

Nanocladius (Nanocladius) distinctus (Malloch) (Diptera, Chironomidae) new to Britain and Ireland

PETER H. LANGTON and LES P. RUSE¹

University Museum of Zoology, Cambridge, Downing Street, Cambridge

(address for correspondence: 16, Irish Society Court, Coleraine, Northern Ireland, BT52 1GX)

¹Centre for Research in Ecology, Whitelands College, Roehampton University, Holybourne Avenue, London SW15 4JD

Summary

Pupal exuviae of *Nanocladius (Nanocladius) distinctus* (Malloch, 1915) were collected by LPR from the River Thames, Purley. An adult male has been detected in a series of *N. (N.) dichromus* (Kieffer) in coll. PHL, collected from the River Bann, Coleraine, Northern Ireland. This is the first record of the species for both Britain and Ireland. Information is provided for the identification of pupal exuviae and adult males.

Introduction

On 15 August 2017, amongst chironomid pupal exuviae LPR collected from the water surface of the River Thames at Purley (SU653774), Surrey were specimens of *Nanocladius distinctus* (Malloch, 1915) that he identified using Langton and Visser (2003). Since the pupal stage of this species is not easily separable from that of *N. dichromus* (Kieffer 1906), which is the valid replacement name for *N. bicolor* (Zetterstedt, 1838), LPR sent specimens to PHL for confirmation. The subsequent investigation revealed difficulties with separating the two species also for the adult males. The present paper aims to clarify the problem, and then provide a solution based on the material listed in the figure caption below, plus an adult male *N. distinctus* from the River Bann (C854304), drowned on the water surface, 25 July 2014, that was discovered in a series of *N. dichromus* in coll. PHL.

Separation of adult male *N. dichromus* and *N. distinctus*

Most species of adult male Chironomidae can be separated on the structure of the adult male hypopygium. However, the male genitalia of *N. dichromus* and *N. distinctus* are so alike that the figure for *N. dichromus* in Langton and Pinder (2007, Vol. 2, fig. 69A) will pass for both species (cf. Sæther 1977, fig. 9A for *N. distinctus*). Sæther (*op. cit.*) described different patterns and numbers of abdominal tergite setae for the various species he treated in detail. For males of *N. distinctus* he gave T1 with 8-18 (m=13) setae, TII-III each with 13-30 (m=19), and TIV-VIII each with 11-22 (m=16) setae, with the respective transverse row uniserial on most tergites, i.e. with the setae crowded laterally when the numbers are larger. For *N. dichromus* (syn. *bicolor*), Sæther apparently interpreted the adult male by combining features from the literature with others he had observed on a single female of *N. 'cf. bicolor (Zett.)'* from Canada. In his key to adult males, the only discrete difference between *N. 'bicolor (Zett.)'* and *N. distinctus* was the arrangement of setae on abdominal tergites being 'irregularly double' on all tergites for the former species, but in a single row on at least two tergites in the latter (Sæther 1977, page 7, see also figs 1E versus 1D). The value of this distinction may be questioned, as the 'irregularly double' condition was extrapolated from a Nearctic female on which the author also remarked that 'it may represent a new species' (*op. cit.*, p. 30). On the other hand, Fittkau and Lehmann (1970) had described European specimens of *Microcricotopus bicolor* (*Microcricotopus* Thienemann and Harnisch was reduced to a junior synonym of *Nanocladius* by Freeman 1956 and confirmed by Sæther 1977) as also having the tergite setae irregularly arranged.

It has been beyond the scope of the present work to review original type material of *N. dichromus* and its junior synonyms, and to establish a new name-bearing type, if necessary. Consequently, it should be understood that we are using the name in the sense of its interpretation by Sæther (1977).

The following couplets are designed to be inserted in the key to adult male *Nanocladius* in Langton and Pinder (2007, Vol. 1).

