

A CHECKLIST OF THE TRICHOPTERA OF TENNESSEE

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ABSTRACT—Recent information on the distribution, classification, and systematics of the 383 species of caddisflies (Insecta, Trichoptera) known from Tennessee is provided. Available references are provided for identification of larvae and adults. Distribution within Tennessee and range of emergence dates for adults also are provided. The list is arranged in alphabetical order by family, genera within families, and species within genera.

Etnier and Schuster (1979) presented an annotated list of Trichoptera of Tennessee that included 298 species. Sufficient new information has accumulated that an update of that list seems appropriate. The number of species we report from Tennessee is up to 383, and, if one considers the number of known but undescribed species from Tennessee and the distributional records added since 1979, it appears that the eventual caddisfly fauna of the state will exceed 400 species.

As with the previous list, species included have been collected in Tennessee or in counties (from adjacent states) that border Tennessee. In the latter case species names are preceded with a hyphen. Species that were not included in Etnier and Schuster (1979) are preceded with an asterisk. Each entry is followed by references to illustrations of the male genitalia. Records are based on adult males unless otherwise indicated. Species are listed as being statewide, occupying one or two subdivisions of the state (e.g., east and middle Tennessee) or if less widespread, by county (in alphabetical order) or by more precise locality within a county. Locality information is followed by likely emergence dates for the Tennessee area. Data from adjacent states, particularly Resh (1975), Harris et al. (1982), Holzenthal et al. (1982), Lago et al. (1982), Unzicker et al. (1982), and Harris et al. (1991) have been used to make emergence data as complete as possible. If emergence dates are not indicated, it can be assumed that adults are available throughout the warmer months (April or May through September or October). Current knowledge of larval forms is given for each genus. Larvae of genera in Tennessee are keyed and illustrated in Wiggins (1977, 1996), and Merritt and Cummins (1996). Pupae can be identified for most genera in Ross (1944); Merritt and Cummins (1996) include keys to pupae at the family level. Families, genera within families, and species within genera are listed in alphabetical order. Nomenclature used follows that of Morse (1993) except for a few more recent changes.

CHECKLIST

Family Apataniidae

Members of this family were formerly placed in Limnephilidae (Wiggins, 1996; Gall, 1997).

Genus *Apatania*

Larvae not separable. Wiggins (1973b) illustrated the pupa of a western species, *Apatania arizona*.

Apatania praevolans (Morse). Morse, 1971 (as *Radema*). Monroe and Sevier counties, late March–June.

A. rossi (Morse). Morse, 1971 (as *Radema*). Mill Creek, Cades Cove, Blount Co.; Hiwassee River at Coker Creek, Polk Co.; Little Pigeon River, Pittman Center, Sevier Co.; March–April.

*Genus *Manophylax*

Larvae of the two eastern species of this virtually terrestrial genus live on vertical rock faces that remain moist much of the year. Schuster (1997) characterized the larvae and pupae of the eastern species. Gall and Wiggins considered the nominal eastern genus *Madeophylax* Huryn and Wallace to be a junior synonym of *Manophylax* Wiggins (J. C. Morse, pers. comm.).

-**Manophylax altus* (Huryn & Wallace). Huryn and Wallace, 1984 (as *Madeophylax*); Schuster, 1997. The type locality is near the summit of Mt. Mitchell, Yancey Co., North Carolina (Huryn and Wallace, 1984). Schuster (1993) provided additional localities in Yancey and Buncombe counties, North Carolina. Adults are available in late April.

-**M. butleri* Schuster. Schuster, 1997. Described from Kentucky (including McCreary and Whitley counties) and West Virginia. Schuster (1993) searched unsuccessfully for this species in similar habitats in two sites in Pickett State Park, Pickett Co., Tennessee. Flight period is March and April.

Family Brachycentridae

Genus *Brachycentrus*

Larvae and adults of all Tennessee species can be identified in Flint (1984).

Brachycentrus appalachia Flint. Flint, 1984. Polk Co. (larvae identified by O. S. Flint, Ocoee River and Fightingtown Creek). We have larvae that appear to represent this species from Gulf Fork of Big Creek near Hartford, Cocke Co., and Watauga River Mile 53.6, Johnson Co. Emergence dates in Virginia and North Carolina are April–May.

- B. etowahensis* Wallace. Wallace, 1971; Flint, 1984. Lower Hiwassee River and, prior to Tellico Reservoir, lower Little Tennessee River, Polk and Loudon counties, respectively. April–May.
- B. lateralis* (Say). Denning, 1941; Ross, 1944; Schmid, 1983; Flint, 1984; Moulton and Stewart, 1996. Blount, Monroe, and Sevier counties, April. Edwards (1966) recorded larvae from Stones River, Davidson Co.
- B. nigrosoma* (Banks). Denning, 1971 (as *B. notabulus*), Flint, 1984. Abrams Creek and Little Rivers, Blount Co. (larvae); Baker and Sinking creeks, Loudon Co. (larvae); Big Sewee Creek, Meigs Co.; Conasauga Creek, Monroe Co. (larvae). March–April.
- B. numerosus* (Say). Ross, 1944; Schmid, 1980, 1983; Flint, 1984; Moulton and Stewart, 1996. Cocke, Hardin (larvae), Loudon, Meigs, and Polk counties, March–May.
- B. spiniae* Ross. Ross, 1948c; Flint, 1984. Blount, Carter, Greene, Johnson, Polk, and Sevier counties, April–May.

Genus *Micrasema*

Larvae and adults of Tennessee species can be identified by referring to Chapin (1978).

- **Micrasema bennetti* Ross. Ross, 1947; Chapin, 1978. Bledsoe Creek, Sumner Co. Larvae are available from Abrams Creek at mouth of Mill Creek in Cades Cove, Blount Co.; Watauga River Mile 19.5, Carter Co.; Beaverdam Creek at Tennessee Highway 133, Johnson Co.; and Little Pigeon River at Pittman Center, Sevier Co. Late March–early April.
- M. burksi* Ross & Unzicker. Ross and Unzicker, 1965; Chapin, 1978. Blount, Polk, and Sevier counties, late April–May.
- M. charonis* Banks. Ross, 1944; Chapin, 1978; Schmid, 1983. East and middle Tennessee, May–mid June.
- M. rickeri* Ross & Unzicker. Ross and Unzicker, 1965; Chapin, 1978. Blount, Monroe, and Sevier counties, April–June.
- M. rusticum* (Hagen). Ross, 1938c, 1944; Chapin, 1978; Schmid, 1980, 1983; Moulton and Stewart, 1996. East and middle Tennessee, April–May.
- M. scotti* Ross. Ross, 1947; Chapin, 1978. Franklin, Johnson, Sevier, and White counties, late April–mid June.
- M. wataga* Ross. Ross, 1938b, 1944; Chapin, 1978; Schmid, 1983; Moulton and Stewart, 1996. East and middle Tennessee.

Family Calamoceratidae

Genus *Anisocentropus*

The single North American species, *Anisocentropus pyraloides* (Walker), was illustrated by Betten and Mosely (1940); Wallace and Sherberger (1970) and Wiggins (1977) illustrated the larva. Blount, Franklin, Hardin, Marion, Polk, Van Buren, and Warren counties, April–mid September. Most records are based on larvae.

Genus *Heteroplectron*

The only species in eastern North America is *Heteroplectron americanum* (Walker). Schmid (1983) illustrated the adults and Wiggins (1977) illustrated the larva. East Tennessee, April–May. Most records are based on larvae.

Family Dipseudopsidae

Genus *Phylocentropus*

Wells and Cartwright (1993) discussed the rationale for moving the genus *Phylocentropus* from Polycentropodidae to Dipseudopsidae. Larvae unseparable at present. Schuster and Hamilton (1984) provided illustrated keys to males and females of all species in Tennessee.

- **Phylocentropus auriceps* (Banks). Ross, 1965; Schuster and Hamilton, 1984. Recorded from "mountainous areas of Georgia, North Carolina, South Carolina, and Virginia" (Schuster and Hamilton, 1984), including Union Co., Georgia, Haywood Co., North Carolina, and Smyth Co., Virginia (G. A. Schuster, in litt.)
- P. carolinus* Carpenter. Flint, 1966; Schmid, 1983; Schuster and Hamilton, 1984. Blount, Carter, Cumberland, and Polk counties.
- P. lucidus* (Hagen). Ross, 1944; Schmid, 1983; Schuster and Hamilton, 1984. Blount, Carter, Hardin, and Sevier counties.
- P. placidus* (Banks). Ross, 1944; Schmid, 1980, 1983; Schuster and Hamilton, 1984. East and middle Tennessee.

Family Glossosomatidae

Genus *Agapetus*

Larvae not separable at present.

- Agapetus avitus* Edwards. Edwards, 1956b; Harris, 1984. Bedford, Hardin, Perry, and Wayne counties.
- A. crasmus* Ross. Ross, 1944. Franklin, Marion, and Van Buren counties.
- A. diacanthus* Edwards. Edwards, 1956a. Franklin, Marion, and Sequatchie counties, May–June.
- **A. gelbae* Ross. Ross, 1947. Reported from Cypress Creek, Lauderdale Co., Alabama, April–June (Harris et al., 1991).
- A. hessi* Leonard & Leonard. Leonard and Leonard, 1949; Schmid, 1980, 1982. Wayne Co., Kentucky, April–June.
- A. illini* Ross. Ross, 1944; Moulton and Stewart, 1996. Wayne Co., Kentucky, and reported from Christian Co., Kentucky, by Resh (1975), late April–mid July.
- **A. iridis* Ross. Ross, 1944. Carter and Unicoi counties, late May–mid June.
- **A. minutus* Sibley. Betten, 1934. Blount, Cocke, Grainger, Sevier, Unicoi, and Union counties, May–June.
- Agapetus* sp. cf. *minutus*. The species reported as *A. minutus* by Etnier and Schuster 1979 is undescribed, and known from Quinn Springs Campground, and a tributary to Sheeds Creek at Forest Service Road 221, 325 m north of Big Frog Loop Road, both in Polk Co., late April–mid June.
- A. pinatus* Ross. Ross, 1938b; Schmid, 1982. Blount and Sevier counties.
- A. rossi* Denning. Denning, 1941; Schmid, 1982. Blount, Overton, Polk, and Putnam counties, April–June.
- A. spinosus* Etnier & Way. Etnier and Way, 1973. Cumberland, Franklin, and Sequatchie counties, May–June.
- A. tomus* Ross. Ross, 1941a. Blount, Greene, Morgan, and Sevier counties, April–mid June.
- A. vireo* Ross. Ross, 1941a. Bradley and Marion counties.

Genus *Glossosoma*

Larvae of eastern species are apparently unseparable at present.

**Glossosoma intermedium* (Klapalek). Ross, 1944; Nimmo, 1974; Schmid, 1982; Moulton and Stewart, 1996. Edwards (1966) recorded this species from Cave Spring, Pegram, Cheatham Co., 10 August; and Trehan Spring, Porters Bluff, Montgomery Co., 23 December, based on larvae and pupae. It is primarily a northern species, but it seems likely that this record is valid, because Edwards recorded an additional species of *Glossosoma* (which we assume to be *G. nigrior*) as very common in middle Tennessee. The most southeasterly record besides these is from Meade Co., northcentral Kentucky, 15 March (Resh, 1975).

G. nigrior Banks. Denning, 1942 (as *Eomystra unica*); Schmid, 1982. East and middle Tennessee. This is the only species of *Glossosoma* we have seen from Tennessee.

Genus *Matrioptila*

The larvae of the only species, *Matrioptila jeanae* (Ross) was illustrated by Flint (1962a) and Wiggins (1977). Ross, 1938b (as *Protoptila*). Blount, Bradley, Loudon, and Scott counties, May–June.

Genus *Protoptila*

Larvae not separable at present.

Protoptila maculata (Hagen). Ross, 1944; Schmid, 1982; Moulton and Stewart, 1996. Cheatham, Davidson, Meigs, and Polk counties.

P. palina Ross. Ross, 1944. Claiborne and Greene counties.

Family Goeridae

Genus *Goera*

Flint (1960) has illustrated the larvae of three of the four species in Tennessee.

