

A new species of the genus *Limnophyes* Eaton from S. E. England

(Diptera, Chironomidae)

By P. D. Armitage

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Limnophyes paludis spec. nov. is described and illustrated from male imagines collected on the Isle of Sheppey, S. E. England. Characters distinguishing this species from others in the genus are discussed.

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A total of 47 species of *Limnophyes* are listed in Limnofauna Europaea (FITTKAU & REISS, 1978). Two of these species, *L. biverticillatus* Rem. and *L. virgo* Rem., are known only as females. Of the remaining 45 species, 7 are listed from Great Britain. The studies of PINDER (1978) and LANGTON (1980) have added a further 4 species. On 29 March 1984 chironomid adults were sampled by sweeping vegetation at the margins of ponds and ditches in the Swale National Nature Reserve on the Isle of Sheppey, Kent (S. E. England). Amongst this material were four male imagines of the genus *Limnophyes* which could not be assigned to any of the currently described British species (PINDER, 1978). Further comparison of the specimens with descriptions provided in GOETGHEBUER (1940–1950), BRUNDIN (1947) and SAETHER (1975) showed them to be a new species.

The descriptive terminology follows SAETHER (1980). The ranges for counts and measurements are followed by mean values in parentheses where appropriate.

Limnophyes paludis spec. nov.

Material: Holotype (♂ imago): Isle of Sheppey, Swale National Nature Reserve, from emergent vegetation beside water bodies, 29 March 1984, coll. P. D. Armitage. Paratypes (3 ♂♂ imagines), same data as holotype. Holotype slide-mounted in Dimethyl hydantoin formaldehyde resin; 2 paratypes slide-mounted in DMHF and one in Euparal. Holotype deposited in British Museum (Natural History); one paratype deposited in the Museum of Zoology, Bergen, Norway, remaining material retained in collections of Freshwater Biological Association.

Etymology: The specific name *paludis* refers to the occurrence of the species in a marshland area (Latin *palus* = marsh).

Male imago (n = 4)

Colouration (alcohol preserved). Head and antennae dark brown to black. Thorax – scutum, shiny black with dorsocentral bristles arising from pale patches. Scutellum and postnotum dark brown. Legs dark brown. Wings greyish brown in reflected light and coarsely dotted with microtrichia, halteres dark brown. Abdomen dark brown. Total length 3.15–3.30, (3.24) mm. Wing length 1.87–1.95, (1.93) mm. Wing width 0.50–0.54, (0.52) mm.

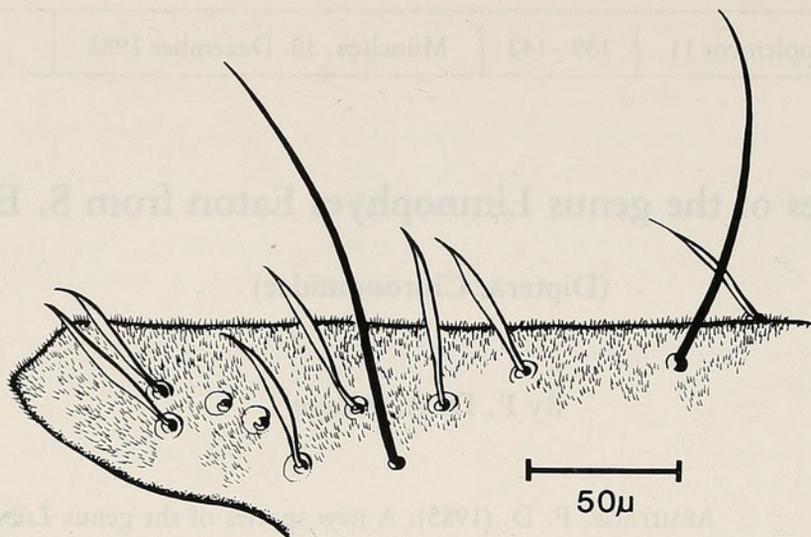


Fig. 1. *Limnophyes paludis* spec. nov.; prescutellar region of thorax showing lanceolate bristles.

Head: AR = 1.10–1.17, (1.14). 13 flagellomeres. Temporal setae 4–6, Postorbitals 1–3, outer verticals 1, inner verticals 1–2. Clypeus 14–17 setae. Palp lengths (μm): 30–35, (32); 50–55, (53); 90–95, (92); 65–70, (68); 105–125, (117).

