

An Annotated List of the Caddisflies (Trichoptera) of Virginia: Part II. Families of Integripalpia

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ABSTRACT

One hundred forty-five species of caddisflies in the families Apataniidae, Brachycentridae, Calamoceratidae, Goeridae, Helicopsychidae, Lepidostomatidae, Leptoceridae, Limnephilidae, Molannidae, Odontoceridae, Phryganeidae, Sericostomatidae, and Uenoidae are listed for Virginia, of which 27 were not previously known for the state, bringing the total number of verified resident species known from the Commonwealth to 351. Counties of known occurrence are given for all species; detailed collection data are provided for rare species, those which constitute substantial range extensions, and those new to the state list. The distribution of each genus and species is also summarized.

Key words: Apataniidae, Brachycentridae, caddisfly, Calamoceratidae, Goeridae, Helicopsychidae, Lepidostomatidae, Leptoceridae, Limnephilidae, Molannidae, Odontoceridae, Phryganeidae, Sericostomatidae, Trichoptera, Uenoidae, Virginia.

This is the second installment of a three-part treatise on the caddisflies (Trichoptera) of Virginia. For background and general remarks, please refer to the introductory sections in Part I (Flint et al. 2004. An annotated list of the caddisflies (Trichoptera) of Virginia: Part I. Introduction and families of Annulipalpia and Spicipalpia. *Banisteria* 24: 23-46), in which 203 species in the families Dipseudopsidae, Glossosomatidae, Hydropsychidae, Hydroptilidae, Philopotamidae, Psychomyiidae, and Rhyacophilidae known to occur in Virginia were listed with emphasis

on their geographical distribution. The present treatment lists the species of the remaining families, with additions and corrections for those accounted in Part I. A summary conclusion with analyses of biogeographical patterns is now in preparation as the third and final part of this series, which will include a reference list relevant to all three parts.

Because several new depositories are mentioned in this paper, we give a complete listing of all of the acronyms used in both parts: BLRI – Blue Ridge Parkway, Jackie Holt; CMNH – Carnegie Museum of

Natural History, John E. Rawlins; CSU – Colorado State University, Boris C. Kondratieff; CUAC – Clemson University, John C. Morse; DER – David E. Ruter personal collection; GWMP – George Washington Memorial Parkway, Brent Steury; INHS – Illinois Natural History Survey, H. H. Ross and Ed DeWalt; MCZ – Museum of Comparative Zoology, Phillip D. Perkins; NMNH – National Museum of Natural History, Oliver S. Flint, Jr.; ROM – Royal Ontario Museum, Glenn B. Wiggins; UT – University of Tennessee, David A. Etnier; VMNH – Virginia Museum of Natural History, Richard L. Hoffman; VPISU – Virginia Polytechnic Institute and State University, Charles R. Parker and J. Reese Voshell; WVU – West Virginia University, John S. Strazanac.

The names of species documented for Virginia for the first time are prefixed with an asterisk (*). The abbreviation “T.L.” refers to type locality; BLT and UV denote captures at blacklight traps and ultraviolet light, respectively.

Family Apataniidae

Genus *Apatania*

The genus is widely distributed across the Northern Hemisphere, with more than a dozen species known for North America. A second apataniid genus, *Manophylax*, will probably be found in the state as *M. altus* (Huryn & Wallace) is known from North Carolina and *M. butleri* Schuster from Kentucky, Tennessee, and West Virginia, adjacent Appalachian states.

Apatania incerta (Banks): The species is widely distributed throughout northeastern United States and adjacent Canada as far west as Minnesota and south to the southern Appalachians. In the state, it is known from only a few localities in the northern Piedmont west into the Alleghanies. Like the other eastern species, *A. incerta* is rarely taken because it flies very early in the year. Bath, Craig, Fauquier, Floyd, Giles, Highland, Montgomery, Patrick, Rappahannock cos., Mar - Jun.

Family Beraeidae

This rather small family of small caddisflies is found throughout the Northern Hemisphere. Three species of *Beraea* are known from eastern North America, distributed from Ontario to Georgia; at least one of them will almost certainly be found in the state. The larvae live in slow-flowing, muck-filled springs.

Family Brachycentridae

Genus *Adicrophleps*

The genus includes only a single species limited to eastern North America.

Adicrophleps hitchcocki Flint: The species has a restricted distribution in northeastern United States from Connecticut to Virginia. It has been taken several times in the Northern Blue Ridge in Virginia where it inhabits small montane streams. Albemarle, Bedford, Madison, Nelson, Rappahannock, Rockbridge cos., Apr- May.

Genus *Brachycentrus*

The genus is represented throughout the Northern Hemisphere by approximately 28 species, of which 14 are found in North America. Seven of these have been taken in Virginia. The following records include all data, adult and larval, in Flint (1984).

Brachycentrus appalachia Flint: The species is widely distributed along the Appalachian Mountains of eastern North America from southern Canada to northern Georgia. In Virginia it is known from the Blue Ridge and Alleghanian provinces. All of the records are based on larval collections made from August through October, with pupae taken in April. Adults should be in flight from late April through May. Alleghany, Bath, Highland, Madison, Smyth cos.

Brachycentrus incanus Hagen: This species is known from southern Ontario to northern Virginia. The type specimen of this species was taken in Washington, DC in the mid-1800s. In recent years, only *B. nigrosoma* has been taken along the Potomac River in the Washington area. However, *B. incanus* was found swarming around the Potomac at Point of Rocks, MD in 2004, permitting the assumption that the species surely occurs on the Virginia side of the river. The Virginia collections are old and taken near the Potomac River. [Fairfax Co.], Great Falls, 15 April [no year given], 1♂, 2♀ (MCZ); same, but 20 April [no year given], 1♂, 2♀ (MCZ).

Brachycentrus lateralis (Say): The species is known from scattered records from southeastern Canada south to South Carolina and as far west as Illinois. The Virginia records are from the northern Piedmont and montane provinces. Bath, Clarke, Fauquier, Floyd cos.,

Apr - May.

Brachycentrus nigrosoma (Banks): The distribution of this species is along the eastern side of the United States from Maine to Georgia. In Virginia it primarily occurs in the upper Piedmont with isolated populations in the Alleghanian Province. T.L. [Arlington Co.,] Glencarlyn, 25 April [no year given, of its synonym *B. notabulus* Milne, MCZ]. Arlington, Craig, Fairfax, Fauquier, Hanover, Isle of Wight, Loudoun, Spotsylvania cos., Apr - May.

Brachycentrus numerosus (Say): The species is widely distributed from central Manitoba south to Oklahoma and east to the Atlantic seaboard. In Virginia its distribution is spotty, but virtually covers the state west of the Fall Line. Carroll, Culpeper, Fauquier, Grayson, Hanover, Henrico, Louisa, Montgomery cos., Apr.

Brachycentrus solomoni Flint: This species and *B. appalachia* have nearly the same distribution, down through the Appalachians from southern Canada, but *B. solomoni* is only found as far south as central Virginia. In the state it has only been taken at a few sites in a small area of the central Alleghanian Province. Alleghany Co., Potts Creek, 3 mi SW Jordan Mines, 18 April 1980, many ♂ & ♀ (ROM). Bath Co., Jackson River, Hidden Valley bridge, 19 April 1980, 16♂, 1♀ (VPISU, NMNH); Blowing Springs Campground, 17 April 1968, 3♂, 8♀ (ROM). Craig Co., Potts Creek, Steel Bridge Campground, Rt. 18, 22 April 1979, 3♂, 4♀ (VPISU).

Brachycentrus spinae Ross: This is a species of southeastern United States, known from northern Georgia to central Virginia, where the few known localities are confined to the southern Blue Ridge Province. Amherst Co., Otter River, 10 September 1975, 1 larva (VPISU). Patrick Co., Rock Castle Creek, 15 March 1974, 1 larva, 1 pupa (VPISU). Washington Co., Laurel Creek, along US 58 ca. 2 mi E Damascus, 30 April 1994, ca. 50 ♂ & ♀ (VMNH).

Genus *Micrasema*

This is the largest genus in the family with approximately 50 species worldwide. It is also the most widely distributed, being found throughout the Northern Hemisphere from the Arctic into southeastern Asia as far as Borneo. The Virginia distributions cited herein

include unpublished larval and adult records from Chapin (1978).

Micrasema bennetti Ross: This is a species of eastern United States, with reports from northern Georgia to Kentucky and Virginia. In Virginia it is recorded from the Piedmont and westward in the Alleghanian Provinces. Craig, Fauquier, Hanover, Tazewell cos., Apr - May.

Micrasema burksi Ross & Unzicker: A species of restricted distribution in eastern United States, *M. burksi* is known from northern Georgia to central New York. The few Virginia localities are all in the Blue Ridge Province. Page Co., stream crossing Skyline Drive just S Naked Creek overlook, Shenandoah National Park, 8 May 1960, 27 pupae (ROM). Rockingham Co., Dry Run Falls, Shenandoah National Park, 26 May 1975, 11♂, 1♀ (NMNH). Smyth Co., Hurricane Creek, at Hurricane Campground, 16 May 2004, 1♂ (NMNH). [Precise locality unspecified], Shenandoah National Park, 19 April 1968, larvae & pupae (ROM).

Micrasema charonis Banks: Another species of eastern North America, this one is more widely distributed than any of the foregoing. It has been recorded from Newfoundland south to Alabama, and is known in Virginia primarily from the Blue Ridge and Alleghanian provinces. Bath, Grayson, Hanover, Lee, Rockbridge, Rockingham, Smyth, Washington cos., Apr - Jun.

Micrasema rusticum (Hagen): This species is very widely distributed in eastern North America from southern Canada south to Alabama and west to eastern Saskatchewan and Arkansas. In Virginia it is known from the Piedmont west to the Alleghanies. Appomattox, Augusta, Brunswick, Carroll, Dinwiddie, Giles, Hanover, Lee, Lunenburg, Montgomery, Rockbridge, Wythe cos., Apr - Oct.

Micrasema scotti Ross: This species has a rather restricted distribution in eastern United States from Virginia west to Indiana and Tennessee. The Virginia localities are all in the Alleghanian Province. Alleghany, Bath, Craig, Giles, Highland, Montgomery, Smyth, Tazewell, Wythe cos., Mar - Aug.

Micrasema sprulesi Ross: Another species limited to the Appalachian Mountains of eastern North

America, it occurs from southern Canada south to South Carolina. The few Virginia records are in the Alleghanian Province. Giles Co., spring stream along headwaters of Johns Creek, off Rt. 632, 20 May 1979, 1♂ (VPISU). Rockbridge Co., Guys Run off Rt. 39, Bratton Mountain, 3 May 1978, 2♂ (VPISU); same data, but 19 May 1978, 5♂ (VPISU); Guys Run, 5 km off Rt. 39, 6 June 1978, 1♂ (VPISU).

Micrasema wataga Ross: This is the most common species of the genus found in eastern North America. It is known from southern Canada south to Louisiana and west to Oklahoma and Saskatchewan. In Virginia, it has been taken from the Fall Line to the western border of the state. Bath, Caroline, Carroll, Craig, Culpeper, Dickenson, Fauquier, Floyd, Franklin, Giles, Grayson, Hanover, Henry, Louisa, Montgomery, Patrick, Pittsylvania, Pulaski, Rockbridge, Russell, Shenandoah, Smyth, Stafford, Washington cos., Apr - Sep.