Goera calcarata Banks. Ross, 1947; Morse, 1971; Schmid, 1980, 1983. East and middle Tennessee.

**G. fuscula* Banks. Ross, 1947; Schmid, 1983. Carter and Unicoi counties, 15–27 May.

Goera sp. cf. *fuscula*. Blount, Polk, and Sevier counties, April–early June. Reported as *Goera fuscula* by Etnier and Schuster, 1979. This undescribed species, under study by Brian Armitage, Ohio Biological Survey, Columbus, Ohio, lacks the lateral tooth at the base of the median process of the ventral appendage (= clasper) that is present in *G. fuscula*. The larva appears to be virtually identical to that of *G. fuscula*.

G. stylata Ross. Ross, 1944; Schmid, 1983. Cheatham and Morgan counties, April–June.

Genus *Goerita*

Wiggins (1973a) characterized larvae of the two described species.

Goerita betteni Ross. Ross, 1962; Wiggins, 1973a. Anderson, Campbell, Claiborne, Franklin, Putnam, and White counties.

G. semata Ross. Ross, 1944; Wiggins, 1973a. Seep on East Fork Hampton Creek, Roan Mountain, Carter Co.; Indian Gap, Sevier Co.; and (Vineyard, 1990:134) Lost Creek Falls, White Co. Wiggins (1973a) indicated that Edwards' (1966) records from Franklin Co. were based on *G. betteni*.

Family Helicopsychidae

Genus *Helicopsyche*

Helicopsyche borealis (Hagen). Ross (1944), Schmid (1980), and Moulton and Stewart (1996) characterized larvae and adults of this species, which was thought to be the only *Helicopsyche* in this area. It is widespread and abundant in middle Tennessee, but much less so in east Tennessee, where larval *Helicopsyche* are known from tributaries to the Holston River (Stanley and Beech creeks and North Fork Holston River, Hawkins Co.), several localities in the Clinch and Powell river systems near the Virginia border, Crooked Creek (Little River system) and Abrams Creek in Blount Co., and Sheeds Creek in Polk Co. That all of these represent *H. borealis* is likely, because adult males we have seen from east Tennessee (Indian Creek, tributary to Powell River, Claiborne Co.; Indian and Ball creeks, tributaries to Douglas Reservoir, Jefferson Co.) are *H. borealis*, and not *H. paralimnella* Hamilton, described from Oconee Co., South Carolina (Morse et al., 1989).

Family Hydropsychidae

Genus *Arctopsyche*

The only southeastern species, *Arctopsyche irrorata* Banks, is illustrated in Milne and Milne (1938), Schmid (1968), and Nimmo (1987); Flint (1961) illustrated the larva. Blount, Johnson, Monroe, Sevier, and Unicoi counties, mid April–June.

Genus *Ceratopsyche*

These species were listed under genus *Symphitopsyche* in Etnier and Schuster (1979). Larvae of the Tennessee species can be identified in Schuster and Etnier (1978a) and Schefter and Wiggins (1986).

Ceratopsyche alhedra (Ross). Ross, 1939; Denning, 1942 (as *Hydropsyche riola*); Denning, 1965 (as *Hydropsyche racona*); Nimmo, 1987. Cumberland, Blount, Monroe, and Sevier counties, late April–July.

C. bronta (Ross). Ross, 1938b, 1944; Nimmo, 1987; Moulton and Stewart, 1996. East Tennessee.

C. cheilonis (Ross). Ross, 1938b, 1944; Nimmo, 1987; Moulton and Stewart, 1996. Claiborne, Clay (larvae), Cumberland, Humphreys, Knox, and Lawrence counties.

C. etnieri (Schuster & Talak). Schuster and Talak, 1977. Buffalo Springs, Grainger Co., and Youngs Creek, Morristown, Hamblen Co., late September. We have larvae tentatively identified as this species from two Clinch River tributaries (Mill Creek, Hancock Co.; White Creek, Union Co.) and two Upper Cumberland River tributaries (Saltpeter Branch of Little Wolf Creek, Whitley Co., Kentucky; Little Tackett Creek tributary in No Business Hollow, Claiborne Co.).

C. macleodi (Flint). Flint, 1965. East Tennessee.

C. morosa (Hagen). Ross, 1938c, 1944; Nimmo, 1987; Schefter and Wiggins, 1986; Moulton and Stewart, 1996. East Tennessee.

C. slossonae (Banks). Ross, 1938c, 1944; Nimmo, 1987; Moulton and Stewart, 1996. East and middle Tennessee, May–early September.

C. sparna (Ross). Ross, 1938b, 1944; Nimmo, 1987. East and middle Tennessee.

C. ventura (Ross). Ross, 1941a; Nimmo, 1987. Anderson, Campbell, Fentress, Scott, and White counties.

Genus *Cheumatopsyche*

Although larvae continue to be unidentifiable to species, Scheffer and Wiggins (1987) discuss promising characters that may allow future advances. Adults of this large and difficult genus are treated by Gordon, 1974.

- Cheumatopsyche aphanta* Ross. Ross, 1938b, 1944; Gordon 1974; Nimmo, 1987; Moulton and Stewart, 1996. Edwards (1966) provided the only Tennessee records, from Cheatham, Cumberland, and Montgomery counties, April-June.
- C. burksi* Ross. Ross, 1941a, 1944; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Greene, Jackson, Knox, Madison, and Obion counties.
- C. campyla* Ross. Ross, 1938b, 1944; Gordon, 1974; Schmid, 1980; Nimmo, 1987; Moulton and Stewart, 1996. Statewide.
- C. ela* Denning. Denning, 1942; Gordon, 1974; Nimmo, 1987. Blount, Cumberland, Greene, Hickman, and Knox counties.
- C. etrona* Ross. Ross, 1941a; Gordon, 1974. Polk Co.
- C. geora* Denning. Denning, 1948; Gordon, 1974. Recorded from Trigg Co., Kentucky (Resh, 1975); Tishomingo State Park, Tishomingo Co., Mississippi (Lago et al., 1982); and Lauderdale Co., Alabama (Harris et al., 1991). It also has been taken in northern portions of Georgia but not in counties adjacent to Tennessee.
- C. gracilis* (Banks). Ross, 1938c; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Macon Co., North Carolina.
- C. gyra* Ross. Ross, 1938b; Gordon, 1974. Rabun Co., Georgia, and Madison Co., North Carolina.
- C. harwoodi* Denning. Denning, 1949; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. East and middle Tennessee.
- C. helma* Ross. Ross, 1939; Gordon, 1974; Nimmo, 1987. Until recently, this species was known only from the original types from Gatlinburg, Sevier Co., 18-24 June, and Pineville, Bell Co., Kentucky, 24 June. We have additional material from Big Lost Creek, Polk Co., 9 June; and Cataloochee, Haywood Co., North Carolina, 27 June.
- C. minuscula* (Banks). Ross, 1938c, 1944; Nimmo, 1966 (as *C. montrealensis*); Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Claiborne, Cocke, Johnson, Morgan, Polk, Scott, and Williamson counties.
- C. oxa* Ross. Ross, 1938b, 1944; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. East and middle Tennessee.
- C. pasella* Ross. Ross, 1941a, 1944; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Statewide.
- C. pettiti* (Banks). Ross, 1944 (as *C. analis*); Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Statewide.
- C. pinaca* Ross. Ross, 1941a; Gordon, 1974; Nimmo, 1987. Fentress, Johnson, and Polk counties.
- C. sordida* (Hagen). Ross, 1938c, 1944; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Johnson Co.
- C. speciosa* (Banks). Ross, 1944; Gordon, 1974; Nimmo, 1987; Moulton and Stewart, 1996. Tusculum, Greene Co.; Williamson Co.; and Cataloochee, Haywood Co., North Carolina, late April-July.
- C. wrighti* Ross. Ross, 1947; Gordon, 1974; Nimmo, 1987. Greene, Johnson, and Unicoi counties, mid May-July.

Genus *Diplectrona*

Larvae of both species in Tennessee are characterized in Ross (1970) and Wiggins (1977). "Hydropsychid genus A" of Ross (1944), known only from the larva, represented an undes-

cribed species of *Diplectrona*, described by Ross (1970) as *Diplectrona metaqui*.

Diplectrona metaqui Ross. Ross, 1970. East and middle Tennessee, April-early June.

D. modesta Banks. Ross, 1944, 1970; Schmid, 1980; Nimmo, 1987; Moulton and Stewart, 1996. East and middle Tennessee.

Genus *Homoptecta*

Weaver (1985), in his description of *Homoptecta flinti* from Wayah Bald, Macon Co., North Carolina, treated *Aphropsyche* as a junior synonym of *Homoptecta* and illustrated female genitalia of the three eastern species. The third eastern species, *Homoptecta monticola* (Flint), is known from Pennsylvania and Hogcamp Brook, Shenandoah National Park, Virginia (Flint, 1965; Weaver et al., 1979). Larvae of the three eastern species can be identified by referring to Weaver et al. (1979) and Huryn (1989).

Homoptecta doringa (Milne). Ross, 1944 (as *Aphropsyche aprilis*); Moulton and Stewart, 1996. East and middle Tennessee, mid April-mid May.

Homoptecta flinti Weaver. Weaver, 1985. Huryn (1989) pointed out that the presumed larva of *Oropsyche howellae*, illustrated in Wiggins (1977), was actually that of *H. flinti*. Our records, all larvae from April and May, are from 1.0 mile northeast of Sewanee on United States Highway 64, Franklin Co.; and Lost Creek Falls, White Co. Emergence dates in Macon Co., North Carolina were in May and June.

Genus *Hydropsyche*

Larvae are characterized in Schuster and Etnier (1978a) unless indicated.

-**Hydropsyche alvata* Denning. Denning, 1949; Flint et al., 1979; Nimmo, 1987; Moulton and Stewart, 1996. Lago et al. (1982) recorded this species from Tishomingo State Park, Tishomingo Co., Mississippi. The larva is unknown.

**H. bassi* Flint, Voshell, & Parker. Flint et al., 1979. Reported as the southern, small form of *Hydropsyche scalaris* by Schuster and Etnier (1978a). Beaver Creek at Pellissippi Parkway, Knox Co.; lower Big Sewee Creek, Meigs Co.

H. betteni Ross. Ross, 1944; Nimmo, 1987; Moulton and Stewart, 1996. East and middle Tennessee.

**H. brunneipinnis* Flint & Butler. Flint and Butler, 1983. Powell River, Claiborne Co., June. Larval description also in Flint and Butler (1983).

-*H. carolina* Banks. Flint, 1966. Known from high elevations in western North Carolina, May-June.

**H. catawba* Ross. Ross, 1939. Lower Spring Creek, Hiwassee River system, Polk Co., early June. Larva unknown.

H. cuanis Ross. Ross, 1938b, 1944; Nimmo, 1987. Davidson, Knox, Smith, Williamson, and Wilson counties.

H. demora Ross. Ross, 1941a. Blount, Bradley, and Polk counties.

H. depravata Hagen. Ross, 1938c, 1944; Nimmo, 1987. East and middle Tennessee.

H. dicantha Ross. Ross, 1938b, 1944; Nimmo, 1987. Cumberland and Fentress counties.

H. fattigi Ross. Ross, 1941a. Johnson Co., April-June. Larva unknown.

**H. franclemonti* Flint. Flint, 1992. Interstate Highway 40 at Exit 440, near Pigeon River, Cocke Co., mid April.

- H. frisoni* Ross. Ross, 1938b, 1944; Nimmo, 1987. Cheatham, Coffee, Cumberland, and Houston (larvae) counties.
- H. hageni* Banks. Ross, 1944; Nimmo, 1987. Clinch River, Hancock Co.
- H. mississippiensis* Flint. Flint, 1972. Bradley, Hardin, and Polk counties.
- H. orris* Ross. Ross, 1938b, 1944; Flint et al., 1979; Nimmo, 1987; Moulton and Stewart, 1996. Statewide.
- H. patera* Schuster & Etnier. Schuster and Etnier, 1978b. Harpeth River, Cheatham Co. Larvae were provided by Wendell L. Pennington from West Fork Stones River at Nice's Mill Dam, Rutherford Co.
- H. phalerata* Hagen. Ross, 1938c, 1944; Nimmo, 1987. Cocke, Greene, Knox, and Sevier counties.
- **H. rossi* Flint, Voshell, & Parker. Ross, 1944 (as *Hydropsyche incommoda*); Flint et al., 1979; Nimmo, 1987; Moulton and Stewart, 1996. This is the species listed in Etnier and Schuster (1979) as *H. incommoda* Hagen (see Dubious Records). Cumberland, Fentress, Lake, and Robertson counties.
- H. rotosa* Ross. Ross, 1947. Grainger, Greene, Hamblen, Hancock, Hawkins, and Sullivan counties. Most of these records are based on the distinctive larva, which builds its retreat on vertical limestone ledges in small to medium creeks. The larva, with its flattened black head, keys to *H. carolina* in Schuster and Etnier (1978a), but differs from that species in having the posterior half of the frontoclypeus densely covered with long, silky setae (naked or virtually so in *H. carolina*). Larval collections suggest that peak emergence is in late June.
- H. simulans* Ross. Ross, 1938b, 1944; Nimmo, 1987; Moulton and Stewart, 1996. Statewide.
- H. venularis* Banks. Ross, 1938c; Nimmo, 1987. East and middle Tennessee.

