

LARVAE

- 1 Three unbranched anal gills (Fig. 28) 2
- 1' Three compound anal gills 5
- 2 (1) Lateral margins of abdominal segments 5 to 8 extended ventrally to about twice depth of segments 1 to 4 (Fig. 28); prominent pair of ventral tubercles (Fig. 28); ventral view of head capsule (Fig. 29) *Ectemnia taeniatifrons* (Enderlein) 3
- 2' Lateral margins of abdominal segments 5 to 8 not extended ventrally; anal sclerites darkly sclerotized (Fig. 30); ventral tubercles insignificant 3
- 3 (2') Arms of anal sclerite as in Fig. 31; postgenal cleft extended to base of hypostomium (Fig. 32) *Metacnephia saskatchewanana* Shewell and Fredeen 4
- 3' Arms of anal sclerite as in Fig. 33; postgenal cleft extended less than half distance to base of hypostomium (Fig. 34) 4
- 4 (3') Suboesophageal ganglion dark (Fig. 34); larva relatively large (> 7 mm long when mature) and with prominent dark, greenish transverse bands *Simulium vittatum* Zetterstedt 4
- 4' Suboesophageal ganglion almost invisible (Fig. 35); larva relatively small (< 5 mm long when mature) and without prominent dark transverse bands *Simulium bivittatum* Malloch and *Simulium griseum* Coquillett² 4
- 5 (2') Eighth abdominal segment with two prominent ventral tubercles; abdominal integument sparsely clothed in fine short bristles 6
- 5' Eighth abdominal segment without prominent ventral tubercles; abdominal integument essentially bare 10
- 6 (5) Postgenal cleft extended to base of hypostomium (Figs. 36, 37) 7
- 6' Postgenal cleft not extended to base of hypostomium (Fig. 38) 8
- 7 (6) Prominent row of bristly tubercles in transverse reddish band encircling each of segments 1 to 5, smaller tubercles on remaining segments; suboesophageal gland colorless *Simulium meridionale* Riley 7
- 7' Abdomen without bristly tubercles; suboesophageal gland dark *Simulium rugglesi* Nicholson and Mickel 7
- 8 (6') Ventral tubercles broadly rounded; postgenal cleft broadly rounded, extended about three quarters of distance to base of hypostomium (Fig. 38) *Simulium luggeri* Nicholson and Mickel 8
- 8' Ventral tubercles distinctly conical; postgenal cleft extended no more than half distance to base of hypostomium 9
- 9 (8') Postgenal cleft extended about one-third of distance to base of hypostomium, bilobed (Fig. 39) *Simulium euryadminiculum* Davies 9
- 9' Postgenal cleft extended about one-half of distance to base of hypostomium, not bilobed (Fig. 40) *Simulium duplex* Shewell and Fredeen 9
- 10 (5') Medial spots on dorsal surface of head capsule dark 11
- 10' Medial spots on dorsal surface of head capsule pale 12
- 11 (10) Suboesophageal ganglion dark; postgenal cleft extended about half way to base of hypostomium (Fig. 41) *Simulium tuberosum* (Lundstroem) 11
- 11' Suboesophageal ganglion almost colorless; postgenal cleft extended about three-quarters of distance to base of hypostomium (Fig. 42) 11