Family Calamoceratidae

Genus *Anisocentropus*

This genus contains numerous species in Asia, especially the islands of Indonesia and Australia, with a few species in Africa and Madagascar. Only one species occurs in the New World, and it is found in Virginia.

Anisocentropus pyraloides (Walker): The species is limited to southeastern United States from Florida to Delaware, west to Mississippi. The Virginia records, both adult and larval, are primarily from the mountains and Piedmont. The adults are diurnal and rarely attracted to light traps. Botetourt, Chesterfield, Craig, Goochland, Louisa, Patrick, Prince William, Shenandoah, Sussex cos., May - Jul.

Genus *Heteroplectron*

The genus contains only two species, one distributed along the East Coast of North America, the other along the West Coast.

Heteroplectron americanum (Walker): It is distributed from Alabama to southern Quebec mostly in the coastal states. The few Virginia records are scattered across the state from the Coastal Plain to the western border. Carroll, Essex, Fauquier, Floyd, Franklin, Lee, Patrick, Washington cos, May-June.

Family Goeridae

Genus *Goera*

Species of this genus are found in Europe, North America, and Asia, especially in Southeast Asia and offshore islands, reaching as far afield as Fiji. A species found in southern Africa may also be congeneric.

Goera calcarata Banks: This common species is widely distributed in eastern North America from southern Canada to Alabama and to just west of the Appalachians. It is found over most of Virginia, being absent from the Coastal Plain and lower Piedmont and high elevations. Amherst, Augusta, Bath, Bland, Botetourt, Campbell, Carroll, Craig, Culpeper, Fauquier, Floyd, Franklin, Giles, Grayson, Henry, Highland, Lee, Montgomery, Nelson, Patrick, Pittsylvania, Rappahannock, Rockbridge, Russell, Scott, Shenandoah, Smyth, Tazewell, Washington, Wythe cos., May - Sep.

Goera fuscula Banks: The species is found from southern Canada to Georgia, almost exclusively along the Appalachian Mountains. In contrast to *G. calcarata*, its flight season is limited to spring. Bedford, Fauquier, Franklin, Frederick (larva), Grayson, Page (larva), Patrick, Rappahannock, Smyth, Tazewell, Washington cos., Apr - Jun.

Goera stylata Ross: This is the northernmost species of the three congeners found in the state, known from southern Canada to Virginia, west to Wisconsin. In our state it is generally found at high elevation or in cold spring-fed streams from the Blue Ridge, west. Augusta, Bath, Botetourt, Giles, Highland, Lee, Madison, Montgomery, Rockbridge, Smyth, Tazewell cos., May - Jun.

Genus *Goerita*

This small genus of three species is limited to the Appalachians of eastern North America, from New York to North Carolina/Tennessee. The genus was revised, with descriptions of both adults and larvae, by Parker (1998).

Goerita betteni Ross: This is the most widely distributed species in the genus, being recorded from New York to Tennessee and west to Ohio. Our few

records are from the Blue Ridge and Alleghanian provinces. Bath Co., wet rock face/spring, Richardson Gorge, Rt. 603, 0.5 mi downstream from Blowing Spring Rod & Gun Club, 20 May 2002, 10♂, 1♀, 29 larvae (DER). Dickenson Co., Breaks Interstate Park, Laurel Branch, 11 June 1979, 15♂, 1♀ (NMNH). Madison Co., Hogcamp Branch, Shenandoah National Park, 2250', 8 July 1973, 1♂, 1♀ (NMNH).

Goerita semata Ross: This species has a rather limited distribution in the Appalachian Mountains. It is known from North Carolina and Tennessee, with the one Virginia collection from the Blue Ridge. Patrick Co., Little Rock Castle Creek, Rt. 605 off Rt. 8, 13 May 1979, 2♂ (VPISU).

Family Helicopsychidae

Genus *Helicopsyche*

In addition to *Helicopsyche*, only a single monotypic genus from New Zealand is recognized in the family. *Helicopsyche* is a very large genus reported from all of the faunal regions of the world, but it is most diverse in the Tropics and on larger tropical islands. The larvae construct their cases from sand and silk in the form of a snail shell. Johanson (1998) in his phylogenetic analysis of the family recorded 176 described, extant species, and later (2002) redescribed and refigured 64 of the 72 New World species.

Helicopsyche borealis (Hagen): This species is very widely distributed in the New World, from southern Canada to at least Costa Rica, and from coast to coast. In Virginia it is abundant from the western Piedmont through the mountain counties, with several outliers along the Fall Line. Amherst, Augusta, Bath, Bedford, Bland, Campbell, Carroll, Clarke, Dickenson, Fairfax, Floyd, Giles, Hanover, Lee, Montgomery, Pittsylvania, Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Spotsylvania, Tazewell, Warren, Washington, Wythe cos., May - Oct.

Family Lepidostomatidae

Genus *Lepidostoma*

This is a large genus found, as presently defined, in all of the major faunal realms of the world except Australia, although it gets as close as Java in Indonesia. In his latest generic review of the family, Weaver (2002) recognized 350 extant species. Weaver (1988)

recognized 73 species in North America, and more have been described subsequently. The records cited herein include all of the adult records in Weaver (1988).

Lepidostoma americanum (Banks): This is primarily an eastern species, being recorded from southern Canada to Georgia, along the coastal states. The Virginia localities are in the upper Piedmont and Blue Ridge provinces. Fauquier, Floyd, Patrick, Rockbridge, Rockingham, Spotsylvania cos., and Falls Church City, Jun - Jul.

Lepidostoma bryanti (Banks): This is another predominantly eastern species, reported from Newfoundland to Georgia, and west to Minnesota. The species is only known from two regions in Virginia, one in the Blue Ridge Province, the other in the Alleghanian. Grayson Co., Fox Creek, 1.7 mi W Troutdale, 12 June 1979, 1♂ (NMNH). Patrick Co., confluence of Rock Castle Creek and Little Rock Castle Creek, off Rt. 8, Rt. 605, 31 May 1980, 4♂ (VPISU). Smyth Co., Big Laurel Creek, nr. Konnarock, Jefferson National Forest, 26-27 May 1979, 1♂ (VPISU). Tazewell Co., Burkes Garden, Station Spring, end of Rt. 666, 28 May 1992, 2♂, 4♀ (DER).

**Lepidostoma carrolli* Flint: This eastern species is recorded from Maine to South Carolina and west to Ohio. A fall-flying species, it is only known from the Coastal Plain in Virginia. Essex Co., 1 mi SE Dunnsville, 17 collections (all from Malaise traps) between 3 September and 19 November 1993-1996 (NMNH).

Lepidostoma griseum (Banks): This species is relatively common and widespread over eastern North America from southern Canada to Georgia and west to Wisconsin. The Virginia records are concentrated in the Piedmont and Blue Ridge provinces, with a few from the Alleghanian and one in the Coastal Plain. Bedford, Botetourt, Carroll, Craig, Essex, Floyd, Grayson, Highland, Madison, Montgomery, Page, Patrick, Prince William, Rappahannock, Shenandoah cos., Aug - Oct.

Lepidostoma latipenne (Banks): The records of this species are scattered along the Atlantic coastal states from southern Canada to Alabama. The Virginia records are from the Piedmont and Blue Ridge. Brunswick, Carroll, Charlotte, Giles, Page, Patrick, Rappahannock, Rockbridge cos., Jun - Sep.

Lepidostoma lydia Ross: Another Atlantic seaboard

species, this one has been recorded from Newfoundland to Georgia. It is only found in small streams in the mountains of Virginia in the Blue Ridge and Alleghanian provinces. T.L. - [Greene Co.] Lydia, Va. 20 April 1938 (INHS). Amherst, Augusta, Franklin, Grayson, Greene, Highland, Madison, Pulaski, Rappahannock, Rockingham, Smyth cos., Apr - Jun.

Lepidostoma mitchelli Flint & Wiggins: The species has a relatively restricted range in the Appalachians of North Carolina, Tennessee, and Virginia. The one Virginia record, northernmost known for the species, is from high elevation in the southern Blue Ridge. Grayson Co., Whitetop Creek, Forest Service Rd. 89, 13 August 1979, 1♂, 1♀ (VPISU).

Lepidostoma modestum (Banks): Records of this species are scattered along the Appalachian Mountains from Quebec to South Carolina. In Virginia, it has been collected only along the Blue Ridge in spring. Grayson Co., Fox Creek, 1.7 mi W Troutdale, 12 June 1979, 1♂ (NMNH). Rappahannock Co., Piney River, Shenandoah National Park, 1100', 28 May 1977, 1♂ (NMNH). Smyth Co., Hurricane Creek, at Hurricane Campground, 12 June 2002, 1♀ (NMNH); Big Laurel Creek, FS 828, 23 May 2005, 1♂, 1♀ (NMNH).

Lepidostoma ontario Ross: This, another eastern species, is taken in the mountains from Newfoundland to South Carolina. One of the Virginia localities is in the Blue Ridge, the other in the Alleghanian Province. Augusta Co., E side Great North Mountain, W Craigsville, 15 May 2000, 1♂ (NMNH); same, but 11 June 2001, 1♂ (WVU). Carroll Co.: Big Laurel Creek, Blue Ridge Parkway at Milepost 187.6, 7-8 June 2006, 1♂ (BLRI). Madison Co., White Oak Canyon, Shenandoah National Park, 27 May 1962, 2♂ (NMNH).

Lepidostoma pictile (Banks): The distribution of this species basically follows the mountains from Newfoundland to North Carolina. In Virginia it has been taken primarily in the Alleghanian Province. Augusta, Bath, Giles, Grayson, Montgomery, Rockbridge, Smyth cos., Apr - Jun.

Lepidostoma serratum Flint & Wiggins: This species is infrequently taken from Connecticut to Louisiana. It has been found in a small mountain stream (Moulton, 2007) and a spring run in the Blue Ridge. Grayson Co., spring run off Rt. 604, ca. 5.5 mi W Reavistown, 36°37.095' N, 81°02.448' W, 15 September 2005, 3♂ (UT). Patrick Co., Little Rock Castle Creek,

3 mi W Woolwine, 11 September 1996, 1♂, 1♀ (VMNH).

Lepidostoma sommermanae Ross: The species has been taken from southern Canada south to Virginia and west to Indiana. In Virginia it is known primarily from the Blue Ridge. Fairfax, Floyd, Giles, Grayson, Greene, Madison, Page, Patrick, Rappahannock, Smyth cos., and Galax City, May - Sep.

Lepidostoma tibiale (Carpenter): This is a species of the southeastern mountains from Alabama to Virginia, with Giles County representing the northernmost known limits. The three Coastal Plain sites are notably disjunct from the main part of the species' range in the state (Hoffman & Parker, 1997a). Bland, Carroll, Giles, Grayson, Greenville, Hanover, Montgomery, Nelson, Pulaski, Southampton cos., May - Oct.

Lepidostoma togatum (Hagen): This is the most widespread species of the genus in North America, being recorded from the Northwest Territories and Alberta, south to Arkansas and east to Newfoundland and Alabama. It is generally taken near larger rivers in Virginia from the Piedmont to the Alleghanies. Bath, Botetourt, Campbell, Carroll, Clarke, Fairfax, Floyd, Giles, Grayson, Hanover, Loudoun, Montgomery, Patrick, Pittsylvania, Pulaski, Shenandoah, Sussex, Warren, Washington, Wythe cos., and Radford City, May - Oct.

