

Freshwater Biological Association

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Title: Keys to the larvae of the species of the genera Diamesa,
Eukiefferiella, Orthocladius, Cricotopus, Psectrocladius
and Chaetocladius.

Author(s) Pankratova, V.Ya.

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Key to the species of larvae of the genus Diamesa.

from PANKRATOVA, V. Ya. (1970). Larvae and pupae of midges of...

Orthoclaadiinae, pp.76-78.

Translated by J.E.M. Horne.

- 1(16) Brush pedestals well-developed.
- 2(3) Brush pedestals somewhat taller than the height of the brushes...
7. D. parva Edw. (p.84)
- 3(2) Brush pedestal broader than their height.
- 4(5) 2 lateral setae of the pedestals seated side by side directly
on the body... 12. D. baicalensis Tshern. (p.88)
- 5(4) 2 lateral setae seated on the pedestal itself.
- 6(7) Premandibles terminating in a single tooth...
25. D. carpatica Botn. et Cindea
(p.100)
- 7(6) Premandibles terminating in several teeth.
- 8(9) Distal end of the premandible with two elongated blunt teeth
and two low tubercles..... 26. D. heterodentata Botn. et Cindea
(p.101)
- 9(8) Distal end of the premandible with 6-7 teeth.
- 10(13) Submentum with 11-12 pairs of lateral teeth.
- 11(12) Lateral teeth of submentum 11 pairs, the middle teeth with
rounded apices... 20. D. nivalis Pankr. (p.96)
- 12(11) Lateral teeth of submentum 12 pairs, middle teeth with a
"saddle" in the middle... 13. D. mohelnicensis Hrabe (p.90)
- 13(10) Submentum with 8 pairs of lateral teeth.
- 14(15) Middle tooth of submentum scarcely broader than 1st lateral
teeth... 11. D. hygropetrica Kieff. (p.87)
- 15(14) Middle tooth of submentum 4 times broader than 1st lateral
teeth.... 19. D. inaequabilis Pankr. (p.96)
- 16(1) Brush pedestals reduced.
- 17(28) Pedestals in the form of an incompletely sclerotinised ring.
- 18(19) Preanal brushes consisting of 4 needle-like setae....
14. D. stylata Tshern. (p.91)
- 19(18) Preanal brushes consisting of hair-like setae.

- 20(21) Forward edge of the submentum straight, with 7 widely spaced triangular teeth and with 6 pairs of diminishing(?) teeth...
17. D. coronata Tshern. (p.94)
- 21(20) Forward edge of submentum curved.
- 22(23) Middle tooth of submentum lower than 1st lateral....
1. D. thienemanni Kieff. (p.79)
2. D. cinerella Mg. (p.80)
3. D. zernyi Edw. (p.80)
4. D. bohemani Goetgh. (p.81)
[these species are indistinguishable in the larval stage]
- 23(22) Middle tooth of submentum in height equal to 1st lateral.
- 24(27) 1st segment of antenna longer than the flagellum.
- 25(26) 2 annular organs situated in the lower quarter of the 1st segment of the antenna; in the preanal brushes up to 3 setae....
23. D. spinosa Pankr. (p.99)
- 26(25) Besides the 2 lower annular organs there is a third in the upper quarter of the 1st segment of the antenna, with up to 4 setae in the preanal brushes....
5. D. insignipes Kieff. (p.81)
- 27(24) 1st segment of the antenna approximately equal in length to the flagellum....
8. D. latitarsis Goetgh. (p.85)
- 28(17) Pedestals of the preanal brushes completely absent.
- 29(30) Preanal setae of the brushes modified to 2 strong little hooks...
6. D. steinböcki Goetgh. (p.83)
- 30(29) Preanal brushes with setae.
- 31(32) Each brush reduced to one scarcely noticeable seta....
16. D. longipes Tshern. (p.93)
- 32(31) Each brush consisting of 3-5 setae.
- 33(34) Brush with 5 strong yellow setae.....
21. D. quinquasetosa Pankr. (p.96)
- 34(33) Brush with 3-4 very small setae.

35(36) 1st segment of antenna only little longer than flagellum....

18. D. angustimentum Tshern. (p.95)

36(35) 1st segment of antenna 1.5 - 2 times longer than flagellum.