Genus *Macrostemum*

Larvae of the three North American species were characterized by Ross (1944, as *Macronemum*); Wiggins (1977) provided an illustration of *Macrostemum zebratum* (as *Macronema*). Flint and Bueno-Soria (1982) discuss reasons for elevating *Macrostemum* from the synonymy of the strictly Neotropical genus *Macronema*.

- Macrostemum carolina* (Banks). Ross, 1944; Moulton and Stewart, 1996. Recorded from Lauderdale Co., Alabama, by Harris et al. (1991), and Tishomingo Co., Mississippi, by Lago et al. (1982). Plotted from Tennessee by Wallace (1975), but we have been unable to locate the source of this record.
- M. zebratum* (Hagen). Ross, 1944; Schmid, 1980. Cheatham, Hancock, Johnson, Pickett, Rutherford, and Williamson counties, May–mid July.

Genus *Parapsyche*

Larvae of both Tennessee species are differentiated in Flint (1961).

- Parapsyche apicalis* (Banks). Betten, 1934; Nimmo, 1987. Carter and Sevier counties, June–early September.
- P. cardis* Ross. Ross, 1938a. Blount, Monroe, Polk, Sevier, and Unicoi counties, May–early September.

Genus *Potamyia*

Confusion concerning the larva of this species has resulted from Ross (1944) separating *Potamyia* from *Cheumatopsyche* on

the basis of a nonforked fore trochantin (stridulator sensu Ross, 1944). The fore trochantin is typically forked in both genera. Wiggins (1977) offered diagnostic characters for the larvae. The single North American species *P. flava* (Hagen), illustrated by Ross (1944), Schmid (1980), Nimmo (1987), and Moulton and Stewart (1996), occurs statewide in large rivers.

Family Hydroptilidae

Genus *Agraylea*

Agraylea multipunctata Curtis was recorded from Cave Spring, Pegram, Cheatham Co. (Edwards, 1966) based on larvae. Ross, 1944; Blickle, 1979; Schmid, 1980. Because larvae of *Agraylea* are easily separated from those of other hydroptilid genera in Tennessee, we tentatively accept this record.

Genus *Dibusa*

Dibusa angata Ross, the only species, has been collected in Davidson, Monroe, Morgan (larvae), Polk, and Scott counties, March–May. Ross, 1939, 1944; Blickle, 1979; Moulton and Stewart, 1996.

Genus *Hydroptila*

Larvae not separable.

- **Hydroptila alabama* Harris & Kelley. Harris and Kelley, 1984. Big Lost Creek near Hiwassee River and Sheeds Creek at Jacks River, both Polk Co.
- H. albicornis* Hagen. Ross, 1938c, 1944; Blickle, 1979; Moulton and Stewart, 1996. Edwards (1966) reported this primarily northern species from Stones River at Couchville Pike (now Percy Priest Reservoir), Davidson Co., 1 May.
- **H. amoena* Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Recorded from Lauderdale Co., Alabama (S. C. Harris, in litt.). Records from Tennessee reported in Etnier and Schuster (1979) were based on *Hydroptila oneili* and *Hydroptila paramoena*.
- **H. ampoda* Ross. Ross, 1941b; Blickle, 1979; Schmid, 1980. We have one male from Abrams Creek Campground, Blount Co., and another from Deep Creek Campground, Swain Co., North Carolina.
- **H. angusta* Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Harris (1986a) and Harris et al. (1991) recorded this species from Jackson and Lauderdale counties, Alabama, with all 32 Alabama records May–August.
- H. armata* Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. East and middle Tennessee.
- **H. callia* Denning. Denning, 1947a; Blickle, 1979. Polk and Sevier counties.
- H. consimilis* Morton. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Davidson, Loudon, and Robertson counties, mid May–mid June.
- **H. coveetensis* Huryn. Huryn, 1985. Reported from Hurricane Creek tributary, Jackson Co., Alabama, May–June (Harris et al., 1991).
- H. decia* Etnier & Way. Etnier and Way, 1973; Blickle, 1979; Harris, 1985a (as *Hydroptila chocolocco*). Ten-Mile and Fourth creeks, Knox Co., late March–mid June. Harris and Etnier (1994) recognized *H. chocolocco* as a junior synonym of *H. decia*, thus extending the range of *H. decia* to Calhoun and Jackson counties, Alabama.

- H. delineata* Morton. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Cumberland, Greene, Monroe, Polk, and Sevier counties.
- **H. fuscina* Harris. Harris, 1985a. Harris et al. (1991) recorded this species from Cowpen Creek, Lauderdale Co., Alabama; flight dates May–August.
- **H. grandiosa* Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Abrams Creek Campground, Blount Co.; April–July.
- **H. gunda* Milne. Denning, 1947a (as *H. dodgei*); Blickle, 1979. Claiborne, Meigs, Maury, and Perry counties.
- H. hamata* Morton. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. East and middle Tennessee.
- **H. jackmanni* Blickle. Blickle, 1963, 1979. Recorded from Lauderdale Co., Alabama (Harris et al., 1996).
- **H. novicola* Blickle & Morse. Blickle & Morse, 1954; Blickle, 1979. Harris (1986a) and Harris et al. (1991) recorded this species from Panther Creek, Lauderdale Co., Alabama.
- **H. oneili* Harris. Harris, 1985a; Moulton and Stewart, 1996. Lower Big Lost Creek, Polk Co.
- **H. paramoena* Harris. Harris, 1985a. Polk Co.; March–October.
- **H. patriciae* Harris. Harris, 1985b. Martin Spring, Marion Co., 22 May.
- **H. poirrieri* Holzenthal & Kelley. Recorded from Tishomingo State Park, Tishomingo Co., Mississippi, 8 September, by Holzenthal and Kelley (1983).
- **H. quinola* Ross. Ross, 1947; Blickle, 1979; Moulton and Stewart, 1996. Lower Big Lost Creek, Polk Co.; March–November.
- H. remita* Blickle & Morse. Blickle and Morse, 1954; Blickle, 1979; Moulton and Stewart, 1996. Hiwassee River tributaries, Polk Co.
- **H. sandersoni* Mathis & Bowles. Mathis and Bowles, 1990; Moulton and Stewart, 1996. Reported from Jackson, Lauderdale, and Madison counties, Alabama, May–June (Harris et al., 1991).
- H. spatulata* Morton. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Holston River below Cherokee Reservoir, Grainger/Jefferson counties, and Knox Co.
- **H. spinata* Blickle & Morse. Blickle and Morse, 1954; Blickle, 1979. Harris (1986a) and Harris et al. (1991) recorded this species from Lauderdale Co., Alabama, with Alabama records April–September.
- **H. talladega* Harris. Harris, 1985a. Blount and Sevier counties; May–June.
- H. tusculum* Ross. Ross, 1947; Blickle, 1979; Moulton and Stewart, 1996. Tusculum College, Greene Co.; April–June, September.
- H. vala* Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Franklin Co.; April–August.
- **H. valhalla* Denning. Denning, 1947b; Blickle, 1979. Lower Big Lost Creek, Polk Co.; May–June, September.
- H. virgata* Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Franklin Co.; April–June.
- H. waskesia* Ross. Ross, 1944; Blickle, 1979. Cherry Creek at Tennessee Highway 84, White Co.; May–September.
- **H. waubesiana* Betten. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Coffee, Knox, Marshall, Maury, Meigs, and Polk counties.
- H. xella* Ross. Ross, 1941a, 1944; Blickle, 1979. Martin Springs, Marion Co., and Hamilton Creek, Davidson Co.; mid April–June.

Genus *Leucotrichia*

Leucotrichia pictipes (Banks) occurs in east and middle Tennessee and is the only species to be expected in this area. Ross, 1944; Blickle, 1979; Schmid, 1980; Moulton and Stewart, 1996.

Genus *Mayatrichia*

Mayatrichia ayama Mosely, the only species in Tennessee, has been taken in Bradley and Monroe counties; May–October. Ross, 1944; Blickle, 1979; Schmid, 1980; Moulton and Stewart, 1996.

Genus *Neotrichia*

Larvae not separable.

-**Neotrichia alabamensis* Kelley & Harris. Kelley and Harris, 1983. Harris (1986a) and Harris et al. (1991) recorded this species from Second Creek, Lauderdale Co., Alabama, May–September.

-**N. collata* Morton. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Harris (1986a) and Harris et al. (1991) reported this species from Alabama (including Manbone Creek, Lauderdale Co.); May–July.

N. vibrans Ross. Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Conasauga River, Bradley and Polk counties.

Genus *Ochrotrichia*

Larvae not separable.

Ochrotrichia arva (Ross). Ross, 1941b, 1944; Blickle, 1979; Moulton and Stewart, 1996. East and middle Tennessee, late April–August.

**O. confusa* (Morton). Ross, 1944. Reported from Tennessee by Ross (1944). Tennessee specimens deposited at the Illinois Natural History Survey are from Parksville, presumably Polk Co.; late April–August.

O. eliaga (Ross). Ross, 1941a, 1944; Blickle, 1979; Moulton and Stewart, 1996. middle Tennessee; April–June.

**O. elongiralla* Harris. Harris, 1986b. Soapdam Creek, Kimberlin Heights, Knox Co., May–June.

O. riesi Ross. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Edwards (1966) reported larvae and pupae from Davidson and Franklin counties, with pupae (presumably mature) taken 26 April–18 May; April–October.

O. shawnee (Ross). Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. East and middle Tennessee.

**O. tarsalis* (Hagen). Ross, 1944; Blickle, 1979; Schmid, 1980; Moulton and Stewart, 1996. Powell River at Buchanan Ford, Claiborne Co.; April–October.

O. unio (Ross). Ross, 1941a, 1944; Blickle, 1979; Moulton and Stewart, 1996. Edwards (1966) reported this species from Cheatham, Davidson, Dickson, and Maury counties, based on larvae and presumably mature pupae. He reported pupae only from Cheatham and Maury counties, both from 10 May 1953 and both from "Redford Creek." Redford Creek is not listed for either Cheatham or Maury counties in Fullerton (1974).

**O. wojcickyi* Blickle. Blickle, 1963, 1979. Dumplin Creek above old Tennessee Highway 92, Jefferson Co., mid April.

**O. xena* (Ross). Ross, 1938b, 1944; Blickle, 1979; Moulton and Stewart, 1996. Davidson, Maury, and Union counties, mid April–mid May. Etnier and Schuster (1979) overlooked Edwards (1966) record from Davidson Co.

Genus *Orthotrichia*

Larvae not separable.

Orthotrichia aegerfasciella (Chambers). Ross, 1944 (as *Orthotrichia americana*); Kingsolver and Ross, 1961 (as *O. americana*); Blickle, 1979; Moulton and Stewart, 1996. Meigs, Robertson, and Wilson counties.