Thorax: (Fig. 1). Antepronotum with 1 median and 2–3 lateral setae. Acrostichals absent; dorsocentrals 26–29 including 2–4 humerals of which 2 are lanceolate, and 3–6 lanceolate prescutellars; prealars 5–7; post anepisternum II with 2–5 setae, anepimeron with 7–9 setae; preepisternum with 5–7 setae. Scutellum with 3–5 setae.

Wing: VR = 1.24–1.28, (1.25). Free end of costa 105–125, (114) μm long. Brachiolum with 1–2 setae; R with 7–16 setae, R_1 with 0–1 setae; squama with 6–8, (7) setae.

Legs: Spur of front tibia 60 μm long; longest spur of middle tibia 25 μm ; longest spur of hind tibia 55 μm . Width at apex of front tibia 42–50, (44) μm ; of middle tibia 45 μm ; of hind tibia 50–55, (51) μm . Teeth in comb 11–12, (11.5). Lengths (μm) and proportions of legs:

	Fe	ti	ta ₁	ta ₂
p1	700–750, (725)	850–875, (869)	450–475, (469)	275–300, (287)
p2	762–775, (772)	763–812, (787)	350–375, (356)	195–200, (199)
p3	775–800, (787)	905–950, (932)	475–525, (500)	250–275, (262)

	ta ₃	ta ₄	ta ₅	LR
p1	175–200, (187)	100–105, (101)	100–103, (101)	0.53–0.54, (0.54)
p2	137–150, (144)	75–80, (77)	97–100, (99)	0.43–0.46, (0.45)
p3	200–237, (219)	87–100, (97)	100–110, (103)	0.50–0.55, (0.53)

Hypopygium: (Fig. 2). Gonostylus robust with darkened dorsal edge, relatively wide and 'scooped-out' internally in proximal half, narrowed distally without subapical spine. Anal point absent. Ninth tergum with 14–20, (16) setae. Laterosternite IX with 3–5, (4) setae. Transverse sternapodeme 92–97, (95) μm long. Phallapodeme 77–87, (84) μm long. Gonocoxite 170–185, (176) μm long. HR = 1.40–1.54, (1.46).

Systematic position

15 of the species of *Limnophyes* listed by FITTKAU & REISS (1978) have a male AR > 0.9. Seven of these do not possess lanceolate setae on the scutum and the remaining 8 differ from the new species in colouration, shape of hypopygium and leg and antennal ratios. In GOETGHEBUER'S (1940–1950) keys the new species is near *L. squamatus* Kieffer but it may be separated on its larger size, colouration, higher LR

