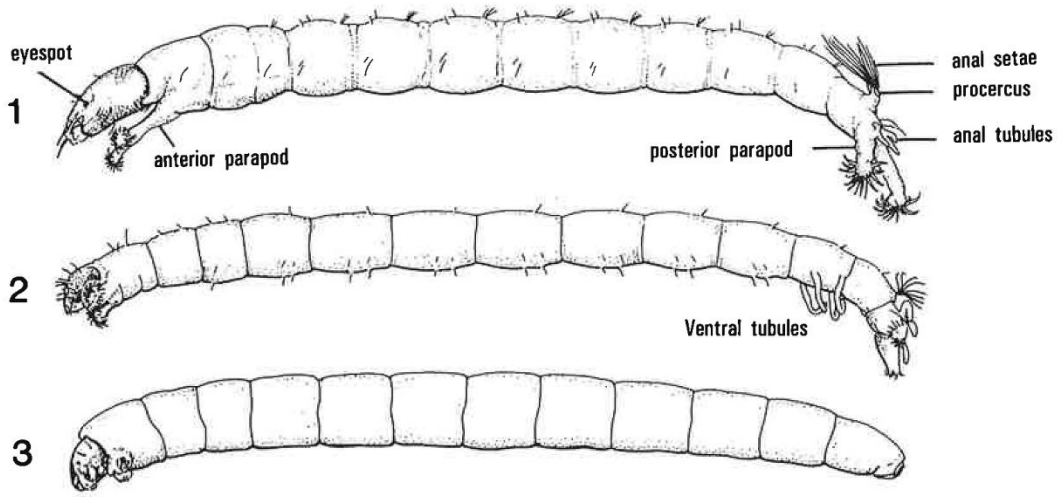
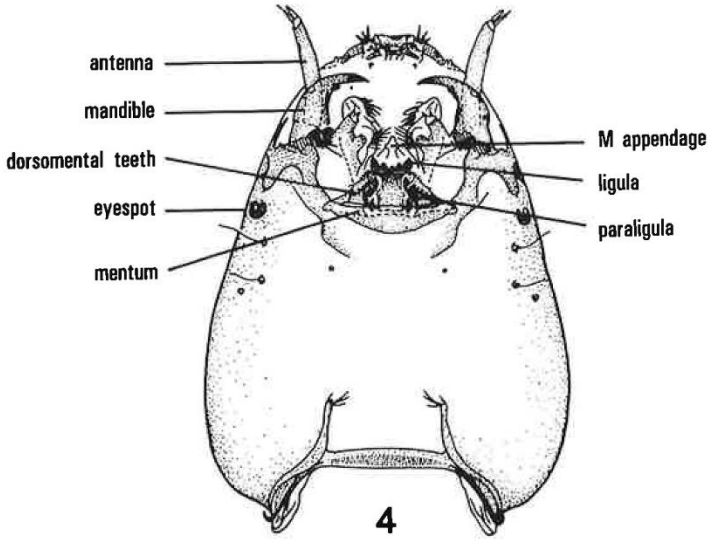
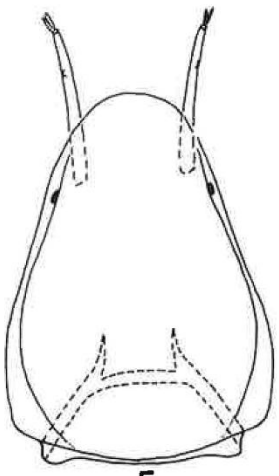
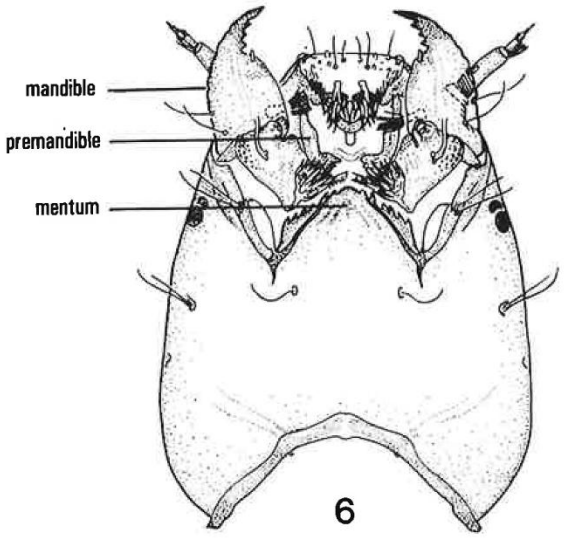
Larval key (instars III and IV) to subfamilies and Chironominae tribes

(taken from: Claus Lindegaard, Diptera Chironomidae, Non-biting Midges. In: Aquatic Insects of North Europe. A Taxonomic Handbook. Apollo Books, Stenstrup 1997)