-**O. baldufi* Kingsolver & Ross. Kingsolver and Ross, 1961; Blickle, 1979. Harris (1986a) and Harris et al. (1991) reported this species from Alabama (including Lauderdale Co.), May–July.

O. cristata Morton. Ross, 1944; Kingsolver and Ross, 1961; Blickle, 1979; Schmid, 1980. Blount and Meigs counties.

Genus *Oxyethira*

Larvae not separable. Kelley and Morse (1982) provided a key to the females of most North American species.

-**Oxyethira abacatica* Denning. Denning, 1947c; Blickle, 1979. Listed from Cypress Creek, Lauderdale Co., Alabama (Harris, 1986a; Harris et al., 1991).

O. dualis Morton. Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Stroud Spring, Northshore Drive, Knox Co.; May–June.

-**O. elerobi* (Blickle). Blickle, 1961, 1979 (as *Neotrichia*); Kelley, 1981. Harris (1986a) and Harris et al. (1991) included Panther Creek, Lauderdale Co., in the Alabama range of this species.

O. forcipata Mosely. Ross, 1944; Blickle, 1979; Kelley, 1986; Moulton and Stewart, 1996. Cumberland and Loudon counties.

O. grisea Betten. Ross, 1944; Blickle, 1979; Kelley, 1985. Coker Creek area, near Hiwassee River, Polk Co.; March–July.

-**O. lumosa* Ross. Ross, 1948a; Blickle, 1979; Kelley, 1985. Recorded from Lauderdale, Limestone, and Madison counties, Alabama (Harris, 1986a; Harris et al., 1991).

**O. michiganensis* Mosely. Blickle and Morse, 1954; Ross and Spencer, 1972 (as *Oxyethira sodalis*); Blickle, 1979; Kelley, 1986. Lower Coker Creek area, Polk Co.; April–June.

**O. novasota* Ross. Ross, 1944; Blickle, 1979; Kelley, 1985; Moulton and Stewart, 1996. Shiloh National Military Park, Hardin Co.; Sheeds Creek at Jacks River, Polk Co. Also recorded from Lauderdale, Limestone, and Madison counties, Alabama (Harris, 1986a; Harris et al., 1991).

**O. pallida* (Banks). Ross, 1944; Blickle, 1979; Moulton and Stewart, 1996. Muddy Creek, eastern Loudon Co.

O. rivicola Blickle & Morse. Blickle and Morse, 1954; Blickle, 1979; Kelley, 1985; Moulton and Stewart, 1996. Polk Co.

-**O. roberti* Roy & Harper. Roy and Harper, 1980a; Kelley, 1981 (as *Oxyethira leonensis*). Reported from Bryant Creek, Jackson Co., Alabama, April–July (Harris et al., 1991).

O. rossi Blickle & Morse. Blickle and Morse, 1957; Etnier, 1965 (as *Oxyethira berneri*); Blickle, 1979; Kelley, 1985. Coker and Big Lost creeks near Hiwassee River, Polk Co., late April–mid June.

O. serrata Ross. Ross, 1938b, 1944; Blickle, 1979; Schmid, 1980. Listed from Little Harpeth River, Davidson Co., 31 April, by Edwards, 1966.

-**O. setosa* Denning. Denning, 1947c; Blickle, 1979. Recorded from Alabama (including Threat Creek, Lauderdale Co.), April–August (Harris, 1986a; Harris et al., 1991).

-**O. verna* Ross. Ross, 1938b, 1944; Blickle, 1979. Reported

from a tributary to Big Creek, Limestone Co., Alabama (Harris et al., 1991).

O. zeronia Ross. Ross, 1941b, 1944; Denning, 1947c (as *Oxyethira walteri*); Blickle, 1979. Cumberland Co.

Genus *Palaeagapetus*

The single eastern species, *Palaeagapetus celsus* (Ross) is known from high elevation seeps in Monroe and Sevier counties, May–July. Ross, 1938b, 1944 (in Rhyacophilidae); Blickle, 1979.

Genus *Stactobiella*

Larvae not separable at present.

Stactobiella delira (Ross). Ross, 1938b (as *Stactobia*), 1944 (as *Tascobia*), 1948a; Blickle, 1979; Schmid, 1980; Moulton and Stewart, 1996. Monroe, Polk, and Sevier counties, March–June.

S. martynovi Blickle & Denning. Blickle and Denning, 1977; Sykora and Weaver, 1978 (as *Stactobiella solzhenitsyni*); Blickle, 1979. Carter, Loudon, Polk, and Sevier counties, April–August.

S. palmata (Ross). Ross, 1938b (as *Stactobia*), 1944 (as *Tascobia*), 1984a; Blickle, 1979; Moulton and Stewart, 1996. Beaver Creek at Holston River, Jefferson and Sevier counties; April–August.

Family Lepidostomatidae

Genus *Lepidostoma*

Weaver (1988) provides characters for separating larvae of several species and all species groups.

Lepidostoma americanum Banks. Ross, 1946; Weaver, 1988. Blount Co., mid June–mid August.

**L. bryanti* (Banks). Ross, 1938c; Weaver, 1988. Sams Creek, Great Smoky Mountains National Park, Sevier Co., 6 June. June–mid July in adjacent Georgia (Union Co.) and North Carolina (Jackson and Swain counties).

L. carrolli Flint. Flint, 1958; Flint and Wiggins, 1961; Weaver, 1988; Moulton and Stewart, 1996. Blount and Cumberland counties, mid September–mid October.

L. compressum Etnier & Way. Etnier and Way, 1973; Weaver, 1988. Cumberland and Morgan counties, late April–May.

**L. etnieri* Weaver. Weaver, 1988. Grainger, Knox, and Roane counties, late April and late September.

L. excavatum Flint & Wiggins. Flint and Wiggins, 1961; Weaver, 1988. Blount and Sevier counties, late June–mid September.

-**L. flinti* Wallace & Sherberger. Wallace and Sherberger, 1972; Weaver, 1988. Macon, Polk, and Swain counties, North Carolina, April–early June.

L. frosti (Milne). Ross, 1946; Weaver, 1988. Sevier Co., July–early September.

L. griseum (Banks). Ross, 1946; Flint and Wiggins, 1961; Weaver, 1988; Moulton and Stewart, 1996. Blount, Cumberland, and Sevier counties, mid August–October.

L. latipenne (Banks). Ross, 1946; Weaver, 1988. Blount, Hardin, Polk, and Sevier counties.

**L. lobatum* Wallace & Sherberger. Wallace and Sherberger, 1972; Weaver, 1988. Sams Creek, Great Smoky Mountains National Park, Sevier Co., 7 June. Also from Union Co., Georgia, and Haywood and Macon counties, North Carolina, late May–mid August.

- L. lydia* Ross. Ross, 1939, Weaver, 1988. Blount, Monroe, Polk, and Sevier counties, mid April-early June.
- L. mitchelli* Flint & Wiggins. Flint and Wiggins, 1961; Wallace and Sherberger, 1972; Weaver, 1988. Mill Creek headwaters, Double Camp Creek tributary, Citico Creek system, Monroe Co., 20 March. Also Highlands, Macon Co., and Mount Mitchell and Black Mountain, Yancey Co., North Carolina, July-mid September.
- L. modestum* (Banks). Ross, 1938c; Etnier and Way, 1973; Weaver, 1988. Macon and Swain counties, North Carolina, April-June.
- L. ontario* Ross. Ross, 1941a, Weaver, 1988. Monroe, Polk, and Sevier counties, mid April-early July.
- L. pictile* Banks. Ross, 1939 (as *Lepidostoma swannanoa*); Weaver, 1988. Blount, Cocke, Polk, Sevier, and Sullivan counties, mid April-mid August.
- L. serratum* Flint & Wiggins. Flint and Wiggins, 1961; Weaver, 1988. Crabtree Meadows Campground, Haywood Co.; and Mingus Creek, Swain Co., North Carolina, mid September.
- L. styliferum* Flint & Wiggins. Flint and Wiggins, 1961; Weaver, 1988. Indian Gap, Great Smoky Mountains National Park, Swain Co., North Carolina, early June-early July.
- L. tibiale* (Carpenter). Ross, 1946; Weaver, 1988. Polk and Sevier counties, late May-September.
- L. togatum* (Hagen). Schmid, 1980; Weaver, 1988; Moulton and Stewart, 1996. Blount, Cumberland, Fentress, Polk, and Sevier counties.
- C. diluta* (Hagen). Ross, 1938c, 1944; Morse, 1975. Cumberland, Fentress, Maury, and Williamson counties, May-June.
- **C. enodis* Whitlock & Morse. Whitlock and Morse, 1994. Blount, Johnson, Maury, and Polk counties, June-mid July.
- C. flava* (Banks). Ross, 1938c, 1944; Morse, 1975; Moulton and Stewart, 1996. Middle Tennessee and Monroe Co., late May-mid July.
- C. maculata* (Banks). Ross, 1938c, 1944 (as *Athripsodes transversus*); Morse, 1975; Moulton and Stewart, 1996. State-wide.
- C. neffi* (Resh). Resh, 1974 (as *Athripsodes*). Maury Co., June.
- C. nepha* (Ross). Ross, 1944; Morse, 1975; Moulton and Stewart, 1996. Obion, Polk, and Wayne counties, May-mid June.
- C. protonepha* Morse & Ross. Morse, 1975; Moulton and Stewart, 1996. Cumberland, Greene, Maury, and Wayne counties, late April-June.
- C. punctata* (Banks). Ross, 1944; Morse, 1975; Moulton and Stewart, 1996. Cheatham and Obion counties, June-early August (Edwards, 1966).
- C. resurgens* (Walker). Ross, 1944; Morse, 1975; Moulton and Stewart, 1996. Davidson and Fentress counties, April-July.
- **C. ruthae* (Flint). Flint, 1965 (as *Athripsodes*); Morse, 1975. Smokemont, Great Smokies, Swain Co., North Carolina, mid July.
- **C. spongillovorax* (Resh). Resh, 1974 (as *Athripsodes*); Morse, 1975. Reported from Spring Lake, Wall Doxey State Park, Marshall Co., Mississippi (Holzenthal et al., 1982).
- C. submacula* (Walker). Betten and Mosely, 1940; Ross, 1944; Morse, 1975. Stones River at Couchville Pike (now Percy Priest Reservoir), Davidson Co., mid April (Edwards, 1966).
- C. tarsipunctata* (Vorhies). Ross, 1944; Morse, 1975; Moulton and Stewart, 1996. Statewide.
- C. transversa* (Hagen). Ross, 1944 (as *Athripsodes angustus*); Morse, 1975; Moulton and Stewart, 1996. Middle Tennessee and Johnson Co.

Genus *Theliopsyche*

Larvae not identifiable at present.

- Theliopsyche corona* Ross. Ross, 1938b, Weaver, 1988. Great Smoky Mountains National Park, Sevier Co., and adjacent North Carolina; mid May-early July.
- T. epsilon* Ross. Ross, 1938b; Weaver, 1988. The type locality is "Newfound Gap, North Carolina, June 13, 1935, along Little Pigeon River." Because Little Pigeon River does not cross the divide into North Carolina, the type locality is either Sevier Co., Tennessee, or along Beech Flats Prong of the upper Oconoluftee River in Swain Co., North Carolina. Additional records are not available.
- **T. grisea* (Hagen). Ross, 1946; Schmid, 1980; Weaver, 1988. Spring at Camp 13, near Sheep-pen Gap, Great Smokies, Blount Co.; first rock-face stream downstream of Coker Creek, near Hiwassee River, Polk Co.; mid May-mid August.
- T. melas* Edwards. Edwards, 1956b; Weaver, 1988. Cumberland, Fentress, Franklin, and Putnam counties, late April-June.

Family Leptoceridae

Genus *Ceraclea*

Morse (1975) should be used for identification of males, but most common species were adequately illustrated in Ross (1944; as *Athripsodes*). Resh (1976) described the larvae of most eastern species.