37(38) Mandible with 4 teeth, the terminal and next of these teeth equal between themselves and twice as long as the two lower....

D. adumbrata Pankr. (p.100)

38(37) Mandible with 5 teeth, all elongated, the terminal longer, the remaining ones gradually shortening downwards.

39(42) Middle of the submentum with one tooth.

40(41) Middle tooth not large, rounded, standing in one row with the equal-to-it first 3 pairs of lateral [teeth], the remaining 6 pairs ^{of smaller} ~~larger~~ lateral teeth falling to the edges.....

15. D. pseudostylata Tshern. (p.92)

41(40) Middle tooth broad, with saddle-like recess on the top and 10 pairs of lateral teeth gradually diminishing to the edges...

22. D. selligera Pankr. (p.98)

42(39) Middle of the submentum with 2 teeth, the first two lateral pairs stand with them in one row and are equal to them in width, the remaining 8 pairs of lateral teeth finer and falling to the edges....

10. D. aberrata Lundbeck (p.86)

*Key to the species of the larvae of the genus Eukiefferiella.

from PANKRATOVA, V. Ya. (1970). Larvae and pupae of midges of.....

Orthoclaadiinae, pp.151-52.

1(14) Pedestals of the preanal brushes 1.5 - 2 times higher than their width, sometimes with denticles at the rear of the distal end. Head yellow. Setae of the body not shorter than half the length of the segments bearing them.

2(9) Submentum with 1 middle tooth.

3(6) Inner edge of base of mandible smooth.

4(5) Index of the antenna* equal to 2.1, second segment of antenna 1.3 times longer than remaining subsequent segments....

2. E. discoloripes Goetgh. (p.154)

5(4) Index of the antenna equal to 1.5, second segment of antenna equal to the total length of subsequent segments....

18. E. masordariensis Pankr. (p.166)

6(3) Inner edge of base of mandible with spines.

7(8) Index of antenna equal to 1.8 - 1.9, second segment of antenna equal to total length of subsequent segments....

17. E. tshernovskii Pankr. (p.166)

8(7) Index of antenna equal to 2.0, second segment of antenna 1.5 - 2 times longer than total length of remaining segments.

19. E. communis Pankr. (p.166)

9(2) Submentum with two middle teeth.

10(13) Setae of the body not shorter than the length of the segments bearing them; second segment of the antenna equal to total length of subsequent segments.

11(12) Inner edge of base of mandible smooth; third and fourth segments of antenna equal to one another.....

3. E. calvescens Edw. (p.155)

12(11) Inner edge of base of mandible with spines; third segment of antenna 1.5 times shorter than fourth. 4. E. atrofasciata Goetgh. (p.155)

* Note: Index of the antenna = ratio of length of basal segment to length of flagellum. JEMH.

- 13(10) Setae of the body equal to half the length of the segments bearing them; second segment of the antenna 1.3 times longer than the total length of the subsequent segments.....

5. E. bavarica Goetgh. (p.156)

- 14(1) Pedestals of the preanal brushes not higher than their width, always without subterminal denticles. Head brown or blackish-brown. Setae of the body shorter than half the length of the segments bearing them.
- 15(36) Submentum with 1 middle tooth.
- 16(29) Middle tooth of submentum 3-4 times wider than first lateral tooth.
- 17(24) Lateral teeth of submentum 4 pairs.
- 18(21) Index of antenna equal to 1.5
- 19(20) Setae of the hind edge of the last segment of the body: the dorsal somewhat shorter than the anal pseudopods, the lateral shorter than the dorsal, the ventral shorter than the latter.....

6a. E. cfr. similis (Zavrel) (p.157)

- 20(19) Setae of the hind edge of the last segment of the body: the dorsal much shorter than the anal pseudopods (equal to $\frac{3}{4}$ of their length), the lateral $\frac{1}{3}$ of the dorsal, and the ventral twice as long as the lateral....

16. E. quadridentata Tshern. (p.164)

- 21(18) Index of the antenna equal to 1.
- 22(23) Inner edge of the mandible smooth...

20. E. sellata Pankr. (p.167)

- 23(22) Inner edge of mandible with 3 long, delicate, transparent, pointed, hairlike spines....