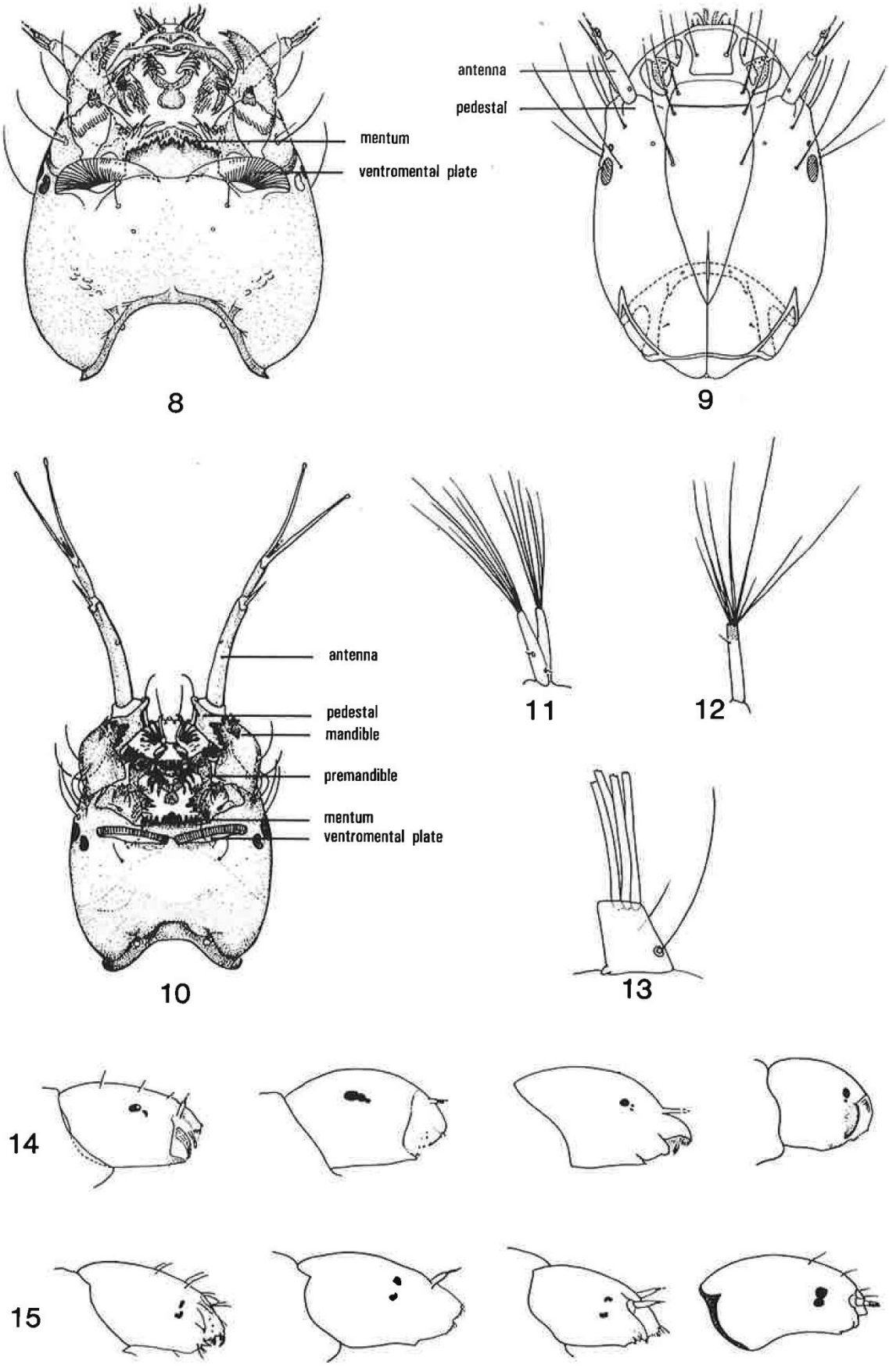








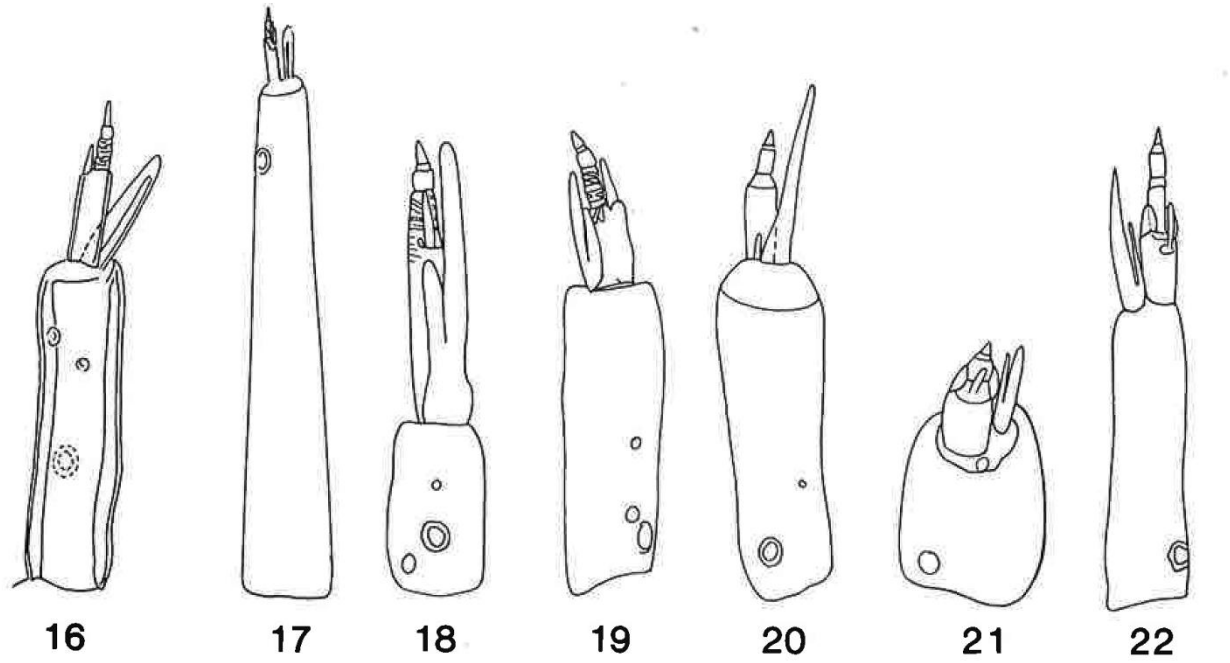
Figs 1-7. Chironomidae, larva. -1-3. Lateral habitus. -1. Tanypodinae. -2. Chironominae, *Chironomus* sp., with ventral tubuli on abdominal segment 8. - 3. Orthocladiinae, terrestrial species with reduced appendages of abdominal segment 9. -4-7. Head capsule. -4-5. Tanypodinae. -4. Ventral view showing well-developed ligula. -5. Dorsal view showing retractile antennae. -6. Orthocladiinae, ventral view showing well-developed mentum with reduced ventromental plates. -7. Diamesinae, tribe Protanypini, ventral view showing head with closely-spaced short setae and ventrolateral, posteriorly-directed projections. Figs 1-4, 6 redrawn from Oliver et al. (1978); figs 5, 7 from Wiederholm (1983).