Lepidostoma vernale (Banks): The species is known from Newfoundland south to Virginia and west to Michigan. In Virginia it appears to be limited to the Blue Ridge and upper Piedmont. Fairfax, Fauquier, Madison, Patrick, Rappahannock cos., May.

Genus *Theliopsyche*

This is a small genus of six described species, all limited to the Appalachian Mountains, primarily in the southern half. They appear to breed in small spring runs.

Theliopsyche grisea (Hagen): This is a species of the Appalachian Mountains, known from New Hampshire to South Carolina. The only Virginia records are from the Blue Ridge and Alleghanian Provinces. Giles Co., spring seep and roadside ditch, Forest Service Rd. 734, 5 mi from Rt. 804, 16 July 1978, 1♂ (VPISU). Rockbridge Co., Beckney Hollow, bank vegetation, 27 June 1978, 1♂ (VPISU). Smyth Co.,

unnamed stream, N side White Top Mountain, Rt. 600, 10 August 1980, UV, 1♂ (CUAC).

Theliopsyche melas Edwards: The species had been known for certainty from Kentucky and Tennessee. This unique Virginia record is from the Alleghanian region. Giles Co., Big Stony Creek, 13 July 1977, BLT, 1♂ (VPISU).

Family Leptoceridae

Genus *Ceraclea*

This is a large genus of about 120 species placed in several subgenera. It is distributed around the Northern Hemisphere and south into southeastern Asia and Africa. In the New World about 35 species have been recorded. The larvae live in all sorts of aquatic habitats from small, cold streams to large rivers and lakes. They generally feed on detritus, but some are known to feed on freshwater sponges or snails.

Ceraclea ancyla (Vorhies): This species is widely distributed over eastern North America from Quebec to Alabama and west to North Dakota and Kansas. The five known Virginia localities are in the Piedmont and southern Alleghanies. Carroll, Culpeper, Pittsylvania, Russell, Smyth cos., May - Aug.

Ceraclea cancellata (Betten): This is a widespread and common eastern species, mostly east of the 100th Meridian, but reaching British Columbia in Canada and Montana in the United States. In spite of the recent recognition of a cryptic species, *C. enodis*, there is still a good deal of variation in the genitalia of both of these forms, suggesting that more cryptic species may yet be recognized. In Virginia it has been taken from the upper Coastal Plain west through the Alleghanian Highlands. All of the following records have been rechecked to verify their identity. Bath, Carroll, Giles, Grayson, Greenville, Hanover, Henry, Lee, Louisa, Montgomery, Shenandoah, Smyth, Sussex, Washington, Wythe cos., and Radford and Richmond cities, May - Sep.

Ceraclea diluta (Hagen): This is another widespread eastern species known from Newfoundland to Alabama and west to Manitoba and Kansas. In Virginia the records are rather erratic: most are from the Coastal Plain with two in the Alleghanies, skipping the Piedmont. Bath, Caroline, Giles, Greenville, Hanover, Middlesex, Sussex cos., May.

Ceraclea enodis Whitlock & Morse: This species was described only in the mid-1990s. It is very closely related to *C. cancellata*, distinguished by subtle differences in the male genitalia, and by its larvae being thought to feed on the freshwater sponge, *Anheteromeyenia ryderi* Potts. The material listed below agrees in the genitalic structures, but the larval food preferences are unknown. However, its abundance and widespread distribution from the Coastal Plain to the Alleghanies in Virginia suggest that sponge feeding may be only facultative and not obligatory. Botetourt, Carroll, Culpeper, Fairfax, Floyd, Franklin, Giles, Greenville, Halifax, Hanover, Isle of Wight, Loudoun, Louisa, Montgomery, Pittsylvania, Sussex, Warren cos., and Radford and Suffolk cities, May - Aug.

Ceraclea flava (Banks): The known distribution of this species extends from Ontario to Alabama, west to Minnesota and Texas. In Virginia, it has been taken primarily in the Coastal Plain and Piedmont with a few records into the Blue Ridge. Lectotype locality - Falls Church [MCZ, no further data]. Amherst, Carroll, Culpeper, Fairfax, Hanover, Louisa, Middlesex, Nelson, Spotsylvania cos., and Falls Church and Suffolk cities, Jun-Jul.

Ceraclea maculata (Banks): This is perhaps the most widespread species of the genus, having been recorded from coast to coast but absent from the Southwest and southern Rockies. In Virginia it is equally widespread from the Coastal Plain to the western border. Campbell, Caroline, Craig, Fairfax, Giles, Greenville, Hanover, King & Queen, Lancaster, Lee, Middlesex, Montgomery, Northumberland, Pittsylvania, Rockbridge, Southampton, Wise cos., and Chesapeake and Suffolk cities, May - Aug.

Ceraclea neffi (Resh): The species was described from the Piedmont of Virginia, and is still only known from a few more localities from the Piedmont to the Alleghanies. Otherwise it has been reported from Virginia south to Alabama and west to Kansas and Minnesota. T.L. - Fauquier Co., Broad Run, Thoroughfare Gap, Bull Run Mountains, larva 9 May 1972, emerged 24 June 1972 (INHS). Grayson Co., New River, bridge above Fries, 25 July 1975, 1♂ (VPISU). Montgomery Co., Hoot Owl Barn, VPI campus, 9 July 1976, 1♂ (VPISU). Radford [City], 24-30 June 1977, 1♂ (VPISU).

Ceraclea nepha Ross: The species has a rather wide distribution in eastern North America from Delaware to

Alabama and west to Minnesota and Oklahoma. The Virginia records are from the Coastal Plain and lower Piedmont. Dinwiddie, Greensville, Isle of Wight, King & Queen, Middlesex, Southampton, Surry, Sussex, Westmoreland cos., May - Aug.

Ceraclea ophioderus (Ross): This species has a restricted distribution from Virginia to Alabama and west to the Mississippi River. The Virginia localities are from the Coastal Plain and Piedmont. Brunswick, Dinwiddie, Greensville, Halifax, Isle of Wight cos., Jun - Aug.

Ceraclea protonepha Morse & Ross: The species has a distribution almost identical to *C. nepha*: Delaware to Florida, west to Kansas. The Virginia localities are limited to the Coastal Plain. OSF has taken this species always mixed with *nepha*, leading to the question of whether it is anything more than a variant. T.L. - Norfolk Co. [now Chesapeake City], along north edge of Lake Drummond, Dismal Swamp, 18 May 1963 (INHS). Dinwiddie, Greensville, Isle of Wight, King & Queen, Middlesex, Northumberland, Southampton, Surry, Sussex, Westmoreland cos., and Chesapeake City, May - Jun.

Ceraclea punctata (Banks): The records of this species range from Quebec to Virginia, and west to Wisconsin and Kansas. The Virginia records are on the Fall Line, separating the Coastal Plain from the Piedmont. Hanover Co., South Anna River, Rt. 657, 13 September 1977, 1♂ (VPISU). Louisa Co., South Anna River, Rt. 522, 19 July 1977, 1♂ (VPISU).

**Ceraclea resurgens* (Walker): The sole previous Virginia record of the species is a dot in Harris et al. (1991) in the outline of the state. S. C. Harris (pers. comm.) does not know the source of this record; it is possibly a *lapsus* occurring during preparation of the map. The species has recently been taken on the banks of the Potomac River in spring, finally verifying its occurrence in the state. Fairfax Co., Turkey Run Park, parking lot C-1, 38°57.9' N, 77°09.2' W, 5 May 2007, light trap, 1♂ (NMNH); same, but 19 May 2007, 1♂, 1♀ (NMNH); Fairfax Co., Great Falls Park, toilet area, 38°59.5' N, 77°15.2' W, 12 May 2007, 13♂, 8♀ (NMNH, GWMP); same, but quarry, 38°59.1' N, 77°14.8' W, 10-17 May 2007, Malaise trap, 1♂ (NMNH).

**Ceraclea ruthae* (Flint): This species is restricted to northeastern North America from Newfoundland to

Virginia. The record from North Carolina in Etnier et al. (1998) pertains to an undescribed species (J. C. Morse, pers. comm.), and the locality attributed to Virginia by Carnagey & Morse (2006) is, in fact, in Vermont. The single known Virginia record is in the Alleghenies, well to the south of the closest other records in northeastern and northwestern Pennsylvania. Highland Co., calcareous seepage swamp beside US 220, 2 km S Mustoe, 30 July 2003, 1♂ (VMNH).

Ceraclea slossonae (Banks): This is a widespread species of North America, from Quebec to Florida, primarily along the eastern seaboard, but also as far west as Mississippi. Most Virginia records are from the Piedmont, with a few from the Alleghenies. Bath, Campbell, Carroll, Culpeper, Grayson, Greensville, Hanover, Pittsylvania cos., Jun - Aug.

**Ceraclea spongillovorax* Resh: This seldom-collected species ranges from the Potomac River, MD/VA to Florida and west to Illinois and Kansas. In addition to the Piedmont site recorded below, larvae were taken in the Potomac River (all in Maryland) bordering Loudoun and Fairfax counties, Virginia, also in the Piedmont. Dinwiddie Co., Fort Pickett, jct. Lake and Pelham Roads, 2 August 1995, 3♂, 3♀ (VMNH).

Ceraclea tarsipunctata (Vorhies): This very widespread, abundant species, has been taken from coast to coast and from southern Canada to the Gulf, but seems to be missing from the Rocky Mountain region. It is equally widespread through all faunal provinces in Virginia. Accomack, Brunswick, Caroline, Charlotte, Craig, Culpeper, Dickenson, Dinwiddie, Essex, Fairfax, Fluvanna, Franklin, Giles, Greensville, Halifax, Hanover, Henry, Isle of Wight, Louisa, Mecklenburg, Montgomery, Northumberland, Pittsylvania, Prince Edward, Smyth, Southampton, Sussex, Washington cos., and Radford and Suffolk cities, May - Aug.

Ceraclea transversa (Hagen): Widespread in eastern North America from Newfoundland to Florida, it is found westward to the 100th Meridian and in the northern Great Plains to Montana and Saskatchewan. The Virginia records are scattered across the state from the Coastal Plain into the Alleghenies. Amherst, Augusta, Clarke, Dinwiddie, Giles, Greensville, Isle of Wight, King & Queen, Middlesex, Montgomery, Russell, Shenandoah, Smyth, Southampton, Sussex, Surry, Warren, Washington, Wythe cos., May - Sep.

**Ceraclea uvalo* (Ross): This species seems to have

a restricted range in northeastern North America: Quebec to Virginia along the coastal states. In Virginia, it is here reported from the northern Piedmont, and additional material has been taken along the Potomac River in Maryland adjacent to Fairfax Co. Clarke Co., Shenandoah River, Rt. 621, 5.6 km N Rt. 50, 16 September 2002, 1♂, 1♀ (NMNH).

Genus *Leptocerus*

Only a single species of the genus is known from North America, although well over 100 species are described worldwide. The genus is especially diverse in Africa and Asia.

Leptocerus americanus (Banks): It is widespread in eastern North America from southern Canada to the Gulf Coast and west to the 100th Meridian. Considering its widespread distribution, surprisingly few collections have been made in Virginia, and all are from the Coastal Plain. The larval host plant, *Ceratophyllum*, is widespread in the state, making its limited distribution even more puzzling. [Fairfax Co.], Mount Vernon, 27 June 1915, 1♂, 1♀ (NMNH). James City Co., Colonial National Historical Parkway, Jamestown Island at edge of marsh, E Visitor Center, 12 June 2001, 1♀ (VMNH). Middlesex Co., Dragon Run, Rt. 603, 10 June 2005, 1♀ (NMNH). [City of Chesapeake], Lake Drummond, Dismal Swamp, 8-9 June 1974, 4♀ (NMNH).