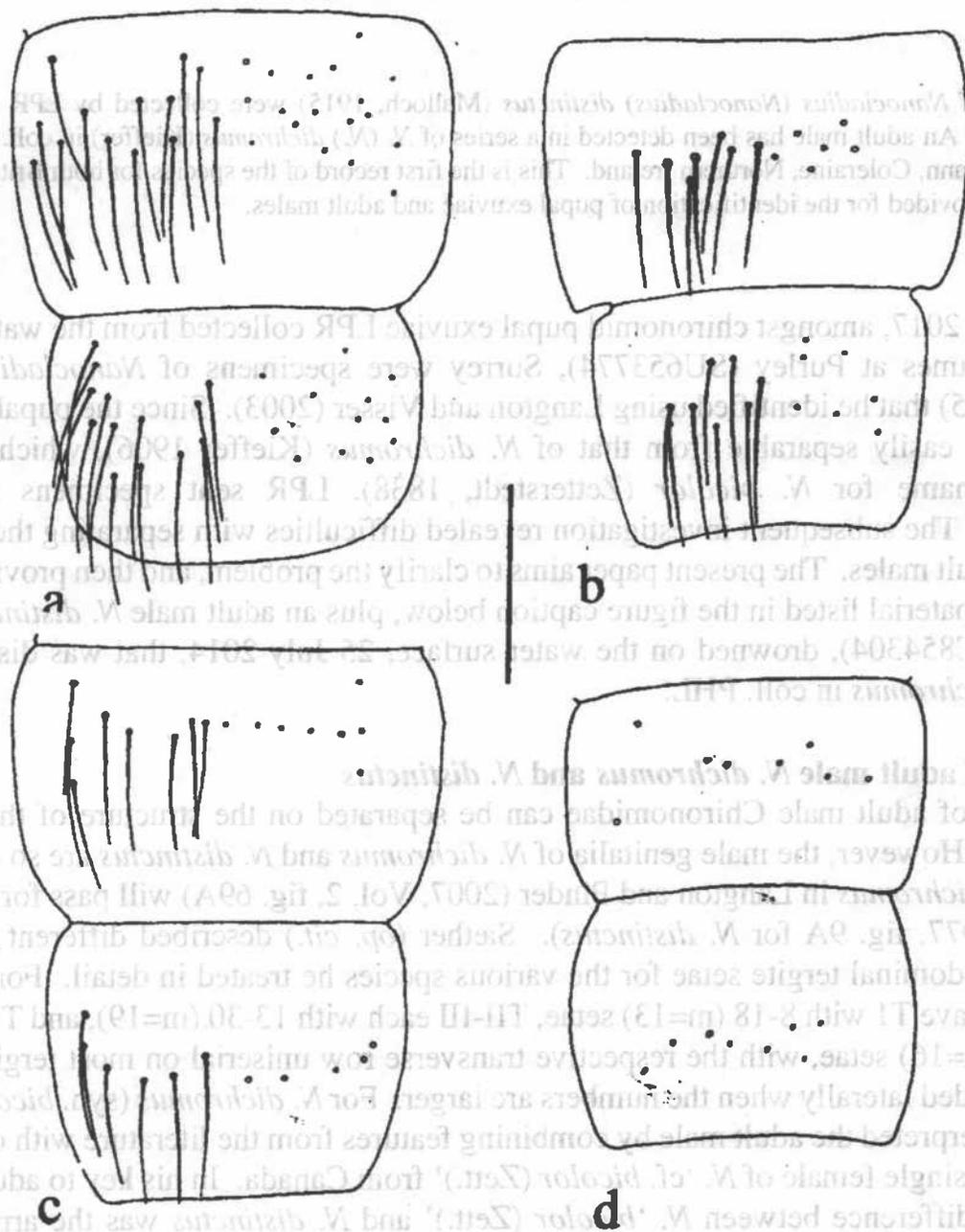


Fig. 1. Abdominal tergites VII and VIII: (a), *Nanocladius dichromus* pharate adult male, small pool by Loch Spynie (NJ237665), Scotland, 23 April 2000; (b), *N. dichromus* pharate adult male R. Bann (C854305), Coleraine, Northern Ireland, 14 June 2013; (c), *N. distinctus* pharate adult male, R. Rhine, Wageningen, The Netherlands, 16 August 1982, leg. A. Klink; (d), *N. distinctus* adult male, R. Bann (C854305), Coleraine, Northern Ireland, 26 July 2014, drowned on water surface. Scale line = 0.1mm.

1. Inner lobe of gonocoxite roughly rectangular 1a
 - Inner lobe of gonocoxite conical in shape 2
- 1a. Abdominal tergites VII and VIII with a transverse row of setae (Figs 1c, d). Hypopygium as in *N. dichromus* fig. 169A **Nanocladius distinctus** (Malloch)
 - Abdominal tergites VII and VIII with many irregularly arranged setae (Figs 1a, b). Hypopygium fig. 169A **Nanocladius dichromus** (Kieffer) sensu Sæther

Nanocladius dichromus is a common, widespread species in the British Isles and occurs in a wide variety of stagnant and flowing waters. *Nanocladius distinctus* may have previously been overlooked, but its presence in the lower reaches of the R. Rhine in The Netherlands, the R. Thames in England and the R. Bann in Northern Ireland suggest that it might be associated with the potamon (slow-flowing lower course) of large rivers.

