023). The species is also reported as occurring in Sweden (Dyntaxa 2023). Very little is known about the biology of *Pambolus*. It has been reported as attacking Chrysomelidae (Coleoptera), but the details of the relationships are unknown (Quicke 2015). Four species of Coleoptera belonging to Chrysomelidae were identified from the same trap site: *Altica lythri* Aubé, 1843, *Lochmaea caprea* Linnaeus, 1758, *Lochmaea suturalis* Thomson, 1866 and *Luperus flavipes* Linnaeus, 1767. Taxapad has no information about *Pambolus (phaenodus) pallipes* besides listing it as a species (as *Phaenodus pallipes*) (Yu *et al.* 2016).

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