Genus *Mystacides*

This is a rather small genus of some 19 species. Their center of diversity is in eastern Asia, but species are found throughout the Northern Hemisphere. Three species occur in North America, only one of which is known from Virginia.

Mystacides sepulchralis (Walker): This species is very widespread in North America from the Atlantic to the Pacific and north to the Arctic, but is generally unrecorded from the Great Plains to the west coast in the United States, except for a record from California. In Virginia it has been taken from the Piedmont west through the Alleghanias. Bath, Bland, Botetourt, Caroline, Charlotte, Clarke, Craig, Culpeper, Dinwiddie, Fairfax, Fauquier, Floyd, Franklin, Frederick, Giles, Halifax, Hanover, Henrico, Lee, Lunenburg, Mecklenburg, Montgomery, Rappahannock, Rockbridge, Russell, Scott, Smyth, Warren, Wythe cos., and Radford City, May - Sep.

Genus *Nectopsyche*

This is a fairly large genus of approximately 60 species, exclusively of New World distribution. Its center of diversity is in the Neotropics, but about 15 species occur north of Mexico. Only four of these species have been recorded from Virginia.

**Nectopsyche albida* (Walker): Due to great similarity in structure of the male genitalia, several species in the genus are hard to separate on this basis. Color pattern of the hairs on the forewing is useful, but the pattern is soon lost in alcohol. The material recorded below was listed as *N. diarina* by Parker & Voshell (1981). The separation of *N. albida*, *N. diarina* Ross, and *N. spiloma* Ross, which all have the same clasper form, is very difficult, and the color pattern is lost on most alcoholic specimens. The series is clearly not *N. spiloma* which has very large eyes. Based on eye size (cf. Ross, 1944, figs. 759-761), they are *N. albida*. What little remains of the color pattern on one specimen is in complete accord with the pattern on pinned specimens from Quebec and Pennsylvania.

N. albida is known to range from Quebec west to Saskatchewan and south to Missouri and Pennsylvania. It has only been taken at one locality in the Piedmont in Virginia, which however represents a new southern range extension for the species. Louisa Co., South Anna River, Rt. 522, 19 July 1977, 4♂ (VPISU).

Nectopsyche candida (Hagen): This species is widely distributed over eastern North America from southern Canada south to the Gulf coast and west to the 100th Meridian and Montana. The rather few Virginia records are from the upper Coastal Plain and the Piedmont. Charlotte, Culpeper, Dinwiddie, Fairfax, Franklin, Greensville, Hanover, Montgomery, Pittsylvania, Southampton cos., May - Aug.

Nectopsyche exquisita (Walker): This very pretty species has a recorded distribution agreeing with that of *N. candida*. However, it is much more widely distributed in Virginia, being known from the Piedmont to the western border. Brunswick, Campbell, Caroline, Carroll/Grayson, Clarke, Culpeper, Dinwiddie, Fairfax, Floyd, Franklin, Giles, Grayson, Greensville, Hanover, Henry, Lee, Louisa, Mecklenburg, Montgomery, Patrick, Pittsylvania, Russell, Shenandoah, Warren, Washington cos., and Radford City, Jun - Sep.

Nectopsyche pavida (Hagen): The recorded distribution of this species is, again, almost like that of

N. candida, except that it occurs no farther west than Minnesota, and it ranges into Mexico. If the very closely related *N. muhni* Navás is shown to be a synonym, it would then extend south throughout Central and South America to Argentina. In Virginia, it is primarily a species of the Coastal Plain and Piedmont, with records from the southwestern corner of the state, the range thus skipping over the Blue Ridge and Alleghanian provinces. Bedford, Brunswick, Charlotte, Dinwiddie, Fairfax, Greensville, King & Queen, Lancaster, Lee, Louisa, Middlesex, Pittsylvania, Scott, Southampton cos., and Chesapeake City, Jun - Sep.

Genus *Oecetis*

This is a huge genus containing several hundred species found in all faunal realms, including many oceanic islands. Approximately 20 species are known from north of Mexico, eight of which have been taken in Virginia. The data below include larval records from Floyd (1995).

Oecetis avara (Banks): The species is widespread across North America from the Atlantic to the Pacific, and southern Canada to the Gulf and South America. It is widespread in Virginia from the Piedmont to the western border. Amherst, Bath, Bedford, Botetourt, Campbell, Caroline, Carroll, Clarke, Culpeper, Fairfax, Fauquier, Giles, Hanover, Lee, Montgomery, Rockbridge, Russell, Scott, Shenandoah, Warren, Washington, Wythe cos. and Radford and Virginia Beach cities, Jun - Sep.

Oecetis cinerascens (Hagen): The species is widespread in the United States and southern Canada, primarily east of the 100th Meridian, but extending westward in Canada to Alberta and south into northeastern Mexico. It is equally widespread in Virginia from the Coastal Plain to the western border. Amherst, Bedford, Campbell, Carroll, Culpeper, Dickenson, Dinwiddie, Fairfax, Franklin, Greensville, Halifax, Hanover, Isle of Wight, King & Queen, Lancaster, Louisa, Mecklenburg, Middlesex, Northampton, Prince William, Richmond, Shenandoah, Surry, Sussex, Warren, Westmoreland cos., and the cities of Chesapeake, Roanoke, Suffolk, and Virginia Beach, May - Oct.

Oecetis ditissa Ross: This species is limited to southeastern United States, from south of the Great Lakes west to the 100th Meridian. In Virginia this is a species primarily of the Coastal Plain, with one

record from the southwestern part of the state. Campbell, Greensville, Hanover, Henrico, Isle of Wight, Lee, Louisa, Mecklenburg, Pittsylvania, Richmond, Russell, Southampton cos., and Suffolk City, May - Aug.

Oecetis inconspicua (Walker): This is a very abundant species throughout the United States and Canada from coast to coast, and south into South America. It is equally widespread in Virginia from the Atlantic Ocean to the western border, collected from more counties (61) than any other caddisfly. Larval studies (Floyd 1995) indicate that this may be a complex of species without clear adult differences; if so, this might change the distributional pattern considerably. Accomack, Alleghany, Amherst, Augusta, Bedford, Brunswick, Campbell, Caroline, Carroll, Chesterfield, Clarke, Craig, Culpeper, Dickenson, Dinwiddie, Essex, Fairfax, Fauquier, Floyd, Franklin, Giles, Grayson, Greensville, Halifax, Hanover, Henrico, Henry, Isle of Wight, King & Queen, Lancaster, Lee, Louisa, Mecklenburg, Middlesex, Montgomery, Nelson, Northampton, Northumberland, Patrick, Pittsylvania, Prince George, Prince William, Pulaski, Richmond, Rockingham, Russell, Scott, Shenandoah, Smyth, Southampton, Spotsylvania, Stafford, Surry, Sussex, Tazewell, Warren, Washington, Westmoreland, Wise, Wythe, York cos., and the cities of Chesapeake, Norfolk, Radford, Roanoke, Suffolk, and Virginia Beach, May - Oct.

Oecetis nocturna Ross: This species has a distribution similar to its close relative, *O. ditissa*, except that it is found farther north into southern Canada. It is primarily a species of the Coastal Plain and the Piedmont with a few records from the Alleghanies. Brunswick, Campbell, Caroline, Carroll, Dinwiddie, Floyd, Giles, Greensville, Halifax, Hanover, Henrico, Isle of Wight, Louisa, Montgomery, Nelson, Northampton, Patrick, Pulaski, Rockbridge, Rockingham, Shenandoah, Southampton, Sussex, Warren cos., and Radford City, May - Sep.

Oecetis osteni Milne: This is a species found east of the 100th Meridian from southern Canada to the Gulf. It is a species of the Coastal Plain in Virginia. The species was listed from VA (Ross, 1944), but without specific locality; these are the first specific sites and dates. Greensville, Henrico, Lancaster, Lunenburg, Northumberland, Richmond, Southampton, Surry, Sussex, Westmoreland cos., and Chesapeake City, Jun - Oct.

Oecetis persimilis (Banks): Similar to the preceding species, this one is limited to eastern North America. However, it is widespread across Virginia. Amherst, Arlington, Bath, Bland, Brunswick, Campbell, Caroline, Carroll, Clarke, Culpeper, Dinwiddie, Fairfax, Franklin, Giles, Greensville, Hanover, King & Queen, Lancaster, Lee, Lunenburg, Middlesex, Montgomery, Northumberland, Page, Patrick, Pittsylvania, Richmond, Rockingham, Scott, Shenandoah, Smyth, Southampton, Sussex, Warren, Washington, Westmoreland, Wise, Wythe cos., and the cities of Radford, Richmond, and Roanoke, Jun - Oct.

Oecetis sphyra Ross: This is a species of the southeastern states from Virginia to Louisiana. Most Virginia localities are in the Piedmont. Brunswick, Campbell, Caroline, Dinwiddie, Franklin, Greensville, Halifax, Hanover, Louisa, Pittsylvania, Southampton cos., Jun - Sep.

Genus *Setodes*

The genus contains several hundred described species found in Europe, Africa, Asia, Australia, and North America, with its greatest diversity in Southeast Asia. Fewer than 10 species are known from North America, with only two taken in Virginia.

**Setodes guttatus* (Banks): This species is found along the eastern seaboard, from Quebec to Alabama. The single Virginia record is from the Alleghanian Region, where it occurred with many *S. incertus*. Botetourt Co., Craig Creek, Oriskany, 8 August 1998, 2♂, 4♀ (VMNH).

Setodes incertus (Walker): The species is widespread in eastern North America from southern Canada to Alabama primarily east of the Mississippi River, extending as far west as Minnesota in the north. In Virginia it has been taken from the Piedmont west through the Alleghanies. Bath, Bedford, Botetourt, Campbell, Carroll, Clarke, Fairfax, Floyd, Franklin, Giles, Lee, Montgomery, Patrick, Pittsylvania, Russell, Scott, Smyth, Warren, Washington, Wythe cos., Jun - Sep.

Genus *Triaenodes*

This is another large leptocerid genus with over 150 described species known from all faunal realms. As presently restricted, 23 species are known from North America, ten of which have now been taken in Virginia.

The data include the larval records from Glover (1996); however, he informs us (in litt.) that the records from Greene Co. actually should be Page Co., and those listed as Page Co. were from Rockingham Co.

**Triaenodes abus* Ross: There are records of this species scattered over eastern North America from southern Canada to the Gulf and west toward the 100th Meridian. Apparently the species is limited to the Coastal Plain in Virginia. Essex, Greensville, King & Queen, Isle of Wight, Southampton cos., May - Aug.

**Triaenodes dipsius* Ross: This seldom-collected species is known from southern Canada to Alabama and west to the 100th Meridian. The sole Virginia record is from the western Alleghanies. Bland Co., near Burkes Garden, 13 August 1972, 1♀ (NMNH).

Triaenodes flavescens Banks: This is basically an eastern species, from southern Canada to Florida west to the 100th Meridian, but with an anomalous larval record from British Columbia. Virginia records extend from the Coastal Plain to the western border. Bedford, Carroll/Floyd, Clarke, Dinwiddie, Fairfax, Floyd, Giles, Greensville, Isle of Wight, Montgomery, Page, Pittsylvania, Prince William, Pulaski, Rockingham, Russell, Shenandoah, Spotsylvania, Tazewell, Warren cos., and Radford City, May - Oct.