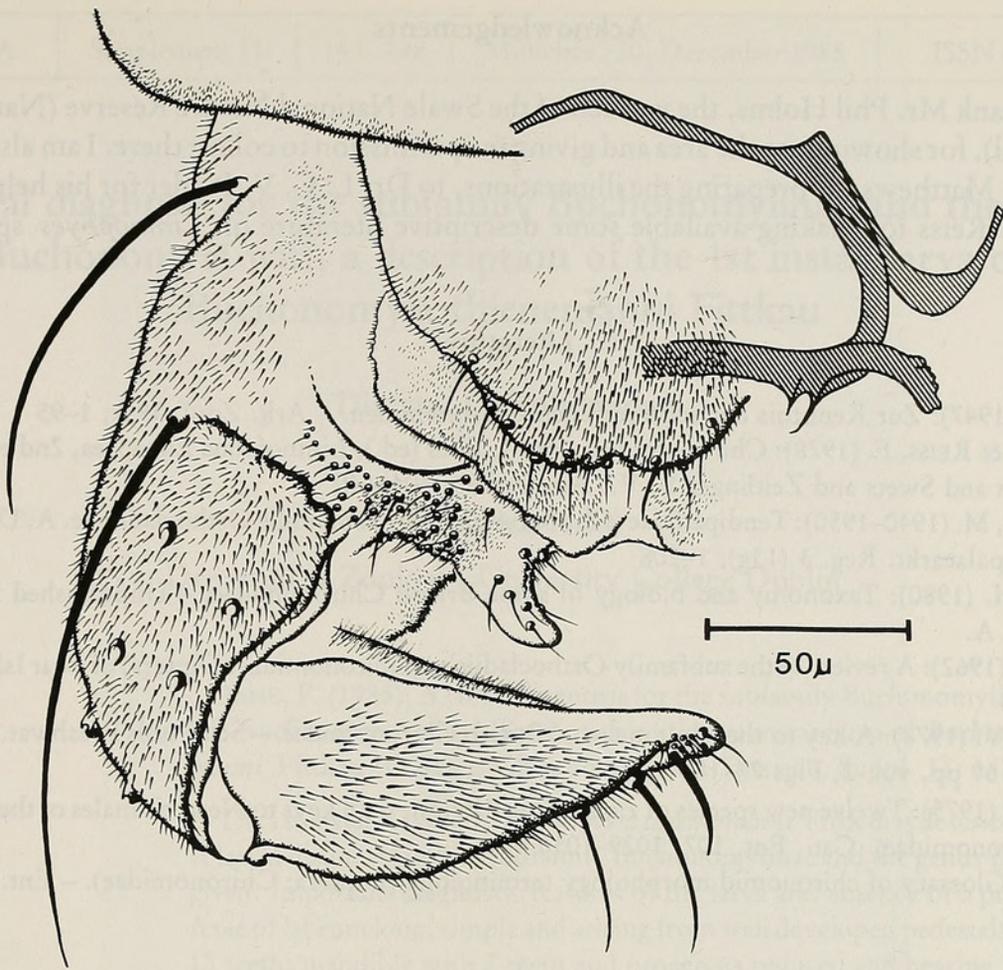


Fig. 2. *Limnophyes paludis* spec. nov.; hypopygium of male, dorsal aspect.

and the presence of lanceolate bristles in both prescutellar and humeral regions. In *L. squamatus* lanceolate bristles are restricted to the prescutellar region. *L. borealis* Goetghebuer, which keys out in the same couplet as *L. squamatus* (GOETGHEBUER, 1940–1950), differs from *L. paludis* in the shape of the hypopygium (OLIVER, 1962) and in the number and arrangement of dorsocentral bristles on the scutum.

L. paludis is characterised by its relatively large size (3.2 mm), by having lanceolate bristles, and a gonostylus without a subapical spine, as in *L. prolongatus* Kieffer and *L. gurgicola* Edwards. It differs from these species in having an AR of 1.14 (cf. <0.3 in *L. gurgicola*, 0.5–0.6 in *L. prolongatus*).

Habitat and associated species

The Swale National Nature Reserve is an area of coastal grazing marsh intersected by many, mainly freshwater, ditches, though some can be slightly brackish. The chironomids were collected by sweeping emergent vegetation (*Scirpus maritimus* L., *Juncus inflexus* L. and *Carex divisa* Huds.) along the sides of the ditches which were about 3 m wide and with a mean depth of 1.5 m. Chironomid species occurring with *L. paludis* sp. n. in the samples were *Chironomus lugubris* Zetterstedt, *Psectrocladius barbimanus* (Edwards), *Aricotopus lucens* Zetterstedt, *Limnophyes pumilio* (Holmgren) and an indeterminate *Metriocnemus* sp.

Acknowledgements

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Literature

- BRUNDIN, L. (1947): Zur Kenntnis der schwedischen Chironomiden. – Ark. Zool. **39 A**, 1–95
- FITTKAU, E. J. & REISS, F. (1978): Chironomidae. – In: J. Illies (ed.), *Limnofauna Europaea*, 2nd ed. G. Fischer, Stuttgart and Swets and Zeitlinger B. V., Amsterdam, 404–440
- GOETGHEBUER, M. (1940–1950): Tendipedidae (Chironomidae). F. Subfamilie Orthoclaadiinae. A. Die Imagines. – *Fliegen palaearkt. Reg.* **3** (13g), 1–208
- LANGTON P. H. (1980): Taxonomy and biology of some British Chironomidae. – Unpublished Ph. D. thesis, C. N. A. A.
- OLIVER, D. R. (1962): A review of the subfamily Orthoclaadiinae (Chironomidae: Diptera) of Bear Island. – *Astarte* **20**, 1–19
- PINDER, L. C. V. (1978): A key to the adult males of British Chironomidae. – *Sci. Publ. Freshwat. biol. Ass.* **37**, vol. 1, 169 pp, vol. 2, Figs 77–189
- SAETHER O. A. (1975): Twelve new species of *Limnophyes* Eaton, with keys to Nearctic males of the genus (Diptera: Chironomidae). *Can. Ent.* **107**, 1029–1056
- — (1980): Glossary of chironomid morphology terminology (Diptera: Chironomidae). – *Ent. scand. Suppl.* **14**, 1–51



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