Acknowledgement

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***Metriocnemus (Inermipupa) carmencitabertarum* Langton and Cobo (Diptera, Chironomidae) now well established in Northern Ireland –**

The recent spread of *Metriocnemus (Inermipupa) carmencitabertarum* northwards from northwest Spain has been summarized in Langton, P.H. 2015. *Metriocnemus (Inermipupa) carmencitabertarum* Langton and Cobo (Diptera, Chironomidae) now in Northern Ireland. *Dipterists Digest (Second Series)* 22, 10. Three years ago in response to the reports of its establishment in Co. Meath (Declan Murray *pers. comm.*), I set up an *M. carmencitabertarum* trap outside the back door of my apartment here in Coleraine. The species is characteristic of small, often temporary bodies of water. The trap is a plastic plant trough, 57cm long x 22cm wide by 15 cm deep. A layer of gravel reduces the water depth to 10cm. The trap was initially filled with tap water, and only once since has it been necessary to top up with tap water, rain water keeping the trap full. The water soon turned green and has remained so. My apartment is in a complex of contiguous apartments two and three storeys high surrounding a car park accessed by an archway through the buildings. Two narrow alleys also allow access to the court. All three

accesses are at the far end of the court to where the trap is sited. On 15 April of this year I discovered a thriving population of *M. carmentitabertarum* in the trap – **PETER H. LANGTON**, University Museum of Zoology, Downing Street, Cambridge (address for correspondence: 16 Irish Society Court, Coleraine, Co. Derry, BT52 1GX)

REVIEW

Chironomidae (Diptera) of Ireland – a review, checklist and their distribution in Europe by Declan A. Murray, James P. O'Connor and Patrick J. Ashe. 404 pp. Occasional Publication of the Irish Biogeographical Society Number 12, 2018.

This work is the result of many years' study of non-biting midges in Ireland, and is a significant contribution to knowledge of this family in a British Isles and European context. It is dedicated to Carmel Humphries (1909-1986), Professor of Zoology at University College, Dublin from 1957 to 1979, who fostered the interest of the authors in these insects during their time as students there, and it benefits from a foreword by her present successor, Thomas Bolger. Thanks to the diligence of the authors, the Chironomidae are now one of the better known Diptera families in Ireland, with 520 named species and some others awaiting identification recognised to occur, leaving only a little over 100 species recorded in the British Isles that have yet to be found in Ireland. Indeed, 18 species recorded in Ireland have yet to be found in Britain, nearly half of the Diptera species for which that is presently true. The extent and diversity of aquatic habitats in Ireland are reflected in the richness of its midge fauna.

The introduction includes a history of chironomid studies in Ireland, and of the progressive development of international collaboration that has enhanced them and placed them in a European context. The contribution of the senior author's many students in building knowledge of the Irish fauna is acknowledged, and more recently that of Peter Langton on that of Northern Ireland. This account is well illustrated with photographs of the authors and their collaborators over the years.

The main part of the work comprises a list of all species of the family that have been confirmed to occur in Ireland. An account of the biology is given under each generic heading. For each species, data are assigned to counties and to 40 hydrometric areas defined by river catchments, into which Ireland has been divided for recording purposes, with records for five offshore islands treated separately; maps show the distribution within Ireland by hectads, and the wider distribution is indicated and illustrated by maps showing the distribution in Europe by country.

Taxonomic issues are discussed under genera and species where relevant. In the checklist provided, it is indicated whether species have been recorded respectively in Northern Ireland and the Republic of Ireland and, if there is any uncertainty about occurrence in either geographic region, this is queried. Twenty presently un-named species, 14 known only from pupal exuviae and six other undescribed species, are included in the list and discussed in the text under their present designations; only two of these are currently in the British Isles checklist. However, for those known only from morphotypes of pupal exuviae, it is in some cases noted that they may represent known species of the respective genus for which exuviae have yet to be recognised.

This comprehensive account of the Irish chironomid fauna will be a firm basis for future studies of this family in the British Isles. It will undoubtedly continue to be built on, given that the authors and others are still actively adding to knowledge of the taxonomy, distribution and biology.

EDITOR