Triaenodes ignitus (Walker): This eastern species occurs primarily east of the Mississippi, from southern Canada to the Gulf, with a westward extension into Oklahoma. It is widespread in Virginia from the Chesapeake Bay to the western border. Alleghany, Bedford, Brunswick, Campbell, Caroline, Craig, Dinwiddie, Fairfax, Fauquier, Franklin, Greensville, Hanover, Mecklenburg, Middlesex, Montgomery, Northumberland, Page, Patrick, Pittsylvania, Prince William, Richmond, Russell, Smyth, Westmoreland cos., and Radford City, Jun - Sep.

Triaenodes injustus (Hagen): This is another eastern species found west to the 100th Meridian, but in southern Canada it reaches the west coast and is also known from Oregon. It has been taken throughout Virginia from Tidewater to the western border. Earlier records of *T. connatus* are included herein, as it is now considered synonymous (Manuel, 2008). Amherst, Bath, Bedford, Carroll, Clarke, Dinwiddie, Fairfax, Fauquier, Floyd, Franklin, Grayson, Greensville, Henry, Isle of Wight, King & Queen, Lee, Louisa, Montgomery, Page, Rappahannock, Rockingham,

Russell, Shenandoah, Warren, Washington, Wise, Wythe cos., and the cities of Radford, Suffolk, and Virginia Beach, Jun - Oct.

Triaenodes marginatus Sibley: This species is found east of the 100th Meridian from southern Canada to Alabama. The Virginia records are scattered across the state from the Chesapeake Bay to the western border. Augusta, Bath, Dinwiddie, Essex, Fairfax, Floyd, Henrico, King & Queen, Lancaster, Lee, Middlesex, Montgomery, Northumberland, Page, Smyth, Wise, York cos., May - Sep.

**Triaenodes ochraceus* Betten & Mosely: The distribution of this species is southern, from Delaware to Mississippi. It is found primarily on the Coastal Plain and lower Piedmont in Virginia. Fairfax, Greensville, King & Queen, Middlesex, Northumberland, Nottoway, Richmond, Southampton, Westmoreland cos., May - Jun.

Triaenodes pernus Ross: This is primarily a southeastern species with a few records from southern Quebec, south to the Gulf and west to Oklahoma and Texas. In Virginia it is most common on the Coastal Plain, but has been taken all the way to the southwestern corner of the state. Alleghany, Amherst, Bedford, Brunswick, Franklin, Greensville, King & Queen, Lancaster, Middlesex, Northumberland, Richmond, Rockingham, Scott, Smyth, Southampton, Washington cos., and Chesapeake City, May - Sep.

**Triaenodes taenia* Ross: This species has a very limited distribution in the southern Appalachians from Virginia to Alabama. One of the Virginia localities is from the northern Piedmont, the other four from the southwestern Blue Ridge. Fauquier Co., Catharpin Creek, Jackson Hollow, 25 July 1964, 2♀ (NMNH). Floyd Co., sedge meadow at jct US 221 and Rt. 762, 3 km W Willis, 17 June 2004, 1♂ (VMNH); same, but 22 June 2004, 1♂ (VMNH); confluence of streams feeding Mabry Millpond, Blue Ridge Parkway at Milepost 176.2, 19-20 July 2007, 1♂, 2♀ (BLRI). Patrick Co., Rock Castle Creek, 24 August 2006, 1♂, 1♀ (NMNH); Little Rock Castle Creek, upstream confluence with Rock Castle Creek, Blue Ridge Parkway, 18-19 July 2007, 1♂, 1♀ (BLRI).

**Triaenodes tardus* Milne: This transcontinental species is known from southern Canada to Florida, but is generally lacking from the Atlantic seaboard and the southwestern states. The few Virginia records are

scattered across the state from the Coastal Plain to the western Alleghanies. Accomack, Culpeper, Fairfax, Middlesex, Scott, Washington cos., May - Oct.

Family Limnephilidae

Genus *Anabolia*

In common with most limnephilid genera, this one is exclusively Northern Hemisphere in distribution - Europe, Asia, and North America. It contains almost 20 species of which five are known from North America, all from the northern and eastern sides of the continent.

Anabolia apora Parker: This species was described from west-central Virginia, and is still known only from that area. It is one of the few caddisflies known only from Virginia. T.L. - Montgomery Co., Blacksburg, 14 July 1964 (NMNH). Grayson Co., 5 mi W Troutdale on Rt. 603, Fox Creek headwaters, 11 June 1979, 1♂ (NMNH, paratype). Washington Co., Beartree Campground, 18 July 1979, 1♂ (NMNH, paratype).

The following females differ somewhat from typical *A. consocia* and being from the area of *A. apora*, they are probably this species, but lacking firm associations of the sexes the identification must be considered tentative. Smyth Co., Rt. 603, 1.5 mi E Rt. 600, at lighted church, 18 September 1988, 1♀ (NMNH). Tazewell Co., Burkes Garden, 17 August 1987, 2230 hrs, 1♀ (VMNH).

Anabolia consocia (Walker): This transcontinental species is very closely related to the preceding. It is recorded from Alaska to Quebec and south to Colorado and Virginia (there is an unsubstantiated record from North Carolina). Highland Co., Jackson River, jct US 220 and Rt. 606, 8 August 1978, BLT, 1♂ (VPISU).

The following specimen differs slightly from the females listed under *A. apora* and agrees more closely with other females of *A. consocia*. However, its identity is not absolutely certain. Bath Co., 5 mi off Rt. 39 on Rt. 611, Little Back Creek, 11 September 1979, 1♀ (NMNH).

Genus *Frenesia*

This genus contains only two species, both limited to eastern North America. They are the last species of the year to be found on the wing in Virginia. They have been taken on warm days in midwinter with snow on the ground.

Frenesia difficile (Walker): This species is reported from Newfoundland south to Virginia but only as far west as Ohio. The few Virginia records are from the Piedmont and Alleghanian regions. Arlington, Carroll, Floyd, Highland, Patrick cos., Nov - Jan.

Frenesia missa (Milne): The range of this species is much the same as the preceding, but has not been reported north of Quebec, and it extends farther westward into Arkansas and North Dakota. The Virginia records are from the upper Coastal Plain into the Blue Ridge. Culpeper, Fairfax, Fauquier, Floyd, Rappahannock, Smyth cos., Nov - Jan.

Genus *Hydatophylax*

This is a small genus of about 15 species, distributed across the Northern Hemisphere. Four species are known from North America, one along the West Coast, another in Alaska, and two in the East of which one enters our area.

Hydatophylax argus (Harris): This large and attractively-colored species has a wide range in the east from Newfoundland to Alabama and as far west as Minnesota. In Virginia we have records from the Coastal Plain to the western border. Appomattox, Bath, Bedford, Carroll, Floyd, Giles, Halifax, Isle of Wight, Montgomery, Nelson, Pittsylvania, Prince Edward, Richmond, Smyth, Spotsylvania cos., May - Jun.

Genus *Ironoquia*

This is a small genus of six described species, one of which is European, the other five are North American. One of these is limited to Nebraska, but there are records for the other four in the state.

**Ironoquia kaskaskia* Ross: The species has been recorded from Delaware to Alabama and west to Illinois. The Virginia records are primarily in the Coastal Plain, reaching into the Piedmont, with one record from the far southwest. Essex, Henrico, Isle of Wight, Louisa, Prince George, Prince William, Scott cos., and Suffolk City, Sep - Nov.

**Ironoquia lyrata* (Ross): This seldom-collected species has been recorded from Quebec to Virginia and west to Wisconsin. The single known VA locality is at the western foot of the Blue Ridge. Shenandoah Co., Strasburg, 21 September 1980, 4♂, 1♀ (NMNH).

Ironoquia parvula (Banks): The species usually inhabits temporary pools in northeastern North America. It is recorded from New Brunswick south to Virginia and west to Ohio. Roeding & Smock (1989) recorded the species from Surry Co., Buzzards Branch of Otterdam Swamp Creek, July 1984 - June 1985, larvae (material not retained). Smock further states (in litt.) that he has found this species a few other times at other similar sites; more precise documentation is desired.

Ironoquia punctatissima (Walker): This is the most widespread of the North American species of the genus: Nova Scotia to Florida and west to Arkansas and Minnesota. The Virginia records extend from the Coastal Plain to the western border. Accomack, Bath, Bedford, Charlotte, Clarke, Craig, Dinwiddie, Essex, Fairfax, Fauquier, Giles, Greensville, Halifax, Highland, Isle of Wight, Louisa, Montgomery, Nelson, Patrick, Prince George, Prince William, Russell, Scott, Shenandoah, Smyth, Surry, Tazewell, Washington cos., and Virginia Beach City, Sep - Nov.

Genus *Limnephilus*

This is one of the largest genera of caddisflies, with over 150 described species. They are found throughout the Holarctic Realm with a southward extension in North America along the high mountains of Mexico and Central America to Costa Rica. Almost 100 species are known from North America, but only three extend as far south as Virginia.

Limnephilus indivisus (Walker): This species is transcontinental in Canada, but only extends as far west as Utah and as far south as Virginia in the United States. The known sites in VA are all in the Alleghanian Province. Bath Co., Brown's Pond, ca. 2.5 mi N Fort Lewis, 18 September 1994, 1♀ (VMNH). Craig Co., Craig Creek, Rt. 613, 2.5 mi E Barbours Creek at shale barrens, 19 September 2000, 1♂ (VMNH). Montgomery Co., New River floodplain near McCoy Pond, many reared ♂ & ♀, larvae, March-April 1978 (VPISU). Russell Co., E of Mill Creek, 8 km WNW Lebanon, 11 September 1996, 1♂ (VMNH). Tazewell Co., Burkes Garden, Flatwoods site, 21 May 1988, 1♀ (VMNH); Burkes Garden, Station Spring, 18 May 2005, 1♂ (NMNH).

Limnephilus moestus Banks: The distribution of this species is almost the same as the previous:

transcontinental in Canada and as far west as Utah and south along the coast to North Carolina in the United States (Hoffman & Parker, 1997b). The species is known from two widely separated regions in Virginia: the Alleghanian Province and the lower Coastal Plain. Giles Co., North Fork Big Stony Creek, bogs off FS 10420, N Kire, 9 June 2004, 1♂ (VMNH). Isle of Wight Co., Blackwater Ecologic Preserve, ca. 4 mi S Zuni, 26 May 1995, 1♂ (VMNH). Chesapeake City, Lake Drummond, Dismal Swamp, 19 May 1963, 7♂ (INHS).

Limnephilus submonilifer Walker): This species has a distribution more restricted to the east, barely reaching the 100th Meridian, but extending south along the Atlantic to South Carolina (NMNH unpublished). Although most of the Virginia records are from the Coastal Plain and Piedmont, it does occur into the Alleghenies. Accomack, Arlington, Augusta, Bath, Clarke, Essex, Fairfax, Fauquier, Lancaster, Loudoun cos., and Norfolk and Virginia Beach cities, Apr - Oct.

Genus *Nemotaulius*

This is a rather small genus of Holarctic distribution, with most species in the east Palearctic area, but extending overall from Europe through North America. Only a single species is found in North America, but it does attain Virginia in the east.