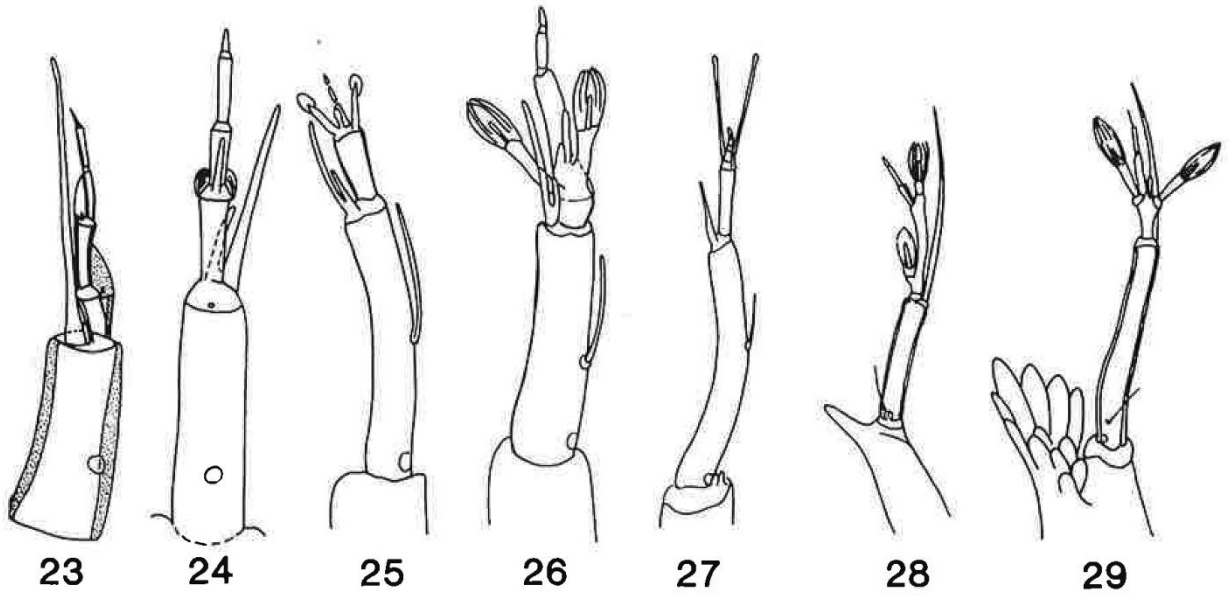


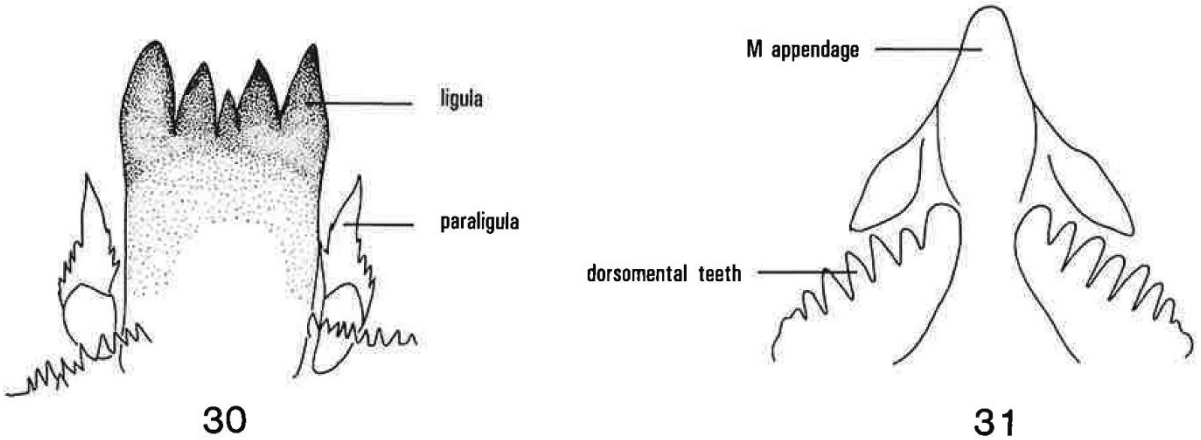
Figs 8-15. Chironomidae, details of larva. -8-10. Head capsule. -8-9. Chironomini. -8. Ventral view showing mentum with well-developed striated ventromental plates. -9. Dorsal view showing antennae shorter than half length of head and placed on pedestals shorter than wide. -10. Tanytarsini, ventral view showing mentum with well-developed striated ventromental plates and antennae longer than half length of head and placed on pedestals longer than wide. -11-13. Procerci on anal segment, lateral view. -11. Tanypodinae. -12. Podonominae. -13. Orthocladiinae or Chironominae. -14-15. Head capsule with different arrangement of eyes, lateral view. -14. Orthocladiinae. -15. Chironominae. Figs 8, 10 redrawn from Oliver et al. (1978); 9, 11-13 from Wiederholm (1983); 14 from Moller Pillot 1984b; 15 from Lenz 1954-1962.