- Ceraclea ancylus* (Vorhies). Ross, 1944; Morse, 1975; Moulton and Stewart, 1996. Middle Tennessee, May-early July.
- C. cancellata* (Betten). Ross, 1944; Edwards, 1956b (as *Athripsodes improcerus*); Morse, 1975; Moulton and Stewart, 1996. East and middle Tennessee.

Genus *Leptocerus*

The only North American species, *Leptocerus americanus* (Banks), is known from Cumberland, Fentress, and Obion counties. Ross, 1944; Schmid, 1980; Moulton and Stewart, 1996.

Genus *Mystacides*

Only one of the three North American species, *Mystacides sepulchralis* (Walker) occurs in Tennessee, where we have it from east and middle Tennessee. Ross, 1944; Yamamoto and Wiggins, 1964; Schmid, 1980; Moulton and Stewart, 1996. Larvae associated with this species in Tennessee and adjacent states differ markedly from northern larvae illustrated by Ross (1944), Yamamoto and Wiggins (1964), and Wiggins (1977) in having the pale head, prothorax, and mesothorax freckled with dark brown spots, similar to the larva of *Mystacides alafimbriata* (see Yamamoto and Wiggins, 1964); in northern larvae, the head and pronotum are mostly black, with smaller pale areas forming a pattern. There also are subtle differences in male and female genitalia between northern *M. sepulchralis* and the southern form, suggesting an undescribed species may be involved. Yamamoto and Wiggins (1964) did not include any larvae from the Southeast in their "Material Examined".

Genus *Nectopsyche*

Larvae of this genus have been characterized by Haddock (1977).

- Nectopsyche candida* (Hagen). Ross, 1944 (as *Leptocella*); Haddock, 1977; Moulton and Stewart, 1996. Haddock (1977) included Tennessee in the range of this species. Our only record is from the west side of Reelfoot Lake, Lake Co., 17 September, provided by A. J. Trently.
- N. exquisita* (Walker). Ross, 1944 (as *Leptocella*); Haddock, 1977; Schmid, 1980; Moulton and Stewart, 1996. Bradley, Cheatham, Davidson, Dickson, Maury, Polk, and Williamson counties, June–September. We have larvae from Abrams Creek and Little River, Blount Co.
- N. pavida* (Hagen). Ross, 1944 (as *Leptocella*); Haddock, 1977; Moulton and Stewart, 1996. Cumberland, Davidson, Dickson, Maury, and Obion counties, mid June–early July.

Genus *Oecetis*

Floyd (1995) provides characters for identifying larvae of all Tennessee species except *Oecetis ditissa*.

- Oecetis avara* (Banks). Ross, 1944, Smith and Lehmkuhl, 1980; Moulton and Stewart, 1996. Statewide.
- O. cinerascens* (Hagen). Ross, 1944; Moulton and Stewart, 1996. Blount, Cumberland, Fentress, Lake, Maury, Obion, and Williamson counties.
- O. ditissa* Ross. Ross, 1966; Moulton and Stewart, 1996. East and middle Tennessee.
- **O. georgia* Ross. Ross, 1941a. Shiloh National Military Park, Hardin Co.
- O. inconspicua* (Walker). Ross, 1944; Schmid, 1980; Moulton and Stewart, 1996. Statewide. Floyd (1995) points out that several distinctive larvae produce adults identifiable at present as *O. inconspicua* (several species are likely involved).
- O. nocturna* Ross. Ross, 1966; Moulton and Stewart, 1996. Decatur, Hardin, Humphreys, Madison, Polk, and Robertson counties.
- O. ochracea* (Curtis). Ross, 1944. Reported from Reelfoot Lake, Obion Co., 8 May, by Edwards (1966).
- **O. osteni* Milne. Ross, 1944; Moulton and Stewart, 1996. Reported from Spring Lake, Wall Doxey State Park, Marshall Co., Mississippi (Holzenthall et al., 1982).
- O. persimilis* (Banks). Ross, 1944; Moulton and Stewart, 1996. East and middle Tennessee, June–mid August.
- O. sphyra* Ross. Ross, 1941a. Conasauga River, Bradley Co., June–early July.

Genus *Setodes*

Merrill and Wiggins (1971) illustrated the larva and pupa of *Setodes incertus*. Nations (1994) included descriptions of larvae of all species occurring in Tennessee.

- Setodes epicampes* Edwards. Edwards, 1956a; Holzenthall, 1982. At the type locality, Stones River at Couchville Pike, Davidson Co., adults were taken late May–mid September. We have adults from Duck River at Sowell Mill Pike, Maury Co., 25 June. Additional records at United States National Museum are Buffalo River at Tennessee Highway 48, Wayne Co., 14 June; Harpeth River 1.3 miles north of Shacklett, Cheatham Co., 29 May; and Butler Creek, Lauderdale Co., Alabama, June.

- S. incertus* (Walker). Betten and Mosely, 1940; Holzenthall, 1982. Powell River at Buchanan Ford, Claiborne Co., June.
- S. oligius* (Ross). Ross, 1938b, 1944; Schmid, 1980; Holzenthall, 1982. Recorded from Stones River, Davidson Co., mid May–June (Edwards, 1966).
- S. stehri* (Ross). Ross, 1941a (as *Leptocerus*); Holzenthall, 1982. Citico Creek, Monroe Co., late June–mid September.

Genus *Triaenodes*

Larvae of all species in Tennessee except *Triaenodes dipsius* are characterized in Glover (1996). The larva of *T. dipsius*, from Muddy Creek, Loudon Co., keys to a couplet including *T. cumberlandensis* and *T. melaca* in Glover (1996), agrees with *T. cumberlandensis* in lacking an anterior fringe of tarsal swimming hairs on the metathoracic legs, but differs from *T. cumberlandensis* in that lateral head stripes do not converge with dorsal stripes behind the eyes, the ventral apotome is dark, and the number of gills appears to be reduced.

- Triaenodes aba* Milne. Ross, 1944; Moulton and Stewart, 1996. Reelfoot Lake, Obion Co. (Edwards, 1966), May–early September.
- T. cumberlandensis* Etnier & Way. Etnier and Way, 1973; Moulton and Stewart, 1996. Cumberland and Stewart (larvae) counties, May–August.
- **T. dipsius* Ross. Ross, 1938a, 1944; Moulton and Stewart, 1996. Muddy Creek at Old Midway Road, Loudon Co., late May–July.
- T. flavescens* Banks. Ross, 1944; Moulton and Stewart, 1996. Recorded from Land Between The Lakes, Trigg Co., Kentucky, 23 June (Resh, 1975); May–September.
- T. ignitus* (Walker). Betten and Mosely, 1940; Ross, 1938c, 1944; Moulton and Stewart, 1996. Statewide.
- T. injustus* (Hagen). Ross, 1944; Moulton and Stewart, 1996. Cumberland, Davidson, Hardin, and Maury counties, late March–June.
- T. marginatus* Sibley. Ross, 1944; Schmid, 1980; Moulton and Stewart, 1996. Blue Spring, Jasper, Marion Co.; Conasauga River, Polk Co., Sims Spring Run, Lee Co., Virginia. Glover (1996) reported larvae and adults from Bear and Lost creeks, Stewart Co.
- **T. melaca* Ross. Ross, 1947; Moulton and Stewart, 1996. Shiloh National Military Park, Hardin Co., 6 June. Glover (1996) reported larvae from Lost Creek, Stewart Co., early June.
- T. ochraceus* (Betten & Mosely). Betten and Mosely, 1940 (as *Triaenodella*); Moulton and Stewart, 1996. Cumberland and Fentress counties, mid June–early July.
- **T. perna* Ross. Ross, 1938b, 1944; Moulton and Stewart, 1996. Coffee, Cumberland, and Wayne counties, mid May–mid July. Larvae from Marshall, Sevier, Stewart, and Sumner counties.
- T. taenia* Ross. Ross, 1938b. The male holotype is from Little Pigeon River, Gatlinburg, Sevier Co., 12 June; late January–early August. We have larvae from Cosby Creek, Cocke Co.
- T. tardus* Milne. Ross, 1944; Moulton and Stewart, 1996. Cumberland Co.

Family Limnephilidae

Genus *Apatania*

See Family Apataniidae for treatment of this genus.

*Genus *Frenesia*

Flint (1960) provided characters for separating larvae of the two species, only one of which, *Frenesia difficilis* (Walker), is known from Tennessee. Betten and Mosely (1940) include an illustration of the adult. Larvae have been collected in the seepage area adjacent to the parking lot at the Little River "Sinks" area, Blount Co., and adults have been taken in a field near Little River below the Ranger Station at Elkmont, Sevier Co., both in Great Smoky Mountains National Park. Additional Park records, from North Carolina, are from a spring at Campsite 50, Chasteen Creek and Bradley Fork, Swain Co. (larvae), and from near Woody Homestead by Rough Fork, Cataloochee, Haywood Co. Adults from the Tennessee-North Carolina border area have been taken from 1 November through 20 December.

*Genus *Glyphopsyche*

Larvae of this genus were discovered in Owen Spring, Sequeatchie, Marion Co., by R. L. Hix. Apparent differences in case construction and emergence dates suggested these larvae did not represent an eastern population of *Glyphopsyche missouri*, so far known only from Maramac Spring, Phelps Co., Missouri, and the only known species other than the boreal *Glyphopsyche irrorata*. Adults reared from last instar larvae collected in Owen Spring confirm this as an undescribed species (Etnier and Hix, 1999). Emergence dates in the incubator, held at approximate ambient photoperiod and at the water temperature of Owen Spring, extended from 31 October through 14 January. *Glyphopsyche* larvae found in Martin Spring on 9 May 1998 were confirmed as representing the same species during fall, 1998.

Genus *Goera* and Genus *Goerita*

See Family Goeridae for treatment of these genera.

Genus *Hydatophylax*

The only eastern species, *Hydatophylax argus* (Harris), occurs throughout east and middle Tennessee, mid May–August. Betten (1934, as *Astenophylax*) and Schmid (1980) illustrated the adult male. The larva, virtually identical to that of *Pycnopsyche* but having chloride epithelium present on abdominal segments 2–7 (3–7 in all *Pycnopsyche*), was illustrated by Flint (1960) and discussed by Wiggins (1977).

Genus *Ironoquia*

Flint (1960) described the larva and case of the widespread *Ironoquia punctatissima*. We have larvae from Jennings Creek at Sand Branch, Campbell Co., that were collected from cobble in a riffle area rather than the lentic habitats where larvae of *Ironoquia* typically are found, and we suspected they represented the other species in Tennessee, *Ironoquia kaskaskia*. They differ in having a strand or two of vegetation extending past the case, in lacking chloride epithelium on the venter of abdominal segment 2, in having dorsal gills extending posteriad only to segment 5 or 6, and in having lateral gills weakly developed on segment 2, rarely present on segment 3 (versus well developed on 2 and 3 in *I. punctatissima*). Additional samples of these larvae are from a tributary to Hardin Creek in Hardin Co., and from Eblen Cave spring run, Kingston, Roane Co., where they were much less common than larvae of *I. punctatissima*.

Ironoquia kaskaskia (Ross). Flint, 1972 (as *Ironoquia bryanti*); Moulton and Stewart, 1996. Coffee, Cumberland, Madison,

Knox, and Roane counties, September–mid October. Also Hardin Co. (larvae).

I. punctatissima (Walker). Ross, 1938b, 1944; Schmid, 1980; Moulton and Stewart, 1996. East and middle Tennessee, September–October.

Genus *Limnephilus*

Only two members of this speciose genus are known to occur in Tennessee. Larvae of both are characterized by Flint (1960).

**Limnephilus indivisus* Walker. Betten and Mosely, 1940; Ross, 1944; Nimmo, 1971; Ruiter, 1995. We have larvae that agree with Flint's (1960) description of this species from a wetland about 5 miles east of Cookeville along United States Highway 70N, Putnam Co., 27 February. This boreal, transcontinental species was previously known from as far southeast as West Virginia (Hill and Tarter, 1978), and Ohio (Ruiter, 1995).