Nemotaulius hostilis (Hagen): The species is transcontinental in the northern states and Canadian provinces, reaching as far south as Utah in the Rockies and Virginia in the east. It is only known from a single locality in the far western Alleghenies in Virginia (Roble & Flint, 2001). Highland Co., Buck Run Ponds, Locust Spring Recreation Area, 5 August 1999, 2♀ (VMNH); same, but 6 September 1976, 13 larvae (NMNH).

Genus *Platycentropus*

This small genus contains only three species, all limited to northeastern North America. In addition to the one species which is known from Virginia, it is possible that *P. amicus* (Hagen) might occur in the state as it is known from as far south as New Jersey.

Platycentropus radiatus (Say): This species is widespread in eastern North America from Newfoundland south to the Gulf coast, east of the Mississippi River, but extending westward in the

northern Great Plains to North Dakota and Manitoba. It is also widespread in Virginia, having been taken from the Coastal Plain to the western border. Allegheny, Augusta, Bath, Craig, Dickenson, Essex, Floyd, Giles, Greensville, Halifax, Highland, Isle of Wight, King & Queen, Louisa, Middlesex, Montgomery, Nelson, Patrick, Pittsylvania, Sussex, Westmoreland, Wise cos., and the cities of Chesapeake, Richmond, and Suffolk, May - Sep.

Genus *Pseudostenophylax*

This is a rather large and very diverse genus of around 75 species, centered in eastern Asia. Three species are known from North America, one on the West Coast, the other two in the East.

Pseudostenophylax sparsus (Banks): The species is limited to the Northeast, from Newfoundland to Virginia and west to Wisconsin. In Virginia it has been taken mostly in the northern Blue Ridge in and near Shenandoah National Park. Giles, Greene, Madison, Page, Rappahannock cos., May - Aug.

Pseudostenophylax uniformis (Betten): The distribution of this species is similar to the preceding: Quebec to North Carolina and west to Minnesota. It has been taken from the upper Piedmont west through the Alleghanian Provinces. Amherst, Bath, Bedford, Carroll, Floyd, Giles, Grayson, Patrick, Smyth, Washington cos., May - Jul.

Genus *Pycnopsyche*

This is a moderate-sized genus of not quite 20 species that is limited to North America, principally in the East. All of the Virginia records in the unpublished thesis of J. Wojtowicz (1982) are included below.

**Pycnopsyche circularis* (Provancher): This species is limited to northeastern North America from Nova Scotia to Tennessee and west to Wisconsin. The few Virginia records are from the Coastal Plain west into the Alleghenies. Augusta Co., Humpback Rocks Visitor Center, Blue Ridge Parkway, 16 September 1994, 1♂, 1♀ (VMNH). Bath Co., spring by Rt. 678, 0.75 mi N Fort Lewis, 23 June 2003, 1♂ (UT). Essex Co., 1 mi SE Dunnsville, 1-24 October 1994, 1♀ (NMNH); same, but 28 September-23 October 1995, 1♀ (NMNH). Giles Co., 4 mi NW Mountain Lake hotel, 2 September 1973, 1♂ (?VPISU). Louisa Co., 4 mi S Cuckoo, 7 October-4 November 1988, 1♂ (NMNH). Shenandoah Co.,

Strasburg, 21 September 1980, 2♂ (NMNH).

**Pycnopsyche conspersa* Banks: This species has a comparatively small range from Ontario to Virginia and Tennessee. The few known Virginia localities are all in the Alleghanian Province. It is the only *Pycnopsyche* species that commonly emerges in the spring. Bath Co., Gillets Run, 10 mi N Warm Springs, 17 July 1971, 1♂, 1♀ (NMNH); Blowing Springs Camp, 8 mi W Warm Springs, 18-20 May 1963, 1♂ (NMNH); same, but 10 September 1979, 1♂ (?VPISU); confluence of Cummings Run and Back Creek, 29-30 August 1973, 1♂ (?VPISU); spring at Rt. 678, 0.75 mi N Fort Lewis, 23 June 2002, 1♂ (UT). Highland Co., calcareous swamp beside US 220, 1.8 mi S Mustoe, 2350', 30-31 July 2003, 6♂, 4♀ (VMNH); 1 mi N Williamsville, Rt. 678, 3 May 1981, 1♂, 1♀ (?VPISU). Smyth Co., South Holston River at Rt. 670, Appalachian Trail foot bridge, W Sugar Grove, 13 June 1996, 1♂ (VMNH).

Pycnopsyche divergens (Walker): The species is recorded from Nova Scotia to North Carolina and west to Ohio. All of the Virginia records are from the Alleghanian and southern Blue Ridge provinces. Bath, Carroll, Grayson, Highland, Smyth, Tazewell, Wythe cos., Aug - Oct.

Pycnopsyche flavata (Banks): This species has one of the smallest ranges of any in the genus: Georgia to Virginia. All of the Virginia localities are in the southern Blue Ridge, with Rock Castle Creek in Patrick County apparently the northernmost. In addition to the usual fall flight season, this caddisfly frequently has been taken in the spring. Carroll, Floyd, Grayson, Patrick, Smyth, Washington cos., Jun - Sep.

Pycnopsyche gentilis (McLachlan): This species is widespread in the east from Newfoundland to Alabama and west to Ohio. It is also widespread in Virginia from the Fall Line to the western border with a single, disjunct, Coastal Plain record in Essex County. Amherst, Augusta, Bath, Bedford, Botetourt, Essex, Fairfax, Fauquier, Franklin, Giles, Greene, Grayson, Highland, Louisa, Madison, Montgomery, Nelson, Page, Patrick, Prince William, Rappahannock, Rockbridge, Rockingham, Smyth, Tazewell, Wythe cos., Jul - Oct.

Pycnopsyche guttifer (Walker): This is one of the more widely distributed species of the genus: Labrador to Florida, west to Colorado and Alberta. The Virginia records are scattered from the Piedmont through the

Alleghanian Provinces. Bath, Craig, Fauquier, Floyd, Montgomery, Patrick, Prince William, Shenandoah, Smyth, Washington, Wythe cos., Sep - Oct.

Pycnopsyche indiana Ross: This species has been recorded from New York to Florida and west to Louisiana and Illinois. The Virginia records are mostly in the Piedmont, with one from the Alleghanies. The separation of this and *P. lepida* is often difficult and identifications could be erroneous, assuming the two species are distinct. Augusta, Bedford, Campbell, Dinwiddie, Greensville, Isle of Wight, Louisa cos., Sep - Oct.

Pycnopsyche lepida (Hagen): The species is widespread in eastern North America from Newfoundland to Alabama and west to the 100th Meridian. In Virginia records are scattered through the Alleghanies and northern Piedmont, with a disjunct site in the Coastal Plain. Amherst, Bath, Bedford, Craig, Fauquier, Floyd, Middlesex, Russell, Smyth, Tazewell, Washington cos., Sep.

Pycnopsyche luculenta (Betten): The species is widespread east of the Mississippi River, from southern Canada to Alabama. It is widespread in Virginia in small, fast-flowing, rocky streams from the Piedmont to the western border, with a single disjunct Coastal Plain site. Bedford, Botetourt, Carroll, Floyd, Franklin, Giles, Grayson, Highland, Louisa, Madison, Montgomery, Prince William, Rockbridge, Rockingham, Scott, Shenandoah, Smyth, Surry, Tazewell, Wythe cos., Aug - Oct.

**Pycnopsyche pani* Wojtowicz & Flint. This recently described species occurs almost exclusively in Virginia (Wojtowicz & Flint, 2007). One population is known from northern North Carolina, in addition to many in Virginia, all from localities in Blue Ridge and Alleghanian counties to the west. The type locality is Botetourt Co., McFalls Creek, Rt. 618, 19 September 1963 (NMNH). Amherst, Bath, Botetourt, Carroll, Giles, Floyd, Grayson, Madison, Page, Patrick, Smyth cos., Aug - Sep.

Pycnopsyche scabripennis (Rambur): This is a rather variable species as currently recognized and may represent a complex of species. In the broad sense (but recognizing *P. conspersa*), it is recorded from Newfoundland south to Florida and west to the Mississippi River. It is found in all regions of Virginia, including the Eastern Shore, but taken rather

infrequently on the Coastal Plain. Accomack, Alleghany, Bath, Bedford, Botetourt, Carroll, Craig, Dinwiddie, Essex, Fairfax, Floyd, Giles, Grayson, Halifax, Highland, Isle of Wight, Lancaster, Lee, Louisa, Montgomery, Nelson, Patrick, Pittsylvania, Prince William, Rockbridge, Russell, Scott, Shenandoah, Smyth, Surry, Tazewell, Wythe cos., Jul - Nov.

**Pycnopsyche subfasciata* (Say): This is another widely distributed species in North America, being known from southern Canada south to Georgia and west to the 100th Meridian, although in the northern Great Plains it gets as far west as Colorado and Alberta. It has a spotty distribution in Virginia, generally being taken from larger rivers in the Piedmont. Appomattox, Botetourt, Campbell, Clarke, Fairfax, Lee, Rockingham, Shenandoah, Warren cos., Sep - Oct.

Pycnopsyche virginica (Banks): This is a rather scarce, rarely taken, and very distinctive species of *Pycnopsyche*. Its distribution is limited to Virginia south to Alabama and west to Tennessee (NMNH, unpublished). In Virginia it has been taken only on the Coastal Plain in the vicinity of small, spring-fed streams. T.L.—Richmond [City] [MCZ, no further data]. Essex, Greenville, Halifax, Isle of Wight, Louisa cos., and Richmond and Suffolk cities, Jun, Sep - Nov.

Family Molannidae

Genus *Molanna*

The genus *Molanna* is one of the Northern Hemisphere, and contains approximately 15 species, six of which are found in North America. Their larvae make very distinctive, flat cases of sand that have large lateral flanges.

Molanna blenda Sibley: This species is widespread in eastern North America from Newfoundland to Alabama and west to Arkansas and Minnesota. It is widespread in Virginia, being recorded in general from the Coastal Plain west through the Alleghanian Region. Amherst, Augusta, Bath, Bedford, Carroll, Essex, Fairfax, Fauquier, Floyd, Franklin, Giles, Greenville, King & Queen, Lee, Louisa, Madison, Nelson, Page, Patrick, Prince William, Rockbridge, Wise cos., May - Sep.

**Molanna tryphena* Betten: This species is limited to east of the Mississippi River from Quebec to

Alabama. It is known from one drainage in Virginia, Dragon Run on the Coastal Plain. King & Queen Co., Dragon Run Swamp, Big Island, 22 May 2002, 3♂ (CSU). Middlesex Co., Dragon Run, Rt. 603, 16 September 2004, 1♀ (NMNH); same, but 10 June 2005, 5♀ (NMNH).

Molanna ulmerina Navás: This eastern species is generally found east of the Mississippi River, with an extension into Arkansas, from southern Canada to Florida. It is widespread in Virginia from the Coastal Plain into the Alleghanies. Bedford, Charlotte, Clarke, Fairfax, Grayson, Isle of Wight, Montgomery, Patrick, Rockingham, Russell, Shenandoah, Southampton, Spotsylvania, Sussex, Warren cos., May - Sep.