Key

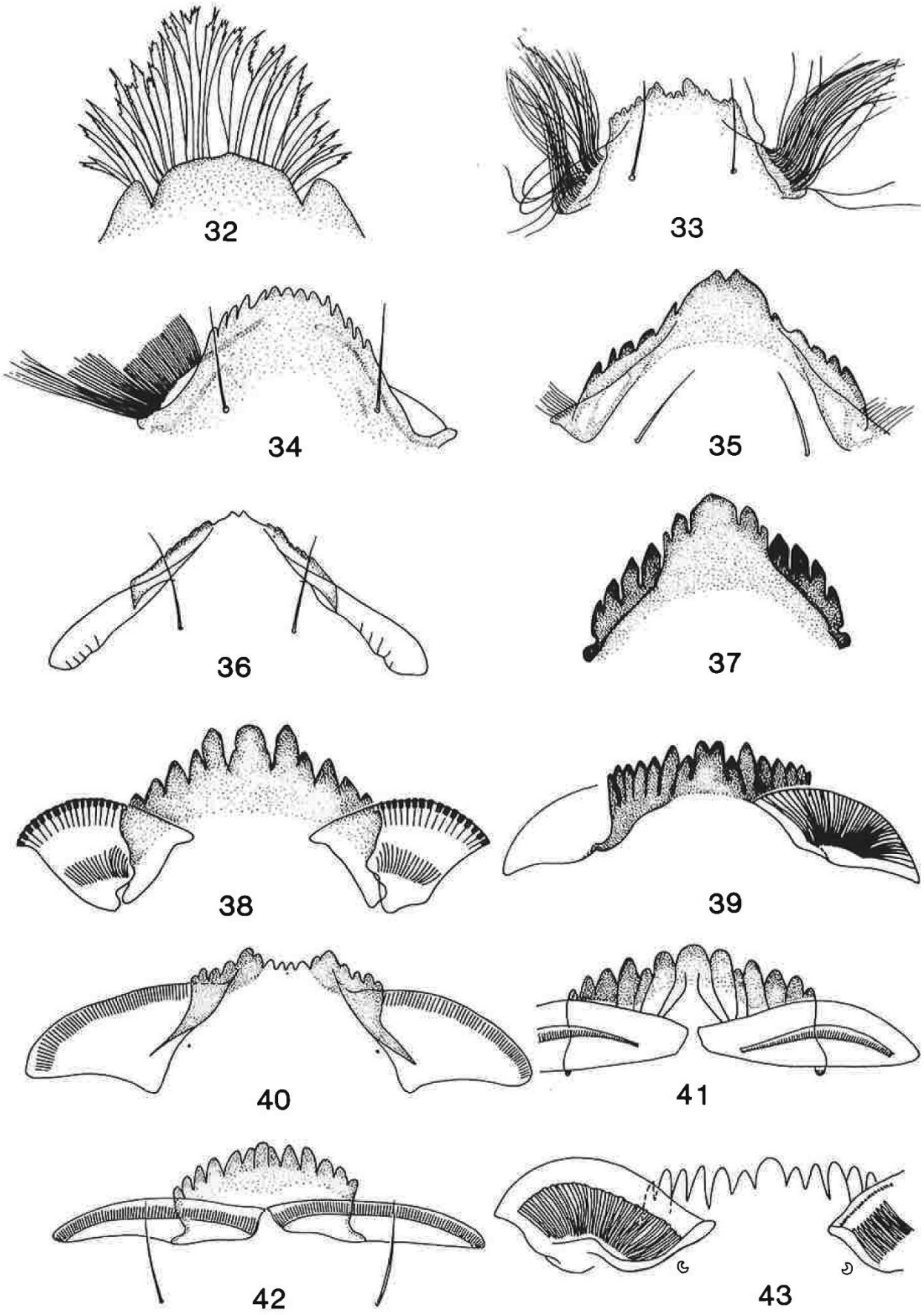
1. Antenna retractile into a sheath in head capsule (Fig. 5). Eye single, usually kidney-shaped (Figs 1, 4). Prementum with ligula distinctively developed (Figs 30-31). Mentum weakly developed (Fig. 4) **Tanypodinae**
- Antenna not retractile; placed directly on head capsule or on pedestals (Figs 9-10). Usually 2 (or 3) eyes on each side, eventually placed closely together (Figs 14-15). Ligula normally weaker developed. Mentum nearly always strongly developed (Fig. 6) 2
2. Premandibles absent. Procercus 8-10 x as high as wide (Fig. 11) or absent 3
- Premandibles present (Fig. 6). Procercus not more than 4 x as high as wide, usually much less (Fig. 13), or absent 4
3. Procercus 8-10 x as high as wide (Fig. 11). Antennal segment 3 annulated (Fig. 16) ..... **Podonominae**
- Procercus absent. Antennal segment 3 not annulated ... . **[Buchonomyiinae]**
4. Antennal segment 3 annulated (Figs 18-19), or if not head capsule with numerous closely-spaced short setae and postoccipital margin with a long, ventrolateral, posteriorly-directed projection on each side (Fig. 7) ... . **Diamesinae**
- Antennal segment 3 never annulated (Figs 20-29). Head capsule without the above-mentioned characters ... 5
5. Ventral part of mentum expanded laterally to form large ventromental plates which are striated, but never beneath with hairs resembling a beard (Figs 38-43). Eyes placed above each other, either separated or closely together (Fig. 15). Living larvae nearly always red (**Chironominae**) 6
- Ventromental plates practically absent (Fig. 37) or if present never with striation and often with a beard beneath (Figs 33-36). Eyes placed beside or oblique above each other; often very closely together (Fig. 14). Living larvae almost never red 8
6. Ventromental plates separated medially only by less than width of median mental tooth (Figs 41-42). If ventromental plates are separated by the width of 3 median mental teeth (Fig. 43), then antenna is placed on distinct pedestal bearing prominent apical spur (Fig. 29) 7
- Ventromental plates widely separated medially (Fig. 38-40). Antenna shorter than half length of head and placed directly on head or on pedestal shorter than wide (Figs 8-9) ..... **Chironomini**
7. Antenna often longer than half length of head and always placed on distinct pedestal longer than wide (Fig. 10) ..... **Tanytarsini**