L. submonilifer Walker. Betten and Mosely, 1940; Ross, 1944; Schmid, 1980; Ruiter, 1995; Moulton and Stewart, 1996. Jackson, Madison Co., early October. We have larvae fitting the description of this species (Flint, 1960) from a temporary pond at the southwest corner of Ft. Dickerson Park, Knoxville, Knox Co., February–March, provided by D. J. Eisenhour, and from a temporary pond near Steele, Greene Co., early March, provided by D. L. Nieland and M. G. Ryon. Emergence is April–August.

Genus *Neophylax*

See family Uenoidae for treatment of this genus.

Genus *Platycentropus*

The only species in Tennessee, *Platycentropus radiatus* (Say), is known from Blount, Cumberland, Fentress, Knox, Johnson, Morgan, and Unicoi counties, with most records based on larvae. Adults (Ross, 1944; Schmid, 1980; Moulton and Stewart, 1996) are available mid April–mid August. Flint (1960) and Wiggins (1977) characterized the larva.

Genus *Pseudostenophylax*

The only species in Tennessee, *Pseudostenophylax uniformis* (Betten) is known from Blount, Carter (larvae), Monroe, Pickett, and Sevier counties, mid April–early July. Ross (1944) illustrated the male genitalia and that of the other eastern species, *Pseudostenophylax sparsus* (Banks) (as *Drusinus uniformis* and *Drusinus virginicus*). Flint (1960) characterized the larva of *P. uniformis* and that of an additional eastern species that probably represents *P. sparsus*.

Genus *Pycnopsyche*

Adults, larvae, and larval cases of species in Tennessee are described in Wojtowicz (1982). Judicious use of those descriptions allow identification of mature larvae to species groups, and occasionally to species, especially if locality information is incorporated.

**Pycnopsyche antica* (Walker). Ross, 1944; Wojtowicz, 1982; Moulton and Stewart, 1996. Blount, Cumberland, Fentress, Hardin, Madison, Marion, Monroe, Morgan, Scott, Sevier, and Union counties, late June–October.

- P. circularis* (Provancher). Betten, 1950; Wojtowicz, 1982. Cumberland, Madison, and Morgan counties, mid September–mid October.
- **P. conspersa* Banks. Banks, 1943; Wojtowicz, 1982. Sevier Co., mid May–mid September.
- **P. divergens* (Walker). Betten and Mosely, 1940; Betten, 1950; Wojtowicz, 1982. Recorded from Yancey (Wojtowicz, 1982) and Haywood counties, North Carolina, late July–October. We have larvae tentatively identified as this species from Little Pigeon River, Pittman Center, Sevier Co.
- P. flavata* (Banks). Betten, 1950; Wojtowicz, 1982. Blount, Carter, Monroe, and Sevier counties, mid May–early October.
- P. gentilis* (McLachlan). Betten, 1950; Wojtowicz, 1982. East and middle Tennessee, mid August–late October.
- P. guttifer* (Walker). Betten and Mosely, 1940; Ross, 1944; Betten, 1950; Nimmo, 1971; Wojtowicz, 1982; Moulton and Stewart, 1996. Bledsoe, Blount, Cumberland, Marion, Morgan, and Sevier counties, mid September–mid October.
- P. indiana* (Ross). Ross, 1944; Betten, 1950; Wojtowicz, 1982; Moulton and Stewart, 1996. Cumberland, Madison, and Meigs counties, late August–late October.
- P. lepida* (Hagen). Betten and Mosely, 1940; Ross, 1944; Betten, 1950; Wojtowicz, 1982; Moulton and Stewart, 1996. East and middle Tennessee, June–late October.
- **P. limbata* (McLachlan). Betten, 1950; Kimmins and Denning, 1951; Wojtowicz, 1982. Elkmont, Sevier Co., early October.
- P. luculenta* (Betten). Ross, 1944; Betten, 1950; Wojtowicz, 1982. Statewide, mid August–mid December.
- **P. rossi* Betten. Betten, 1950; Wojtowicz, 1982. Arnold Engineering Development Corporation, Coffee Co., 17 September.
- P. sonso* (Milne). Betten, 1950; Wojtowicz, 1982. Blount, Monroe, and Sevier counties, mid August–late October.
- **P. subfasciata* (Say). Ross, 1944; Betten, 1950; Nimmo, 1971; Schmid, 1980; Wojtowicz, 1982; Moulton and Stewart, 1996. Wojtowicz (1982) recorded this species from Rabun Co., Georgia. Late August–late October. Carpenter's (1933) records from Newfound Gap, Great Smoky Mountains National Park, have not been confirmed.
- **P. virginica* (Banks). Flint, 1966; Wojtowicz, 1982. Dill Branch, Shiloh National Military Park, Hardin Co., 26 October.

Family Molannidae

Genus *Molanna*

Larvae of species in Tennessee except *Molanna ulmerina* were treated by Sherberger and Wallace (1971a). Roy and Harper (1980b) illustrated females of all Nearctic species.

Molanna blenda Sibley. Ross, 1944; Schmid, 1983; Moulton and Stewart, 1996. Anderson, Blount, Cumberland, Franklin, Hardin, Knox, Roane, and Sevier counties, May–mid October.

M. tryphena Betten. Ross, 1944; Schmid, 1983. Blount, Polk, and Hardin counties, late May–September.

M. ulmerina Navas. Ross, 1944 (as *Molanna musetta* Betten); Schmid, 1983; Moulton and Stewart, 1996. Cumberland Co., 1–5 July.

Family Odontoceridae

Genus *Pseudogoera*

The only species, *Pseudogoera singularis* Carpenter, is known from larvae from several seepage areas in Blount, Cocke,

and Sevier counties and in Swain Co., North Carolina, at elevations of 451–1,426 m. Ross (1944) illustrated the adult; Wallace and Ross (1971) described the larva. Emergence is late July–mid October.

Genus *Psilotreta*

Parker and Wiggins (1987) provided illustrated keys to the larvae and adults of all North American species.

Psilotreta amera (Ross). Ross, 1939 (as *Heteroplectron*), 1944; Parker and Wiggins, 1987. Polk and Sevier counties, late April–May.

P. frontalis Banks. Ross, 1944; Schmid, 1983; Parker and Wiggins, 1987. East and middle Tennessee, late April–June.

P. labida Ross. Ross, 1944; Schmid, 1983; Parker and Wiggins, 1987. East and middle Tennessee, late April–July.

P. rossi Wallace. Wallace, 1970; Parker and Wiggins, 1987. Sams Creek, Great Smoky Mountains National Park, Sevier Co., 7 June. We have larvae identified as this species from Anthony Creek, Cades Cove, Great Smoky Mountains National Park, Blount Co. Also recorded from Macon and Transylvania counties, North Carolina, mid May–mid June (Parker and Wiggins, 1987).

P. rufa (Hagen). Ross, 1944; Wallace, 1970; Schmid, 1983; Parker and Wiggins, 1987. Blount, Chester, Franklin, Hardin, Sevier, and Williamson counties, mid April–June.

Family Philopotamidae

Genus *Chimarra*

Ross (1944) described differences between larvae of *Chimarra aterrima*, *C. feria*, *C. obscura*, and *C. socia*. Because differences among these four species are rather subjective and larvae of other southeastern species have not been characterized, we do not consider larval identification to be reliable at present. Lago and Harris (1987) reviewed adults of the southeastern species.

Chimarra aterrima Hagen. Ross, 1944; Schmid, 1982; Armitage, 1983; Lago and Harris, 1987; Moulton and Stewart, 1996. East and middle Tennessee.

C. augusta Morse. Morse, 1971; Armitage, 1983; Lago and Harris, 1987. Conasauga River, Bradley Co.

**C. moselyi* Denning. Denning, 1947d; Armitage, 1983; Lago and Harris, 1987; Moulton and Stewart, 1996. Shiloh National Military Park, Hardin Co.

C. obscura (Walker). Ross, 1944; Schmid, 1980, 1982; Armitage, 1983; Lago and Harris, 1987; Moulton and Stewart, 1996. East and middle Tennessee.

**C. parasocia* Lago & Harris. Lago and Harris, 1987; Moulton and Stewart, 1996. Lago and Harris (1987) included single males from Loretto, Lawrence Co., and Jackson, Madison Co., among the paratypes of this species. April–August.

C. socia Hagen. Ross, 1944; Schmid, 1982; Armitage, 1983; Lago and Harris, 1987; Moulton and Stewart, 1996. Bradley, Madison, Monroe, and Scott counties.

Genus *Dolophilodes*

Ross (1944) illustrated the larva and pupa of *Dolophilodes distinctus* (as *Trentonius*). Weaver et al. (1981) described immature stages of *Dolophilodes major*, which inhabits seepage ar-

eas, and has an asymmetrical anterior margin of the frontoclypeus much like that of larvae of *Chimarra*.

- Dolophilodes distinctus* (Walker). Ross, 1944 (as *Trentonius*); Schmid, 1982; Armitage, 1983. East and middle Tennessee.
D. major (Banks). Ross, 1949, 1956; Armitage, 1983. Carter, Monroe, Polk, and Sevier counties, mid May–July.

Genus *Wormaldia*

Larvae of *Wormaldia moesta* and *Wormaldia shawnee* are differentiated in Ross (1944). If Denning's (1950) assumption is correct, the unknown larva of *W. thyria* will be more similar to the latter. The larva of *Wormaldia mohri* is unknown.

- Wormaldia moesta* (Banks). Ross, 1944 (as *Dolophilus*); Schmid, 1982; Moulton and Stewart, 1996. East and middle Tennessee.
 **W. mohri* (Ross). Ross, 1948b, 1956. Little Pigeon River at Greenbriar, Sevier Co.; and Dry Creek 12 miles southeast of Greenville, Greene Co., April–mid June.
 -**W. shawnee* (Ross). Ross, 1938b; Moulton and Stewart, 1996. Recorded from Jackson Co., Alabama, May–June (Harris et al., 1991). Edwards' (1966) records of *W. shawnee* from Davidson and Macon counties are based on larvae, which could either be *Wormaldia thyria* or *W. shawnee*. Armitage (1983) included Tennessee in the distribution of *W. shawnee*, but this (B. J. Armitage, pers. comm.) is based on Edwards' (1966) records.
W. thyria Denning. Denning, 1950; Ross, 1956. Fentress Co., late May–July.

Family Phryganeidae

Genus *Agrypnia*

Larvae of the species known to occur in Tennessee and one that likely occurs in Tennessee, *Agrypnia improba* (Hagen), are contrasted in Wiggins, 1960.

- Agrypnia vestita* (Walker). Ross, 1944; Schmid, 1980; Moulton and Stewart, 1996. East and middle Tennessee.

Genus *Oligostomis*

Larvae of the two known species are not separable except by size of the last instar (Wiggins, 1960, 1977). *Oligostomis ocelligera* (Walker) is known from a male from a spring tributary to West Fork Hickory Creek at Summitville, Coffee Co., 1 April; and from four males from Arnold Engineering Development Center, Coffee and Franklin counties, 7 April, provided by Greg Wiggins, University of Tennessee. Larvae of *Oligostomis* that may represent *O. pardalis* (Walker) have been provided by personnel of the Tennessee Wildlife Resources Agency, and are available from Tellico River 0.25 mile above Green Cove Branch, North River below Hemlock Branch, and Bald River just above Smith Field Road, Monroe Co., and from Laurel Fork 0.2 mile above Leonard Branch and Doe River 1.0 mile below Roan Mountain State Park, Carter Co. Adults of both species were illustrated by Betten and Mosely (1940), Ross (1944), and Schmid (1980).

Genus *Phryganea*

Larvae of the two North American species are not separable at present. *Phryganea sayi* Milne is the only species in Tennes-

see. Cumberland, Fentress, and Hardin counties, mid July–mid September. Ross, 1944; Moulton and Stewart, 1996.

Genus *Ptilostomis*

Larvae not separable at present.

- Ptilostomis ocellifera* (Walker). Betten and Mosely, 1940; Ross, 1944; Moulton and Stewart, 1996. Blount, Cumberland, Hardin, Monroe, Sevier, and Van Buren counties, late May–August.
P. postica (Walker). Ross, 1944; Moulton and Stewart, 1996. Blount, Coffee, Cumberland, Fentress, Giles, and Obion counties, May–September.
 -**P. semifasciata* (Say). Betten and Mosely, 1940; Ross, 1944; Schmid, 1980. Resh (1975) reported this species from Pineville, Bell Co., Kentucky, mid June–August.