Molanna uniophila Vorhies: This species has a somewhat more northerly distribution than the other Virginian *Molanna* species. It is recorded from Newfoundland south to North Carolina, west to Arkansas and Manitoba. It has only been taken in the Great Dismal Swamp area of Virginia. Chesapeake City, 7 mi SE Suffolk, Lake Drummond, 17 July 1964, 2♂, 14♀ (NMNH); same, but 6-7 July 1962, 13♂, 4♀ (NMNH); same, but 8-9 June 1974, 26♂, 7♀ (NMNH); same, but 31 August 1962, 1♂ (NMNH); same, but 27 September 1959, 1♂ (VPISU); Dismal Swamp, Feeder Ditch, 16 June 1973, 4♂, 7♀ (NMNH, VPISU). Suffolk City, Great Dismal Swamp National Wildlife Refuge, West Ditch, 16 May 1998, 2♂ (VMNH).

Family Odontoceridae

Genus *Psilotreta*

The genus *Psilotreta* is known from eastern North America and eastern Asia and includes about 25 species. Four of the six North American species are known from Virginia. Parker & Wiggins (1987) revised the genus, describing all stages of the North American species, and what was available of the Asian species. The Virginia records in this work are included below.

Psilotreta frontalis Banks: This species ranges along the Atlantic Coast from Quebec to northern Florida, mostly in the mountains. In Virginia it is found from the upper Piedmont through the Alleghanies. Bath, Bland, Carroll, Fairfax, Fauquier, Floyd, Franklin, Frederick, Giles, Grayson, Greene, Louisa, Patrick, Rockbridge, Smyth, Spotsylvania, Tazewell cos., May - Jun.

Psilotreta labida Ross: The range of this species is similar to the preceding, but it only extends into northern New England and south to northern Georgia. In Virginia it has been taken primarily from the Blue Ridge and west, with two anomalous records from the Coastal Plain and Piedmont. The Henrico Co., Curles Neck Bridge paratype has been reexamined (E. Dewalt, pers. comm.) and found to be correctly determined; either the specimen has been mislabeled or perhaps was floated down river on some debris. Augusta, Bath, Bedford, Bland, Craig, Giles, Goochland, Henrico, Highland, Madison, Montgomery, Nelson, Page, Patrick, Rappahannock, Rockbridge, Russell, Shenandoah, Smyth, Tazewell, Wythe cos., Mar - Jun, Aug.

Psilotreta rossi Wallace: This species has a range restricted to the mountains of North Carolina, Tennessee, Virginia, and West Virginia. It has only been taken in small spring runs in the Blue Ridge and Alleghenies in Virginia. Giles Co., spring seep, Forest Service Road 734, 5 mi from Rt. 804, off Rt. 635, nr. Interior, 15 July 1978, 1♂ (VPISU). Grayson Co., headwater tributaries of Lewis Fork, off Rt. 603, 20 June 1981, 4♂ (ROM); spring seep, bog along Forest Service Road 89, 13 August 1979, 1♂, 2♀ (VPISU). Shenandoah Co., springs, Little Sluice Mountain Trail, nr. Liberty Furnace, 21 July 1974, 1♂ (NMNH); same, but 27 October 1974, 4 larvae (NMNH).

Psilotreta rufa (Hagen): This species is known from upstate New York south and west to northern Georgia and Mississippi. Most Virginia records are from the Blue Ridge, with others scattered from the upper Piedmont into the Alleghenies. Albemarle, Augusta, Franklin, Greene, Rappahannock, Shenandoah, Tazewell cos., Apr - Jul.

Family Phryganeidae

Genus *Agrypnia*

The genus, and many of its species, is of Holarctic distribution. Of the 18 known species, 11 are found in North America, with four of these also known from Europe or Asia. Wiggins (1998) completely revised the entire family, describing all stages when known. All records, adult and larval, in this work for this and the other confamilial genera are included below.

Agrypnia vestita (Walker): The species is widespread in eastern North America from Hudson

Bay south to Florida and west to the 100th Meridian, with scattered populations across the northern United States and Canada to the Pacific. It has been found across Virginia from the Delmarva Peninsula to the far southwest. Accomack, Augusta, Bath, Bedford, Brunswick, Chesterfield, Essex, Giles, Isle of Wight, Louisa, Montgomery, Northampton, Northumberland, Nottoway, Page, Prince William, Russell, Scott, Smyth, Southampton, Sussex, Westmoreland cos., and Suffolk and Virginia Beach cities, May - Oct.

Genus *Banksiola*

This genus of five species is exclusively North American in distribution. Although only one species has been taken in the state, it is quite possible that three more, *B. concatenata* (Walker), *B. crotchii* Banks, and *B. smithi* (Banks), may occur here on the Coastal Plain.

Banksiola dossuaria (Say): This species is found widely in eastern North America from Labrador south to northwestern South Carolina, and west to Minnesota. In Virginia it has been taken only from sites above 3000 feet (914 m) in the Alleghanian Province. Alleghany, Bath, Craig, Dickenson, Giles, Highland, Smyth, Wise cos., May - Jul.

Genus *Oligostomis*

Oligostomis is a genus of five species, one European, another Chinese, one Japanese and two eastern North American. One of these species has now been taken in Virginia, and the second, *O. ocelligera* (Walker), may eventually be found in a boggy area in the western part of the state.

**Oligostomis pardalis* (Walker): Records of this species are scattered across southern Canada and the northern United States from western Ontario to Newfoundland, with a few scattered collections in the Appalachian Mountains as far south as western North Carolina and eastern Tennessee. In addition to a single adult specimen, there are two larvae of the genus, probably this species, from nearby localities in the Alleghanian region of Virginia. Giles Co., bogs at head of North Fork Stony Creek, off FS 10420, N Kire, 10 June - 2 July 2004, 1♂ (VMNH); White Pine Lodge Reach, Little Stony [Creek], *Rhododendron* leaf packs, 19 July 1978, 1 small (1st or 2nd instar) larva (VPISU); same, but birch leaf packs, 16 August 1978, 1 larger larva (3rd or 4th instar) (VPISU).

Genus *Phryganea*

This is another genus found across northern Europe, Asia, and North America. Of the eight known species, two are common in North America. The second North American species, *P. cinerea* Walker, is found north of the range of our species.

Phryganea sayi Milne: The known range of this species is from southern Canada south to northern Alabama, and west to northern Texas and eastern North Dakota. It is most common on the Coastal Plain and Piedmont in Virginia, but scattered records exist from the far southwest of the state. Albemarle, Amherst, Augusta, Bedford, Brunswick, Campbell, Carroll, Charlotte, Dinwiddie, Essex, Fairfax, Floyd, Franklin, Greensville, Halifax, Hanover, Isle of Wight, Lancaster, Loudoun, Louisa, Mecklenburg, Montgomery, Nottoway, Northumberland, Patrick, Pittsylvania, Richmond, Russell, Stafford, Tazewell, Westmoreland, Wise, York cos., and Suffolk City, May - Sep.

Genus *Ptilostomis*

Ptilostomis is a rather small genus of four species, limited, primarily, to eastern North America. Three of the four species are known from Virginia, and the fourth, *P. angustipennis* (Hagen), is known from as close as southern New Jersey.

Ptilostomis ocellifera (Walker): This species is common in eastern North America, from Newfoundland south to the Gulf, west almost to the 100th Meridian, and with a western population from central California north to the Arctic Circle in Alaska. It has been taken across the entire state. Augusta, Bedford, Botetourt, Campbell, Carroll, Charlotte, Essex, Fairfax, Floyd, Giles, Highland, King William, Lancaster, Loudoun, Louisa, Montgomery, Nelson, Nottoway, Patrick, Pittsylvania, Prince William, Rockbridge, Rockingham, Scott, Stafford, Surry, Washington, Westmoreland, Wise cos., and the cities of Chesapeake, Falls Church, Franklin, and Suffolk, May - Aug.

Ptilostomis postica (Walker): This species has a range limited to the East, from southern Quebec to Florida, west to Oklahoma and Manitoba. In Virginia it is found in the Coastal Plain and Piedmont with a few records from the Alleghenies. Accomack, Arlington, Caroline, Dinwiddie, Essex, Greensville, Isle of Wight, King George, Loudoun, Louisa, Middlesex, Montgomery, Southampton, Sussex cos., and Norfolk

and Suffolk cities, May - Oct.

Ptilostomis semifasciata (Say): The distribution of this species is transcontinental in Canada, but in the United States it is found north of the Virginia-North Carolina line west to CO, WY, and MT with a single record in central Texas. The few Virginia records are from the upper Piedmont and Alleghanian provinces. Augusta, Carroll, Giles, Montgomery, Pittsylvania cos., Jul - Aug.

Family Sericostomatidae

Genus *Agarodes*

This genus is found only in eastern North America. Some 12-15 species have been described, many of limited distribution in the southeastern states. Two species are known from the state, but two others, *A. crassicornis* (Walker) and *A. distinctus* Ulmer, may be found with more collecting.

Agarodes griseus Banks: This species is reported from Quebec south to Alabama and Georgia, but only in the coastal states. The Virginia records are from the Coastal Plain west to the Blue Ridge provinces. Carroll, Essex, Fairfax, Floyd, Franklin, Greensville, King & Queen, Patrick, Pittsylvania cos., May - Jun.

Agarodes libalis Ross: This is another coastal species recorded from Louisiana to Delaware. The two known Virginia localities are in the Coastal Plain. Some of the larvae from the Surry Co. site were reared to adulthood to confirm their identity (L. Smock, pers. comm.). Northumberland Co., Bush Mill Stream, Rt. 601, S. Heathsville, 14 June 2005, 5♂, 13♀ (NMNH). Surry Co., Buzzards Branch of Otterdam Swamp Creek, July 1984 - June 1985, larvae (material not retained).

Genus *Fattigia*

This is a monotypic genus found in the southeastern United States.

Fattigia pele (Ross): This species is found in the Appalachian Mountains from Georgia north into Virginia as far as Page and Rappahannock counties. Our records are all from the Blue Ridge except for a single capture site in the Alleghenies. Bedford, Carroll, Floyd, Giles, Grayson, Madison, Patrick, Rappahannock, Rockbridge, Smyth cos., May-Jul.

Family Uenoidae

Genus *Neophylax*

This genus is found in eastern Asia and across North America, with 22 of the 32 described species present in North America. The recent revision of the genus by Vineyard et al. (2005) treats the world fauna, fully describing the adults and larvae of the North American species. Their records from Virginia are included herein.

**Neophylax acutus* Vineyard & Wiggins: This species had previously been known only from eastern Tennessee and adjacent Alabama and Kentucky. The two localities for Virginia are in the far southwestern corner, close to the known range. Lee Co., Sims Spring Run, Rt. 662, 11.5 air km SW Jonesville, 17 October 2003, 2♀ (NMNH); Wallen Creek, Rt. 665, mile 2.1, 19 June 2007, 4 prepupae (UT, NMNH).

Neophylax aniqua Ross: This species ranges across southern Canada from the western Great Lakes to Newfoundland, and then south along the backbone of the Appalachians into North Carolina and Tennessee. In Virginia it is limited to the Alleghanian Province. Augusta, Bath, Giles, Highland, Rockingham, Wythe cos., Sep - Oct; larvae, Apr - Jul.

Neophylax concinnus McLachlan: This, the type species of the genus, is widely distributed in eastern North America, east of the 100th Meridian, from Minnesota to Maine and south to Arkansas and Alabama. The Virginia records are from the Blue Ridge and Alleghanian provinces. Augusta, Botetourt, Craig, Fairfax, Fauquier, Giles, Montgomery, Page, Pulaski, Rappahannock, Rockbridge, Smyth, Warren, Wythe cos., Sep - Oct.