- Antenna shorter than half length of head and placed on pedestal shorter than wide (cf. Fig. 9) .... **Pseudochironomini**
8. Ventromental plates strongly expanded, with beard beneath (Fig. 33). Antenna 4-segmented (Fig. 20). Eyes often placed oblique above each other **Prodiamesinae**
- Ventromental plates smaller or if strongly expanded either beard absent (Fig. 36) or antenna not 4-segmented. Eyes beside each other and often close together; anterior eyespot often smaller than posterior one resembling comma (Fig. 14) 9
9. Prementum with M appendage divided into many fine, often serrate, branches resembling single brush (Fig. 32). Premandible short and broad. Antenna short, 4-segmented (Fig. 21). ..... **Telmatogetoninae**
- Prementum variably developed, but never with median brush. Premandible long and slender. Antenna usually with more than 4 segments (Fig. 22); when reduced segmentation indistinct ..... **Orthocladiinae**







Figs 16-31. Chironomidae, details of larva. -16-29. Antenna. -16. Podonominae, with segment 3 annulated. -17. Tanypodinae. -18-19. Diamesinae, with segment 3 annulated. -20. Prodiamesinae, 4-segmented. -21. Telmatogetoninae, short and 4-segmented. -22. Orthocladiinae. -23-24. Chironomini, 2 examples. -25-29. Tanytarsini, 5 examples. -30-31. Tanypodinae, mouthparts, ventral view. -30. Ligula and paraligula . -31. Dorsomentum with M-appendage. Figs 16-22, 25-29 redrawn from Wiederholm (1983).



Figs 32-43. Chironomidae, larva, mentum in ventral view. -32. Telmatogetoninae, mentum appendage divided into many serrate branches. -33. Prodiamesinae, with large ventromental plates with beard. -34-37. Orthocladiinae. -34. With large ventromental plates and well-developed beard. -35. With well-developed ventromental plates and reduced beard. -36. With large ventromental plates without beard. -37. Without ventromental plates and beard. -38-40. Chironomini, with large striated and medially separated ventromental plates. -41. Pseudochironomini, with large striated, medially not widely separated ventromental plates. -42-43. Tanytarsini. -42. With large, medially not widely separated ventromental plates (normal situation). -43. With large striated, medially well separated ventromental plates (few genera). Figs 32-33 redrawn from Cranston (1982); 37-39, 41 from Hoffmann (1971); 43 from Wiederholm (1986).