

New records of Tephritidae (Diptera) from Great Smoky Mountains National Park - II

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Abstract. Thirty additional species of tephritid flies (Diptera: Tephritidae) from Great Smoky Mountains National Park (GSMNP), including historical records, are presented together with information on host(s), if known, distributions, and life histories. This brings the total number of tephritid flies recorded from GSMNP to 46.

Introduction

As part of the All Taxon Biological Inventory being conducted in Great Smoky Mountains National Park (GSMNP) (Sharkey 2001), we report new distribution and host plant records for tephritid flies. Comments regarding previous known distributions and hosts are taken from Foote *et al.* (1993) unless otherwise stated. Additional records were provided in Steck and Sutton (2000). Park localities with their corresponding States and Counties from which collections were made include: Tennessee, Blount Co. - Cades Cove, Foothills Parkway West; Tennessee, Sevier Co. - Metcalf Bottoms, Sugarlands Park Headquarters and Visitor Center; North Carolina, Haywood Co. - The Purchase, Cataloochee Valley; North Carolina, Swain Co. - Twenty-Mile Station area, Raven Fork near the confluence of the Oconaluftee River, Spruce Fir Trail, and Newfound Gap. All collections were made by BDS and GJS, unless otherwise noted. Further details on the species listed below, and others, including photographs of flies and their host plants, are available at the World Wide Web site of the Florida State Collection of Arthropods (www.fsca-dpi.org).

Including the new records reported herein, a total of 46 species of tephritid flies has been recorded from GSMNP; approximately one-half (51%) of these have a generally broad eastern North America distribution, or are widespread across the U.S.A. and beyond. The majority of the remaining taxa (47%) have a generally northern, or northeastern,

distribution in the U.S.A., often into Canada, and reach their southernmost limits in the vicinity of the southern Appalachian Mountains, at least in the southeastern part of their range. Only one species has a generally southern distribution that reaches its northern extreme in the GSMNP region.

Acinia picturata (Snow) – Cades Cove, 6-14 August 2002. One adult was trapped (6m Malaise) at the western end of Cades Cove. **New state record** for Tennessee. **New GSMNP record.** This species is generally southern in distribution from east to west coasts, with scattered records along the Atlantic seaboard north to Long Island, New York. This is the first record from the Appalachian Mountain region. The only recorded hosts in the eastern U.S.A., various species of *Pluchea* Cass. (Asteraceae), are rare in GSMNP.

Campiglossa albiceps (Loew) – The Purchase, 11-18 June and 5-16 August 2002; adults were swept from an old field. Earlier records from this region include two specimens in the Natural History Museum (GSMNP): "Mt. Buckley, 6100', 7-21-1957 and 7-30-1959". The following records are from Blanc (1995) and the USNM: "North Carolina: Devil's Court House, Blue Ridge Pkwy., 2.VIII.57, W. R. Richards, 5f (CNC), det. by FLB '82; North Carolina: Haywood, Chestnut Bald, Pisgah Natl. For., 2.VIII.57, J. G. Chillcott, 5f (CNC), det. by FLB '82; Tennessee: Sevier Co., Great Smoky Mts. Natl. Park, Clingmans Dome, 35°33'46" 83°29'55"W, 6.VIII.57, C.J.Dufden, 1f (CNC), det. by FLB '82; North Carolina: Bubbling Spr. Cr., nr Tennessee Bald, 17.VII.57, J. G. Chillcott, 1f (CNC), det. by