7. E. lutethorax Goetgh. (p.157)

- 24(17) Lateral teeth of submentum 5 pairs.
- 25(26) Index of antenna equal to 1; inner edge of base of mandible smooth.....

21. E. oxiana Pankr. (p.167)

- 26(25) Index of antenna equal to 1.5 - 1.8; inner edge of base of mandible with thread-like teeth.

- 27(28) 4th segment of the antenna 1.5 times longer than 3rd; middle tooth without central projection...
1. E. longicalcar (Kieff.) (p.153)
- 28(27) 4th segment of the antenna equal to 3rd; middle tooth with small central projection....
6. E. similis Goetgh. (p.157)
- 29(16) Middle tooth of submentum not more than 1.5 times wider than first lateral tooth.
- 30(31) Lateral teeth of submentum 6 pairs; setae of body well developed.....
15. E. popovae Tshern. (p.163)
- 31(30) Lateral teeth of submentum 5 pairs; setae of body strongly reduced.
- 32(33) 2nd segment of antenna only little longer than total length of subsequent segments, and the 4th 1.5 times longer than the 3rd.
8. E. brevicalcar Kieff. (p.158)
- 33(32) Second segment of antenna at least 1.5 times longer than the total length of the subsequent segments, and 4th and 3rd equal to each other.
- 34(35) Middle tooth of submentum 1.5 times wider than 1st lateral tooth; ventral seta of the hind edge of the last segment of the body delicate.....
9. E. lobifera Goetgh. (p.159)
- 35(34) Middle tooth of submentum hardly wider than 1st lateral tooth; ventral seta of the hind edge of the last segment of the body strong, dark.....
14. E. longipes Tshern. (p.163)
- 36(15) Submentum with 2 middle teeth.
- 37(44) Middle teeth of submentum only ~~little~~ wider than 1st lateral tooth or equal to it.
- 38(39) Second segment of antenna 2 times longer than the total length of the subsequent segments.
10. E. hospita Edw. (p.159)
- 39(38) Second segment of antenna only 1.2 times longer than total length of subsequent segments.

40(43) 4th segment of antenna longer than 3rd.

41(42) Lateral teeth of submentum 5 pairs....

11. E. alpestris Goetgh. (p.160)

42(41) Lateral teeth of submentum 6 pairs...

22. E. dzintari Pankr. (p.168)

43(40) 4th segment of antenna shorter than 3rd...

12. E. coerulescens (Kieff.) (p.162)

44(37) Middle teeth of submentum at least 3 times wider than 1st

lateral tooth...

13. E. clypeata Kieff. (p.162)

Key to the species of the larvae of the genus Orthocladius.

from PANKRATOVA, V. Ya. (1970). Larvae and pupae of midges of....

Orthocladinae, pp.173-74.

- 1(4) Middle tooth of submentum approximately 4 times wider than 1st lateral.
- 2(3) Lateral teeth 6 pairs...
 1. O. saxicola Kieff. (p.174)
 2. O. oblidens Edw. (p.176)
 3. O. rubicundus Mg. (p.176)
 4. O. rhyacophilus Kieff. (p.176)
 5. O. rhyacobius Kieff. (p.176) *
- 3(2) Lateral teeth 9 pairs... 8. O. rivulorum Kieff. (p.178)
- 4(1) Middle and 1st lateral teeth approximately the same or the middle only little wider than 1st lateral.
- 5(6) Middle tooth lower than first lateral. Anterior eye often split. Index of antenna 3.2.... 12. O. consobrinus Holmgr. (p.183)
- 6(5) Middle tooth equal to or taller than first lateral. Anterior eye never split. Index of antenna not greater than 2.5.
- 7(8) Lauterborn organs big. Index of antenna 2.5.....
 11. O. abiskoensis (Edw.) (p.182)
- 8(7) Lauterborn organs small. Index of antenna not greater than 2.
- 9(10) Dorsal pair of anal gills shorter than ventral....
 9. O. saxosus (Tok.) (p.180)
- 10(9) Dorsal and ventral gills the same in length.
- 11(12) Index of antenna 2..... 6. O. thienemanni Kieff. (p.177)
- 12(11) Index of antenna less than 2.
- 13(14) Index of antenna 1.4..... 7. O. rivicola Kieff. (p.178)
- 14(13) Index of antenna 1.5 - 1.7
- 15(16) Submentum, gular sclerite and mandible black or blackish-brown.....
 10. O. frigidus Zett. (p.181)