Neophylax consimilis Betten: This species is fairly restricted in eastern North America to a narrow band from Nova Scotia south along the Appalachians to northern Georgia. It is found along the Blue Ridge and adjacent areas in Virginia. Botetourt, Carroll, Grayson, Highland, Nelson, Page, Rappahannock, Rockbridge, Smyth, Tazewell cos., Aug - Oct.

**Neophylax etnieri* Vineyard & Wiggins: Previously, *N. etnieri* has only been reported from northeastern Tennessee. The following two records extend its known range considerably to the northeast into the Alleghanian area of southwestern Virginia.

Lee Co., Sims Spring Run, Rt.662, 11.5 air km SW Jonesville, 17 October 2003, 10♀ (NMNH); same, but 21 September 1995, ♂ & ♀ metamorphotypes (UT). Washington Co., Spring Creek, Rt. 611, 1.2 mi N I-81 exit 13, 9 April 2003, 9 larvae (UT).

Neophylax fuscus Banks: The scattered records of this species show a distribution almost as large as that of *N. concinnus*: eastern North America from Minnesota to Nova Scotia, south to Missouri and northern Alabama. The Virginia records are from the Blue Ridge west through the Alleghenies. In contrast to most species of the genus, it prefers larger, warmer, lowland streams in these regions. Fairfax, Giles, Highland, Montgomery, Page, Pulaski, Rappahannock, Wythe cos., Sep - Nov.

Neophylax mitchelli Carpenter: The distribution of this species is much like that of several other congeners: fairly broad across southern Canada and the northeastern states (from eastern Ontario to Nova Scotia) becoming more restricted to a narrow band along the eastern Appalachians, south to northern Georgia and Alabama. The Virginia records are mostly concentrated along the higher elevations of the Blue Ridge with the exception of one anomalous record from the margins of the Potomac River in Fairfax County. Albemarle, Carroll, Fairfax, Fauquier, Grayson, Greene, Henry, Madison, Rappahannock, Rockbridge, Rockingham, Smyth cos., Sep - Oct.

Neophylax oligius Ross: The distribution pattern of this species is generally similar to the preceding, but is broader and not so closely restricted to higher elevations. It is known from Minnesota to Newfoundland and south into Alabama. In Virginia it has been taken in the Piedmont and Blue Ridge. Arlington, Fairfax, Fauquier, Grayson, Hanover, Louisa, Prince William cos., Sep - Oct.

Neophylax ornatus Banks: This very attractive species is known from Newfoundland and southern Ontario, south to northern Alabama all along the eastern Appalachians. The few Virginia records are from the Blue Ridge, generally at higher elevations. Amherst, Grayson, Madison, Nelson, Patrick cos., Jul -Sep.

Neophylax stolus Ross: This is a species of restricted distribution. It is recorded from west-central Virginia and adjacent West Virginia and Pennsylvania. There is a single specimen from western Massachusetts in the NMNH. In Virginia it has been taken at lower

elevations in the upper Piedmont west into the Alleghanian Province. T.L. - [Highland Co.], Monterey, 28 September 1938 (INHS). Alleghany, Bath, Bedford, Craig, Fauquier, Giles, Highland, Montgomery, Smyth, Wythe cos., Jul - Oct.

Neophylax toshioi Vineyard & Wiggins: This species, occurring in moderate-sized, warmer streams, has a very limited distribution in west-central Virginia. T.L. - Wythe Co., Reed Creek, 5.3 km N I-81, Rt. 680, 20 October 1984 (ROM). Russell Co., Mill Creek, 1.25 mi E Carbo, 11 September 1996, 2♂ (VMNH, NMNH); Weaver Creek at Artrip Road, 20 June 2007, 4 larvae (UT, NMNH). Smyth Co., Snider Branch, Rt. 689 & 617, 6 air km NE Marion, 15-16 October 2003, 4♂, 3♀ (NMNH); North Fork Holston River, Rt. 622, Nebo, 27 September 2005, 3♂, 11♀ (NMNH). Tazewell Co., west end Burkes Garden, Station Spring Creek (MBC ranch), 19 September 1987, 1♂, 1♀ (VMNH). Wythe Co., same data as holotype, but 10 October 1987, ♂, ♀ (ROM); same, but 28 October 2002, 1♀ (NMNH); same, but 29 September 2005, 1♀ (NMNH); Rt. 680, 0.5 road mile above I-81 exit 60, E Marion, 9 April 2003, prepupae (UT); Reed Creek, Rt. 11, 1.8 mi W Wytheville, 4 October 1967, 1♂, 2♀ metamorphotypes (ROM); Reed Creek, bridge on US 11, W Wytheville, 18 November 1974, 1♀ (VPISU).

**Neophylax wigginsii* Sykora & Weaver: This species has been recorded only from southwestern Pennsylvania and southeastern Ohio, south to southeastern Kentucky. These, the first records from Virginia, are from the higher Alleghanies. Augusta Co., Shenandoah Mountain, Forest Service Rt. 85, 1 mi S Briery Branch Overlook, 4000', northern hardwoods, 22 October 2001, 1♂ (VMNH). Bath Co., Warm Springs Mountain, 2 km SE Hot Springs, 20 September 1999, 1♂ (VMNH); Big Little Creek [sic., Little Back Creek?], Rt. 601, 4 mi W jct Rt. 39, 11 September 1979, 1♀ (VPISU). Scott Co., Gladly Fork wetland, end of Forest Service 2575, Jefferson National Forest, 22 September 1993, 2♂ (VMNH, NMNH). Wise Co., High Knob Lake, Jefferson National Forest, 22 September 1993, 1♂, 1♀ (VMNH).

**Neophylax* n. sp.: This species, currently being studied and described, is only known from a few localities on larger rivers in the Piedmont of northern Virginia. Fairfax, Shenandoah, Warren cos., and Fredericksburg City, Oct.

CHANGES TO THE LIST OF TRICHOPTERA OF VIRGINIA, PART I

The following removal of one species from the total accounted in our previous listing (Flint et al., 2004) and the addition of four species recently collected in the state brings the total known fauna for the families of Annulipalpia and Spicpalpia to 206.

Culoptila cantha (Ross): This species was recorded on the basis of a single collection from Floyd Co. Blahnik & Holzenthal (2006) have recently revised the genus *Culoptila* and recognized the eastern material as a new species *C. plummerensis*. Thus *C. cantha* should be removed from the state list and *C. plummerensis* Blahnik & Holzenthal substituted. Additional collections have recently been made: Carroll Co., Big Reed Island Creek, US 221 & Rt. 672, 12 July 2006, 2♂, 50♀ (VMNH, NMNH). Floyd Co., Mabry Millpond, Blue Ridge Parkway at Milepost 176.2, 19-20 July 2007, 1♂, 2♀ (BLRI)

Cheumatopsyche burksi Ross: The single specimen upon which the Virginia record is based has been studied by D.A. Etnier and O.S. Flint, who agree it is not *C. burksi*. However, the genitalia are quite distorted and we cannot make them agree with any species. It is suggestive of a species near *C. harwoodi* but does not seem to be that species either. At this time it must be left unknown, and *C. burksi* removed from the Virginia list.

**Hydroptila remita* Blickle & Morse: This species is widespread along the Atlantic Coast from Maine to Florida and as far west as Arkansas. It has now been taken in the Coastal Plain of Virginia. Westmoreland Co., The Big Swamp, Rt. 623, W Montross, 38°06.2' N, 76°51.7' W, 20 September 2006, 1♂, 8♀ (NMNH).

**Cernotina calcea* Ross: This species is recorded from Virginia to Florida and west to Illinois, Missouri, Texas, and into Mexico and Nicaragua in Central America. The only Virginia record is from the Coastal Plain. City of Suffolk, South Quay Pine Barrens, Cherry Grove Landing, Blackwater River, 16 June 2003, 1♂ (VMNH).

**Polycentropus harpi* Moulton & Stewart: Fulfilling the prediction made in the previous report, this species now has been found in the state. We have not

reexamined the old material determined as *P. cinereus*, but a newly collected specimen agrees in all genitalic details with *P. harpi*. The record is from the Alleghanian area. Smyth Co., North Fork Holston River, Rt. 622, Nebo, 36°56.6' N, 81°26.4' W, 12 July 2006, 1♂ (NMNH).

**Rhyacophila mainensis* Banks: This is a widespread, but rarely reported, species known from Newfoundland to Virginia and west to Michigan. The single Virginia record is from the western foothills of the Mount Rogers Highlands. Smyth Co., South Fork Holston River, Rt. 670 bridge, Quebec, 22 May 2005, 1♀ (NMNH).

SPECIES OF INTEGRIPALPIA REMOVED FROM THE STATE LIST

The following species of families covered in the foregoing list have been documented for Virginia in various published sources; they are now excluded as explained for each.

Apatania rossi (Morse): Recorded by Parker & Voshell (1981), this species is now considered a synonym of *A. incerta* (Flint, 2007).

Lepidostoma costale (Banks): Although Weaver (1988) listed this species from Virginia without detail, he now (Weaver in litt.) says that this was in error due to a misreading of Banks (1914).

Lepidostoma excavatum Flint & Wiggins: Parker & Voshell (1981) listed the species for Virginia, without locality. We were unable to find any specimen and its associated locality data in the VPISU collection. As the known distribution is in the southernmost Appalachians, we remove this name from the state list.

Lepidostoma swannanoa Ross: Recorded by Parker & Voshell (1981), this species has since been placed in synonymy with *L. pictile* (Banks) by Weaver (1988).

Ceraclea mentiea (Walker): The sole record of the species is a dot in Harris et al. (1991) in the outline of the state. S. C. Harris (pers. comm.) does not know the

source of this data. It is generally found to the north of Virginia and should be removed from the state list until material is found.

Nectopsyche diarina Ross: Recorded by Parker & Voshell (1981), the record is a misidentification of *N. albida* (Walker) (see p. 11).

Oecetis ochracea (Curtis): The species was recorded from Virginia by Parker & Voshell (1981). There is no material in the VPISU collection, but a manuscript list of Parker records a larva from Carroll Co., New River, bridge between Galax and Fries, Rt. 721, taken in a drift net by J. Kennedy. The overall range of this Holarctic species is to the northwest of the state. Until the material can be found and verified or fresh material is taken, it seems best to remove the species from the state list.

Triaenodes connata Ross: Recorded by Parker & Voshell (1981), the species is now placed in synonymy with *T. injusta* (Hagen) (Manuel, 2008).

Pycnopsyche sonso Milne: Recorded by Parker & Voshell (1981), based on misidentification of the recently described *Pycnopsyche pani* (Wojtowicz & Flint, 2007) (see p. 17).

Molanna musetta Betten: Recorded by Parker & Voshell (1981), the species is now placed in synonymy with *M. ulmerina* Navas (Schuster, 1979), which species was also listed by Parker & Voshell (1981).

Neophylax nacatus Denning: Recorded by Parker & Voshell (1981), the species is now placed in synonymy with *Neophylax mitchelli* Carpenter (Vineyard et al., 2005).

Neophylax atlanta Ross: The lone Virginia record in Vineyard et al. (2005) is unquestionably erroneous; the cited material is not in the NMNH, as indicated, nor do the authors know where it might be. The known range of the species is limited to the southern end of the Appalachians from northern Alabama to western South Carolina. The recorded published data are: "Campbell Co., Lynchburg, fall 1937 (NMNH)."