HALOCLADIUS (PSAMMOCLADIUS) BRAUNSI
(GOETGHEBUEER) (DIPTERA: CHIRONOMIDAE):
FIRST RECORDS OF THE SUBGENUS AND SPECIES FROM
BRITAIN AND IRELAND

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Introduction

The majority of marine Diptera are non-biting midges (Chirono-
midae), with seven British species in five genera recorded as
exclusively marine, and several further species occasionally
recorded in brackish waters. The larvae of the marine species are
predominantly intertidal or rock pool dwellers, but there are
consistent records of some species from the sublittoral zone. Clunio
marinus Haliday is often found in association with Ostrea or
Mytilus beds. Three species of the orthocladiine genus Halocladius
are recorded frequently from rock pools in the littoral zone of
shores throughout Britain and Ireland. All these species (H. fucicola
(Edwards), H. variabilis (Staeger) and H. varians (Staeger)) belong
to the subgenus Halocladius. The monotypic subgenus Psammo-
cladius Hirvenoja is recorded here for the first time from outside
the type-locality in Germany, from two collections of larvae sent
to P.S.C. for identification.

Halocladius (Psammocladius) braunsi (Goetghebuer)
Cricotopus braunsi Goetghebuer, 1942: 10.
Trichocladius psammophilus Remmert, 1953: 236.
Halocladius (Psammocladius) braunsi (Goetghebuer); Hirvenoja,
1973: 110.

The distinctive larvae of this species were described briefly by
Remmert (loc. cit.) and in greater detail by Hirvenoja (loc. cit.).
The larvae can be recognised from the figures and description of
Hirvenoja, and the key and figures of Cranston (1981).

The premandible with a strong inner brush and at least four
teeth, the plumose SI seta and the strong beard beneath the
characteristically shaped mentum allows ready separation of this
larva from all other marine Orthocladiinae, particularly from
other Halocladius species. These have at most a bifid premandible
with a weak brush, a bifid SI seta and a more normal mentum
with a weak beard.
The specific identity of the distinctive larva is confirmed by rearing two pupae, adult male and female, each of which concurs with the description of Hirvenoja (loc. cit.).

MATERIAL EXAMINED

**Northern Ireland:** Londonderry, Coleraine, River Bann estuary, 14.iii.1977 (*S. Wirjoatmodjo*) (25 larvae). **Scotland:** Aberdeenshire, nr Newburgh, River Ythan estuary, 22.ii.1980 and 4.iv.1980 (*D. C. Hockin*) (numerous larvae; 2 pupae, 1 male, 1 female imagines).

ECOLOGY

The species is known previously only from the type-locality, the Island of Amrum, one of the North Friesian Islands off the North Sea coast of Schleswig-Holstein, West Germany. Remmert (1953) (under *T. psammophilus*) described the larvae from sandbanks ('Farbstreifensandwatt'). The larvae build tubes in the sand, and were found at salinities of between 8 and 40%. Remmert believed the larvae to be stenotopic thalassicoles of the marine littoral zone.

The Northern Irish material was collected by grab samplers from sandy benthos in the tidal River Bann estuary. The salinity was not recorded but the presence of *Glyptotendipes* sp. and *Microtendipes* sp. (Chironomidae) and *Phryganea grandis* L. (Trichoptera; det. P. C. Barnard), none of which are noted as halobionts, suggests that the salinity was not high.

The Scottish material was taken from the upper 10 cm of stratified cores from a well-sorted, sandy intertidal beach with a median particle diameter of about 0.35 mm. The area adjoined an old *Mytilus* bed and was slightly downstream of, and opposite the inflow of Foveran Burn, in the lower reaches of the Ythan estuary. The area is fully tidal with the mean amplitude varying around 1.5 m and showing no apparent seasonal pattern. Salinity at high tide varies around 33-35 parts per thousand with little seasonal fluctuation and no significant vertical stratification, while at low tide mean salinity values do show a seasonal pattern dependent on local rainfall and evaporation conditions: autumn 5.6, winter 3.0, spring 4.7, and summer 19.2 parts per thousand (Leach, 1969; 1971).

Larvae were collected in low population densities towards the L.W.M. of spring tides from October to April (1979-1980). Scott (1958) reported the presence of undetermined larval Chironomidae in the same area for eight months of the year with peak numbers in about May, of around 350 larvae per square metre of sand.

Larval populations of *H. (P.) braunsi* at a higher density have been found in areas approaching the H.W.M. of spring tides, where groundwater drainage from the heather moors of the Sands of Forvie National Nature Reserve must lower the effective salinity of the interstitial water at high tide.
Predation by the littoral beetle *Staphylinus ater* Gravenhorst (Coleoptera; det. P. M. Hammond) has been observed.

**COMMENTS**

Marine insects have been poorly studied in Britain by entomologists and have perhaps been overlooked by marine biologists. Adult marine Chironomidae are small and ephemeral, and may have lost the habit of aerial swarming. The larvae are also small, and are rarely aggregated on the shore, although the density of some rock pool dwelling larvae can be quite high. Despite these problems, further information on life histories and even species lists of these under-recorded midges would be valuable, particularly in the enigmatic subfamily Telmatogotoninae.

**References**


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