* species indistinguishable in larval stages

- 16(15) Submentum, gular sclerite and mandible light.
- 17(18) First lateral teeth wider than second....
- 13. O. olivaceus Kieff. (p.185)
 - 17. O. leucolabis Kieff (p.186)
 - 18. O. luteus Goetgh. (p.186) *
- 18(17) First lateral teeth equal to second....
- 16. O. fuscimanus (Kieff.) (p.186)
 - 14. O. bipunctellus Kieff. (p.186)
 - 15. O. pectinatus Kieff. (p.186)

Key to the species of the larvae of the genus Cricotopus.

from PANKRATOVA, V.Ya. (1970). Larvae and pupae of midges of...

Orthoclaadiinae, pp.188-89.

- 1(6) Tufts of setae in the anal-lateral corners of the segments reduced completely.
- 2(5) Anal gills reduced to the order of flat rounded outgrowths (marine forms).
- 3(4) Antennae well-shaped, basal segment 4 times longer than its width.
 - 18. C. fucicola Edw. (p.201)
- 4(3) Antennae clumsy, basal segment 2-3 times longer than its width....
 - 20. C. vitripennis Mg. (p.202)
- 5(2) Anal gills well developed....
 - 17. C. bicinctus Mg. (p.199)
- 6(1) Tufts of setae in the anal-lateral corners of the segments present.
- 7(18) The biggest setae in the tuft not more than half the length of the segment bearing them.
- 8(11) Length of these setae about half of the length of the segment bearing them.
- 9(10) Anal gills reduced to the order of small tubercles (marine forms)...
 - 19. C. maritimus Tshern. (p.201)
- 10(9) Anal gills well developed....
 - 14. C. atritarsis Kieff. (p.198)
 - 15. C. ephippium Zett. (p.199)
 - 16. C. fuscitarsis Kieff. (p.199)*
- 11(8) Setae less than a quarter of the length of the segment bearing them.
- 12(13) Middle tooth of submentum in width almost equal to the first lateral tooth....
 - 13. C. biformis Edw. (p.198)

* these species not distinguishable in the larval stage.

13(12) Middle tooth of the submentum 4-5 times wider than the first lateral.

14(17) Middle tooth 5 times wider than first lateral. Outer edge of mandible with sharp indentations.

15(16) All lateral teeth the same...

12. C. latidentatus Tshern. (p.197)

16(15) First two pairs of lateral teeth less than the remaining ones, in the form of indentations at the base of the middle tooth.

21. C. trifascia Edw. (p.203)

17(14) Middle tooth 4 times wider than first lateral. Outer edge of mandible with weak indentations....

11. C. algarum Kieff. (p.196)

18(7) Setae equal to or longer than the segments bearing them.

19(24) First lateral teeth of submentum with additional denticles.

20(21) Body dorso-ventrally flattened. Index of antenna 2.7.....

8. C. glacialis Edw. (p.193)

21(20) Body cylindrical(?). Index of antenna less than 2.

22(23) Number of setae in lateral tufts of the segments less than 20, more often 3-12.....

1. C. silvestris F. (p.190)

2. C. ornatus Mg. (p.190)

3. C. trifasciatus Panz. (p.192)

4. C. festivus Mg. (p.192)

7. C. adhaerius Pank. (p.193) *

23(22) Number of setae in tufts of the segments more than 20, more often 30-50....

5. C. dizonias Mg. (p.192)

6. C. tibialis Mg. (p.193)

24(19) First lateral teeth of submentum without additional denticles.

25(26) Antennae well developed... 9. C. holsatus Goetgh. (p.194)

26(25) Antennae very short, only twice as long as the width of the basal segment (approximately equal in height & width)

10. C. brevipalpis Kieff. (p.195)

* these species indistinguishable in larval stages.

Key to the species of larvae of the genus Psectrocladius.

from PANKRATOVA V.Ya. (1970). Larvae and pupae of midges of....

Orthoclaadiinae, pp.211-12.