Family Polycentropodidae

Genus *Cernotina*

Larvae not separable at present.

- **Cernotina calcea* Ross. Ross, 1938b, 1944; Nimmo, 1986; Moulton and Stewart, 1996. Recorded from Jackson, Limestone, and Madison counties, Alabama (Harris et al., 1991). We have females from lower Spring Creek, Polk Co., that are likely this species.
 **C. spicata* Ross. Ross, 1938b, 1944; Nimmo, 1986; Moulton and Stewart, 1996. We have one male from Old Stone Fort State Park, Coffee Co., 9 July. Larvae and pupae of this genus, unknown until recently, were described by Hudson et al. (1981) based on this species.

Genus *Cyrnellus*

Cyrnellus fraternus (Banks), the only species, occurs in rivers throughout the state and occasionally in smaller streams. Ross (1944, as *Cyrnellus marginalis*), Schmid (1980), and Nimmo (1986) illustrated the adult; the larva is illustrated in Flint (1964) and Wiggins (1977).

Genus *Neureclipsis*

Larvae not separable.

- Neureclipsis crepuscularis* (Walker). Betten and Mosely, 1940 (as *Neureclipsis parvula*); Ross, 1944; Nimmo, 1986; Moulton and Stewart, 1996. Cheatham, Fentress, Morgan, Wayne, and Wilson counties.
 **Neureclipsis melco* Ross. Ross, 1947. Dill Branch, Shiloh National Military Park, Hardin Co., 6 June.

Genus *Nyctiophylax*

All North American species formerly in the genus *Nyctiophylax* were placed in *Paranyctiophylax* by Neboiss (1993), but Morse (in litt.) suggested retaining *Paranyctiophylax* as a subgenus pending discovery of larvae of *Nyctiophylax sensu stricto*. Larval stages of *Nyctiophylax nephophilus*, *N. celta* (as *Nyctiophylax vestitus*), and *N. moestus* (as species A) were described by Flint (1964). Morse (1972, 1990) reviewed males of the genus.

- Nyctiophylax affinis* (Banks). Morse, 1972; Nimmo, 1986; Moulton and Stewart, 1996. Middle Tennessee and Monroe Co.

- N. banksi* Morse. Morse, 1972; Nimmo, 1986. Cumberland, Fentress, and Polk counties, May–mid July.
- **N. barrorum* Morse. Morse, 1990. Reported from Jackson Co., Alabama, May–October (Harris et al., 1991).
- N. celta* Denning. Denning, 1947d; Morse, 1972; Nimmo, 1986. Blount, Fentress, Meigs, and Polk counties.
- N. denningi* Morse. Morse, 1972. Hardin, Polk, and Sevier counties.
- N. moestus* Banks. Morse, 1972; Schmid, 1980; Nimmo, 1986; Moulton and Stewart, 1996. Cumberland, Fentress, and Wayne counties.
- N. nephophilus* Flint. Flint, 1964; Morse, 1972. Blount, Monroe, and Polk counties, late May–mid July.
- **N. serratus* Lago & Harris. Lago and Harris, 1985; Moulton and Stewart, 1996. Shiloh National Military Park, Hardin Co. Also recorded from Jackson, Lauderdale, and Madison counties, Alabama (Harris et al., 1991).
- N. uncus* Ross. Ross, 1944; Morse, 1972; Nimmo, 1986. Fentress Co., mid June.

Genus *Phylocentropus*

See Family Dipseudopsidae for treatment of this genus.

Genus *Polycentropus*

Larvae not separable except to major lineages (Hudson et al., 1981).

- Polycentropus barri* Ross & Yamamoto. Ross and Yamamoto, 1965. Fentress Co., late May–mid July.
- P. blicklei* Ross & Yamamoto. Ross and Yamamoto, 1965; Nimmo, 1986. Grainger, Greene, Hardin, and Knox counties, mid May–mid September.
- **P. carlsoni* Morse. Morse, 1971. Mt. Sterling Trail, Great Smoky Mountains National Park, Haywood Co., North Carolina, 27 June.
- P. carolinensis* Banks. Ross, 1941a, 1944; Nimmo, 1986. Greene and Johnson counties.
- P. centralis* Banks. Ross, 1941a, 1944; Nimmo, 1986; Moulton and Stewart, 1996. Cheatham, Hardin, Humphreys, Perry, Robertson, and Wayne counties.
- P. chelatus* Ross & Yamamoto. Ross and Yamamoto, 1965; Moulton and Stewart, 1996. Type locality is Sugar Tree, Decatur Co., mature male pupa, 5 May; one March record from central Alabama (Harris et al., 1991).
- P. cinereus* Hagen. Ross, 1944; Nimmo, 1986; Moulton and Stewart, 1996. East and middle Tennessee.
- P. colei* Ross. Ross, 1941a; Ross and Yamamoto, 1965; Nimmo, 1986. Type locality is Alum Cave Trail, Great Smoky Mountains National Park, Sevier Co., 17 June. We have additional specimens from the Park in Sevier Co., and at Smokemont and Cataloochee, Swain and Haywood counties, respectively, North Carolina, late June–mid July.
- P. confusus* Hagen. Ross, 1941a, 1944; Nimmo, 1986; Moulton and Stewart, 1996. East and middle Tennessee.
- P. crassicornis* Walker. Ross, 1944; Nimmo, 1986; Moulton and Stewart, 1996. Cheatham, Coffee, Cumberland, Franklin, Knox, Obion, and Wayne counties.
- P. elarus* Ross. Ross, 1944; Nimmo, 1986. Cumberland and Marion counties.
- **P. flavus* (Banks). Ross, 1944; Nimmo, 1986. Nimmo (1986) included Tennessee in the dot distribution map for the species based on a specimen he examined at the Royal Ontario

Museum; he did not record locality data other than the state of occurrence (pers. comm.). Personnel at Royal Ontario Museum were unable to locate the specimen or additional locality information (D. Currie, pers. comm.).

- P. interruptus* (Banks). Ross, 1944; Schmid, 1980; Nimmo, 1986. Maury and Robertson counties, late April.
- P. maculatus* Banks. Ross, 1941a, 1944; Nimmo, 1986. Blount, Monroe, and Sevier counties, late May–August.
- **P. nascotius* Ross. Ross, 1941a, 1944; Nimmo, 1986; Moulton and Stewart, 1996. Recorded from Flint River, Madison Co., Alabama (Harris et al., 1991).
- P. pentus* Ross. Ross, 1941a, 1944; Nimmo, 1986. Cumberland Co., late April–early June.
- P. rickeri* Yamamoto. Yamamoto, 1966. Type locality is Walker Camp Prong, Great Smoky Mountains National Park, Sevier Co., 11 July; several June records from central Alabama (Harris et al., 1991).

Family Psychomyiidae

Genus *Lype*

The only North American species, *Lype diversa* (Banks), occurs in east and middle Tennessee. Ross, 1944; Schmid, 1980; Moulton and Stewart, 1996. Immature stages were illustrated by Flint (1964) and Wiggins (1977).

Genus *Psychomyia*

Larvae of the two Tennessee species are keyed in Flint (1964).

- Psychomyia flavida* Hagen. Ross, 1938c, 1944; Schmid, 1980, 1983; Moulton and Stewart, 1996. East and middle Tennessee.
- P. nomada* (Ross). Ross, 1938b; Schmid, 1983. Dickson, Hickman, Humphreys, Wayne, and Williamson counties, April–late July.

Family Rhyacophilidae

Genus *Rhyacophila*

Flint (1962b) provided descriptions of the larvae of *Rhyacophila acutiloba* (as *R. carpenteri*?), *R. amicus*, *R. atrata*, *R. carolina*, *R. carpenteri* (as *R. banksi*?), *R. fenestra* and *R. ledra* (not separable from each other), *R. fuscula*, *R. glaberrima*, *R. lobifera*, *R. minora*, *R. nigrita*, and *R. torva*. The larva of *R. formosa* was described by Sherberger and Wallace (1971b, as *R. vuphiphes*). Neves (1977) confirmed the identity of Flint's (1962b) association of *R. carolina* larvae and described the larva of *R. acutiloba* (= *R. carpenteri*? of Flint, 1962b). Weaver and Sykora (1979) provided a key to Pennsylvania *Rhyacophila* larvae, described the larva of *R. banksi* but indicated it to be indistinguishable from other associated species of the *Rhyacophila invaria* group (*R. invaria* and *R. vibox*), and indicated the larva Flint (1962b) thought to be that of *R. banksi* was actually *R. carpenteri*. Weaver and White (1981) described the larva of *Rhyacophila appalachia*. We have associated the larva of *Rhyacophila parantra*, which keys to *R. nigrita* in Flint (1962b) and Weaver and Sykora (1979). The larva of *Rhyacophila montana* (associated by C. R. Parker) is indistinguishable from that of *R. glaberrima*. Larvae have not been associated with adults for the remaining species in Tennessee (*Rhyacophila accola*, *R. alabama*, *R. kondratieffi*,

- R. mycta*, *R. otica*). Prather et al. (1997) provided a key for females of most Tennessee species.
- Rhyacophila accola* Flint. Flint, 1972. Type locality is Smoke-mont Campground, Great Smoky Mountains National Park, Swain Co., North Carolina, 11-14 May.
- **R. acutiloba* Morse and Ross. Morse and Ross, 1971. We have larvae that presumably represent this species from three localities in Monroe and Sevier counties. Emergence is mid September.
- **R. alabama* Harris. Harris, 1991. The type locality is a small tributary to Hurricane Creek, Paint Rock River system, Jackson Co., Alabama, 1 June.
- R. amicus* Ross. Ross, 1956. Type locality is Black Mountain, Buncombe Co., North Carolina, 20 May. We have mature pupae from Cherokee Co., North Carolina, 27 June, and larvae from four localities in Blount, Monroe, and Sevier counties.
- R. appalachia* Morse and Ross. Morse and Ross, 1971. Blount, Greene (larvae), Johnson, and Sevier counties, mid April-mid June.
- R. atrata* Banks. Ross, 1938c, 1956; Schmid, 1981. Type locality is Black Mountain, Buncombe Co., North Carolina, May. We have adults from four localities in Great Smoky Mountains National Park, Blount and Sevier counties, May-early June, and larvae from three localities in Cades Cove, Great Smoky Mountains National Park, Blount Co.
- R. banksi* Ross. Ross, 1944; Flint, 1958; Schmid, 1981; Moulton and Stewart, 1996. Cumberland and Putnam counties, late April-early June.
- R. carolina* Banks. Ross, 1939; Schmid, 1970, 1981. East and middle Tennessee.
- **R. carpenteri* Milne. Ross, 1956; Schmid, 1970, 1981. Anderson (larvae), Polk, Putnam, and Sevier counties, mid May-June.
- R. fenestra* Ross. Ross, 1938b, 1944, 1956; Schmid, 1970, 1981; Moulton and Stewart, 1996. East and middle Tennessee, late March-late June.
- R. formosa* Banks. Ross, 1956; Schmid, 1970, 1981 (all as *R. vuphipes*). Blount, Carter, and Sevier (larvae) counties, late September.
- R. fuscula* (Walker). Betten and Mosely, 1940; Ross, 1944, 1956; Schmid, 1970, 1981. East and middle Tennessee.
- R. glaberrima* Ulmer. Ross, 1956; Schmid, 1970, 1981; Moulton and Stewart, 1996. Blount, Cocke, Cumberland, Fentress, Hardin, Madison, Marion, Morgan (larvae), and Sevier counties.
- **R. kondratieffi* Parker. Parker, 1986. Described from Grayson, Patrick, and Smyth counties, Virginia, 13-30 May.
- R. ledra* Ross. Ross, 1939, 1944, 1956; Schmid, 1970, 1981; Moulton and Stewart, 1996. East and middle Tennessee.
- R. lobifera* Betten. Ross, 1944, 1956; Schmid, 1970, 1981; Moulton and Stewart, 1996. Anderson (larvae), Cumberland, Davidson, and Maury counties, March-late May.
- R. minor* Banks. Ross, 1956; Schmid, 1981. Blount (larvae), Carter, Cocke, and Sevier counties, mid April-early July.
- R. montana* Carpenter. Ross, 1956; Schmid, 1970. Alum Cave Trail, Great Smoky Mountains National Park, Sevier Co., mid July-early September. Additional Park records from Swain Co., North Carolina, are from Clingmans Dome and from Nolan Divide to Andrews Bald.
- R. mycta* Ross. Ross, 1941a. Clingmans Dome, Great Smoky Mountains National Park, Sevier Co., mid June.
- R. nigrita* Banks. Schmid, 1970, 1981. Blount, Cocke, Greene, Polk, and Sevier counties, mid April-July.
- R. otica* Etnier & Way. Etnier and Way, 1973; Sykora and Weaver, 1976 (as *Rhyacophila pennsylvanica*). Cumberland and Fentress counties, early June-mid July.
- R. parantra* Ross. Ross, 1948b, 1956; Flint, 1958. East and middle Tennessee, late April-mid June.
- R. teddyi* Ross. Ross, 1939; Schmid, 1970. Cocke, Polk, and Sevier counties, mid May-mid September.
- R. torva* Hagen. Ross, 1956; Schmid, 1970, 1981. Anderson (larvae), Blount, Franklin, Marion (larvae), Scott, Sevier, and White counties.
- R. vibox* Milne. Ross, 1944; Schmid, 1970, 1981. Larvae reported from Sequatchie Co. (Edwards, 1966) and east Tennessee (Schmid, 1970). We have larvae from three localities in Campbell and Cumberland counties, and adults from Union Co., April.