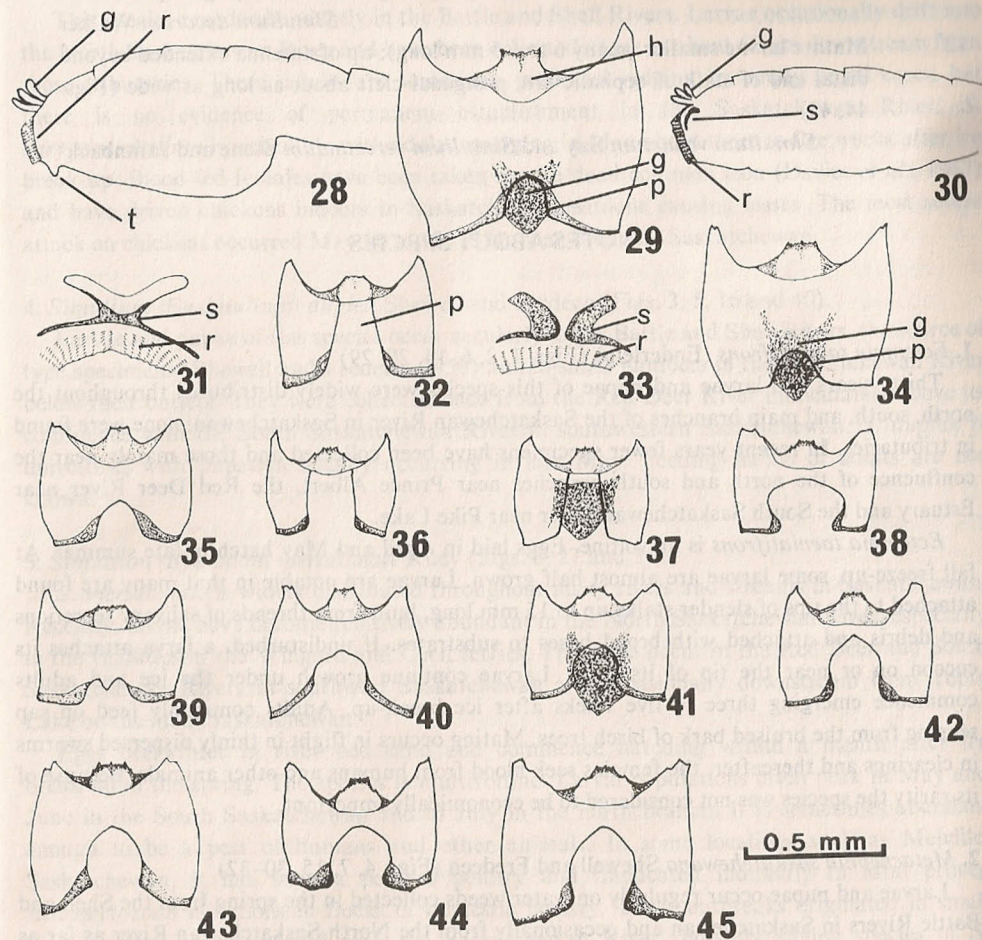


Fig. 28. Lateral view of posterior portion of abdomen of *Ectemnia taeniatifrons* (Enderlein) larva: anal gills (g); posterior ring of hooklets (r); ventral tubercle (t). Not drawn to scale. Fig. 29. Ventral view of head capsule of *E. taeniatifrons* larva: hypostomium (h); suboesophageal ganglion (g); margin of postgenal cleft (p). Fig. 30. Lateral view of *Metacnephia saskatchewanana* Shewell & Fredeen larva: anal gills (g); portion of posterior ring of hooklets (r). Not drawn to scale. Fig. 31. Dorsal view of anal sclerites of *M. saskatchewanana* larva: anal sclerite (s); portion of posterior ring of hooklets (r). Not drawn to scale. Fig. 32. Ventral view of head capsule of *M. saskatchewanana* larva: postgenal cleft (p). Fig. 33. Dorsal view of anal sclerites of *Simulium vittatum* Zetterstedt larva: anal sclerite (s); portion of posterior ring of hooklets (r). Not drawn to scale. Figs. 34-45. Ventral view of head capsule of *Simulium* larvae: suboesophageal ganglion (g); margin of postgenal cleft (p), of: 34, *S. vittatum* Zetterstedt; 35, *S. griseum* Coquillett and *S. bivittatum* Malloch; 36, *S. meridionale* Riley; 37, *S. rugglesi* Nicholson & Mickel; 38, *S. luggeri* Nicholson & Mickel; 39, *S. euryadminiculum* Davies; 40, *S. duplex* Shewell & Fredeen; 41, *S. tuberosum* (Lundstroem); 42, *S. artium* Malloch; 43, *S. decorum* Walker; 44, *S. venustum* Say; 45, *S. verecundum* Stone & Jamnback. (Scale applies to head capsules, only).

²*S. bivittatum* and *S. griseum* may be reliably separated as adults only.