- 1(4) First segment of antenna 4 - 4.5 times longer than flagellum.
Terminal tooth of mandible 2.5 times longer than total width of
remaining dark teeth. Submentum trapeziform.
- 2(3) Index of antenna 3.5..... 14. P. dilatatus v.d. Wulp (p.220)
16. P. obvius Walk. (p.222)
17. P. bifilis Kieff. (p.222)
18. P. vicinus Kieff. (p.222) *
- 3(2) Index of antenna 3..... 15. P. platypus Edw. (p.222)
- 4(1) First segment of antenna not more than 3 times longer than
flagellum. Terminal tooth of mandible not longer than $1\frac{1}{2}$ times
the total width of the remaining teeth. Submentum triangular.
- 5(8) Submentum with one wide middle tooth.
- 6(7) Middle tooth with a small saddle in the middle.....
13. P. simulans Joh. (p.218)
- 7(6) Middle tooth pointed, with 1 or 2 indentations on the sides...
20. P. septentrionalis Tshern. (p.222)
- 8(5) Submentum with two middle teeth.
- 9(10) Middle teeth of submentum significantly lower than first
lateral teeth.... 19. P. ischimicus Tshern. (p.222)
- 10(9) Middle teeth of submentum higher than first lateral teeth.
- 11(14) Anterior central setae of labrum divided into 3-4 pointed lobes.
- 12(13) 1st segment of antenna less than twice as long as the
flagellum.... 12. P. oligosetus Wulk. (p.218)
- 13(12) 1st segment of antenna 2.5 - 3.2 times longer than flagellum....
11. P. bisetus Goetgh. (p.218)
- 14(11) Anterior central setae of labrum divided into more than 4 lobes.

* these species indistinguishable in the larval stages.

- 15(20) Anterior central setae of labrum divided into 5 - 7 lobes.
- 16(17) Length of terminal tooth of mandible equal to the total width of 2 last teeth.... 8. P. schliezi Wülk (p.217)
- 17(16) Length of terminal teeth of mandible equal to total width of remaining 4 teeth.
- 18(19) Larvae greenish.... 1. P. psilopterus Kieff. (p.213)
2. P. limbellatus (Holmgr.) (p.214)*
- 19(18) Larvae brownish, with violet tinge. 7. P. octomaculatus Wülk (p.216)
- 20(15) Anterior central setae divided into 8 - 9 lobes.
- 21(22) Lobes of anterior central setae long, pointed. Inhabitants of brackish waters. 3. P. ventricosus Kieff. (p.215)
- 22(21) Lobes of anterior central setae short.
- 23(24) Middle teeth of submentum little higher than first lateral teeth. Projection at the base of the pedestal of the preanal brushes with 2 - 3 very strong long spines..... 21. P. barbimanus Edw. (p.224)
- 24(23) Middle teeth of submentum much higher than first lateral teeth. Projection at the base of the pedestals of the preanal brushes with 5 small blunt spines. 6. P. sordidellus (Zett.) Edw. (p.216)

* these species are indistinguishable in the larval stage.

Key to the species of the larvae of the genus Chaetocladius.

from PANKRATOVA, V.Ya. (1970). Larvae and pupae of midges of....

Orthocladiinae, p.231

- 1(6) Middle teeth of submentum 2
- 2(3) Middle teeth higher than lateral.....
4. Ch. piger Goetgh. (p.234)
- 3(2) Middle teeth lower than lateral
- 4(5) Middle and all lateral teeth dark coloured and easily visible...
3. Ch. vitellinus Kieff. (p.234)
- 5(4) Middle and first lateral teeth light coloured, remainder dark,
3 - 5th turned inwards and poorly distinguishable...
2. Ch. suecicus Kieff. (p.232)
- 6(1) Submentum with 1 wide middle tooth.
- 7(8) Index of antenna 2. Lateral teeth 3 - 5 poorly visible...
1. Ch. perennis (Mg.) (p.231)
- 8(7) Index of antenna 1.5. Lateral teeth all easily visible.....
5. Ch. laminatus Brund. (p.234)

Notice

Please note that these translations were produced to assist the scientific staff of the FBA (Freshwater Biological Association) in their research. These translations were done by scientific staff with relevant language skills and not by professional translators.