Family Sericostomatidae

Genus *Agarodes*

Larvae not separable at present.

Agarodes distinctus (Ulmer). Ross and Scott, 1974; Ross and Wallace, 1974; Schmid, 1980. Cumberland Co., 3 July.

A. stannardi (Ross). Ross, 1962 (as *Sericostoma*). Cave Hollow Branch, Turkey Creek tributary, northeast Hardin Co., 15 May; Shiloh National Military Park, Hardin Co., 6 June.

A. tetron (Ross). Ross, 1948c (as *Sericostoma*). Cocke, Monroe, and Sevier counties, late May-June.

Genus *Fattigia*

Larva illustrated by Ross and Wallace (1974) and contrasted with larvae of *Agarodes* in Wiggins (1977). *Fattigia pele* (Ross), the only species, was illustrated by Ross, 1938b (as *Notidobia*). Blount, Carter, Monroe (larvae), and Sevier counties, late May-July.

Family Uenoidae

Genus *Neophylax*

Larvae and adults of all described species known from Tennessee are characterized and keyed in Vineyard (1990).

**Neophylax acutus* Vineyard & Wiggins. Vineyard and Wiggins, 1987; Vineyard, 1990. Cannon, Clay (larvae), Coffee, and Dickson (larvae) counties, 17-26 October.

N. aniqua Ross. Ross, 1947; Marshall and Larson, 1982; Vineyard, 1990. Cumberland, Hamilton, Morgan, and Scott (larvae) counties, and Nolan Divide, Swain Co., North Carolina, late September-early October.

**N. auris* Vineyard and Wiggins. Vineyard and Wiggins, 1987; Vineyard, 1990. Blount, Claiborne, Grainger, Knox, Meigs, Roane, and Unicoi counties, October.

**N. ayanus* Ross. Ross, 1938b, 1944; Vineyard, 1990. Coffee Co., 9 October (Vineyard, 1990).

N. concinnus McLachlan. Ross, 1944 (as *Neophylax autumnus*); Kimmins and Denning, 1951; Schmid, 1980; Vineyard, 1990; Moulton and Stewart, 1996. East and middle Tennessee, October.

**N. consimilis* Betten. Betten, 1934; Banks, 1943 (as *Neophylax*

- slossonae*); Vineyard, 1990. East Tennessee and Franklin Co., mid September–early November.
- **N. etnieri* Vineyard and Wiggins. Vineyard and Wiggins, 1987; Vineyard, 1990. Claiborne, Grainger, Hamblen, Knox, and Loudon counties, mid October–November.
- N. fuscus* Banks. Betten, 1934; Ross, 1938c, 1944; Vineyard, 1990; Moulton and Stewart, 1996. Dickson, Franklin, Marion, and Wayne counties, late September–early November; larvae widespread in Middle Tennessee.
- N. mitchelli* Carpenter. Carpenter, 1933; Denning, 1941 (as *Neophylax nacatus*); Banks, 1943 (as *Neophylax delicatus*); Marshall and Larson, 1982; Vineyard, 1990. Sevier Co., mid September–early November; larvae from Blount, Monroe, and Polk counties.
- **N. oligius* Ross. Ross, 1938b; Leonard and Leonard, 1949; Marshall and Larson, 1982; Vineyard, 1990. Shiloh National Military Park, Hardin Co., late October–mid November. Other records from Tennessee are based on larvae from Blount, Greene, and Sevier counties.
- N. ornatus* Banks. Banks, 1930; Marshall and Larson, 1982; Vineyard, 1990. Sevier Co., July–20 October; larvae from Blount, Franklin, and Unicoi counties.
- **N. securis* Vineyard & Wiggins. Vineyard and Wiggins, 1987; Vineyard, 1990. Marion and White counties, late September–October.
- **N. stolus* Ross. Ross, 1938b; Vineyard, 1990. White Creek tributary, Oak Ridge National Laboratory, Roane Co., 16 October.
- **N. wigginsii* Sykora & Weaver. Sykora and Weaver, 1978. We have a male from Anderson Co., 16 October, and larvae that appear to be this species from numerous Cumberland Plateau localities in Anderson and Scott counties.

Dubious Records

We believe the following species have been incorrectly recorded from Tennessee for reasons indicated under each species.

Family Apataniidae

Apatania incerta (Banks). Flint (1960) recorded this species from Highlands and Mt. Mitchell, North Carolina, based on larvae. It was believed to be the only species of *Apatania* in eastern North America at that time. *Apatania praevolans* and *Apatania rossi* occur in the area.

Family Brachycentridae

Brachycentrus americanus (Banks). Edwards (1966) recorded this species from Louise Creek, Montgomery Co., based on larvae. Flint (1984) did not record this species from eastern North America south of Michigan, New Hampshire, Vermont, and Wisconsin; so, it seems likely that Edwards' specimens represented some other species. *Brachycentrus lateralis* is reported from nearby Davidson Co. by Edwards (1966), also based on larvae.

Family Glossosomatidae

Glossosoma lividum (Hagen). Edwards (1966) listed this species (as *Glossosoma americanum*) as "one of the most common species in Tennessee." *Glossosoma americanum* Banks, based on an adult female, is now considered to be a junior synonym of *Glossosoma lividum*, but it was previously considered to be a junior synonym of *Glossosoma nigrior*. Because *G. liv-*

idum is a species of northeastern North America and there has been confusion over the synonymy of *G. americanum* and because Edwards (1966) did not list the extremely widespread and abundant *G. nigrior* from Tennessee, it seems certain that his records of *G. americanum* refer to *G. nigrior*.

Family Hydropsychidae

Ceratopsyche bifida (Banks). Edwards' (1966) records are all based on larvae, which were likely those of *Ceratopsyche cheilonis* or *Ceratopsyche morosa*; *C. bifida* is now considered a junior synonym of *C. morosa*.

Hydropsyche incommoda Hagen. This species was reported from Cumberland, Fentress, and Robertson counties by Etnier and Schuster (1979). Flint et al. (1979) pointed out that the true *H. incommoda* is not known from west of the Appalachians. Specimens on which these records from Tennessee were based have been reidentified as *Hydropsyche rossi* Flint, Voshell, and Parker.

H. placoda Ross. Edwards (1966) reported this species on the basis of a single male and five females from the Stones River in Dickson Co. S. W. Edwards (pers. comm.) noted that "I did compare most of my material with types in Ross's collections at Urbana, Illinois, and both he and I did note that the forms I was calling *H. placoda* were not precise fits with his." We suspect this record was based on *H. patera*, a common species in the similar and nearby Harpeth River, which was not described until 1978. *H. placoda* appears to be a northeastern species, extending south only as far as Illinois.

H. scalaris Hagen. Records of this species from Tennessee reported by Etnier and Schuster (1979) are based on *Hydropsyche bassi*.

Oropsyche howellae Ross. The supposed larva of this species, on which Etnier and Schuster (1979) based all Tennessee records, has been determined by Huryn (1989) to be that of *Homoplectra flinti*. Adult *O. howellae* have been taken from nearby Jackson and Macon counties, North Carolina, but we are unaware of records from counties bordering Tennessee.

Smicridea fasciatella McLachlan. Edwards (1966) reported this species from Trehan Spring, Montgomery Co., on the basis of two larvae. Because this species is otherwise not recorded from east of Oklahoma and Texas, we continue to treat the record as questionable.

Family Lepidostomatidae

Lepidostoma libum (Ross). This species was reported from Cumberland and Fentress counties (Edwards, 1966) based on larvae. Because this species is known only from Illinois and Wisconsin and because larvae of *Lepidostoma* were not identifiable to species until recently (Weaver, 1988), this record can not be accepted.

L. vernale (Banks). This species was reported from Tryon, Polk Co., North Carolina, by Etnier and Schuster, 1979, based on Ross (1946). These specimens have been reidentified as *Lepidostoma flinti* Wallace & Sherberger (Weaver, 1988).

Family Leptoceridae

Oecetis eddlestoni Ross. Etnier and Schuster (1979) may have been overly cautious in relegating this species to the list of "Dubious Records." Edwards (1956b) recorded this species from the Upper Blue Basin of Reelfoot Lake, Obion Co. In

discussing larvae captured for that paper, no mention is made of larval *O. eddlestoni*, and one is led to assume the record is based on adults. Edwards (1966), however, reports only "7 pupae, 3 larvae," again from Upper Blue Basin, 17 April 1955, one of the dates during which collections were made for Edwards (1956b). We assume these refer to the same collection. Because there is no mention of the maturity or sexes of the pupae and Ross (1944) contains a description of the larva and case of *O. eddlestoni*, it is quite likely that this record is not based on adult characters and, though possibly correct, should continue to be treated with skepticism.

Trienodes connatus Ross. This species was included in Etnier and Schuster (1979) based on specimens from Bell Co., Kentucky, reported by Resh (1975). *Trienodes connatus* is now considered (J. C. Morse, pers. comm.) to be a synonym of *Trienodes injustus*.

Family Limnephilidae

Pycnopsyche scabripennis (Rambur). Records of this species in Tennessee (Etnier and Schuster, 1979) were based on *Pycnopsyche antica*. *Pycnopsyche scabripennis* is a more northeasterly species, extending as far southeast as Virginia and West Virginia (Wojtowicz, 1982).

Family Molannidae

Molanna uniophila Vorhies. Since Sherberger and Wallace (1971a) offered the first reliable key to larvae, Edwards' (1966) records, based on larvae, must be considered questionable.

Family Phryganeidae

Agrypnia improba (Hagen). Etnier and Schuster (1979) included this species in the Tennessee list of Trichoptera based on its presence in the Piedmont of North Carolina (Wiggins, 1960; Unzicker et al., 1982). That inclusion on the 1979 Tennessee list is likely responsible for Harris et al. (1991) including Tennessee in the dot distribution map for the species (S. C. Harris, pers. comm.). While the species is very likely to occur in Tennessee, based on its known distribution, we prefer to exclude it from the Tennessee list at this time.

Family Sericostomatidae

Agarodes georgia Ross and Scott. Etnier and Schuster (1979) included this species in the Tennessee checklist based on its occurrence in Burke and Richmond counties, Georgia. These counties are in east central Georgia, well removed from the Tennessee border.

Family Uenoidae

Neophylax nacatus Denning. Etnier and Schuster (1979) recorded this species from Blount and Sevier counties, based on larvae. All of these larvae have been reidentified as species other than *N. nacatus*.

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