* Deceased

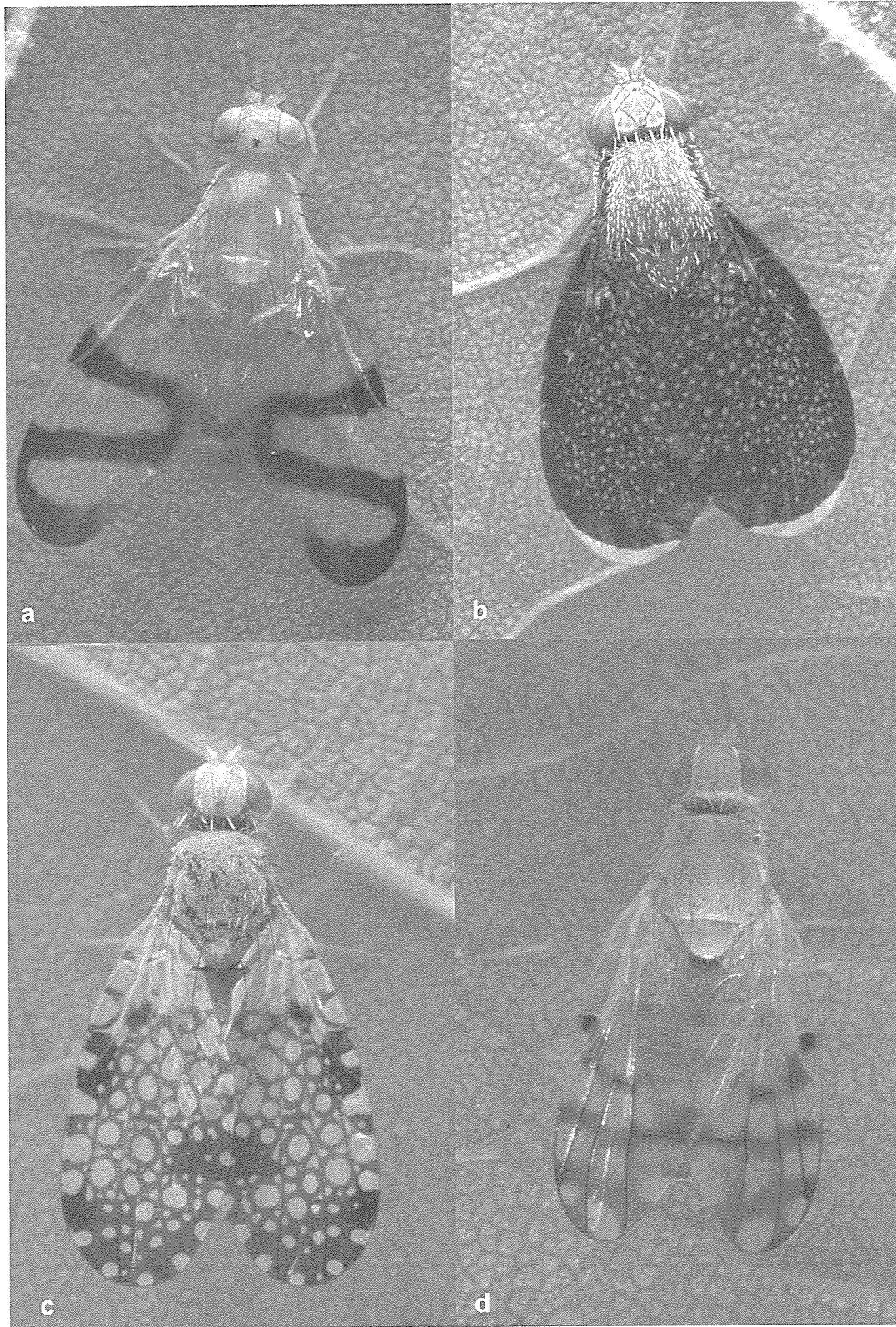


Figure 1. a. *Trypeta tortilis* Coquillett; b. *Eutreta caliptera* (Say); c. *Campiglossa albiceps* (Loew); d. *Neaspilota vernoniae* (Loew).
All photographs by Jeffrey Lotz, FDACS-DPI, Gainesville, FL.

FLB '82; North Carolina: Yancy, Mount Mitchell, 12.VIII.57, J. G. Chillcott, 1f (CNC), det. by FLB '82; Tennessee: Great Smoky Mts. Natl. Park, 35°37' 83°30'W, 20.VII.57, H.&A.Howden, 1f (CNC), det. by FLB '82; North Carolina: Blue Ridge Pkwy., Mt. Richland-Bal., 9.VI.65, J. G. Chillcott, 1m (CNC), det. by FLB '82; North Carolina: Smoky Mts., Andrews Bald, 9.VII.41, A. L. Melander, 6f (USNM), det. by FLB '82; Tennessee: Sevier Co., Great Smoky Mts. Natl. Park, Clingmans Dome, 18-19.VII.41, A. L. Melander, 4f1? (USNM), det. by FLB '82; North Carolina: Great Smoky Mts. Natl. Park, Newfound Ridge, 11.VII.41, A. L. Melander, 1m1f1? (USNM), det. by FLB '82". This species is widespread throughout the northern half of the U.S.A. well into Canada north to Alaska and is common in the open fields at higher elevations in GSMNP. Various species of *Aster* (Asteraceae) have been recorded as hosts (Novak 1974); however, no hosts have yet been identified in GSMNP.

Dioxyna picciola (Bigot) – The Purchase, 7-9 September 2001, 11-18 June 2002, 11-16 August 2002; Cades Cove, 6-14 August 2002. Earlier records include: "Tennessee: Indian Gap, 24.VII.57, W. R. Richards, 2f (CNC), det. by FLB '82" (Blanc 1995). Widespread throughout the U.S.A. and well beyond. Common in open fields and meadows at the lower elevations. Many species of Asteraceae have been recorded as hosts.

Eurosta latifrons (Loew) – one female from "TN: Sevier County: Great Smoky Mountains National Park, Headquarters, 10 June 1946, R. R. Dreisbach" in the collection of Montana State University (MSU) was listed in the unpublished thesis of Ming (1989). **New state record** for Tennessee (omitted from Foote *et al.* 1993). **New GSMNP record**. This species has been collected sporadically in the northeastern U.S.A. south to North Carolina. The host is unknown but presumed to be one or more species of *Solidago* L. (Asteraceae).

Eurosta solidaginis (Fitch) – one adult swept from an old field at The Purchase, 15 May 2002, and galls collected from: Sugarlands Park Headquarters, September 2001 (DeFoe, Steck, and Sutton); Cades Cove, September 2001, May, June, and August 2002; Raven Fork near the confluence of the Oconaluftee River, November 2001; and The Purchase, May, June, and August 2002. **New state record** for Tennessee. **New GSMNP record**. Previously recorded from central North Carolina. Larvae were found in spherical aerial galls in stems of *Solidago canadensis* L. *sensu lato* (Asteraceae) growing within or on the edge of old fields. This fly,

commonly known as the *Solidago* ball gall fly, is widespread across the northern U.S.A. and south into northern Florida (Brown *et al.* 1996), but was not previously documented from the southern Appalachian Mountains. In GSMNP, *E. solidaginis* appears to be more common at the lower elevations such as Cades Cove and Sugarlands than at the higher regions. It is present at The Purchase (ca. 5,000 feet), but it is not common there, and it has not been found in stands of the host at Newfound Gap (5,046 feet).

Eutreta caliptera (Say) – Metcalf Bottoms, 13-15 August 2002, puparia in galls of *Erichtites hieraciaefolia* (L.) Raf. (fireweed), adults eclosed 30 August 2002. **New host record**. The Purchase, 5-9 August 2002 (6m Malaise) and hand capture. An earlier record from GSMNP having label data: "Tennessee: Great Smoky Mts. Natl. Park, 20.VII.57, H.&A.Howden, 1f (CNC), det. by FLB '82" is in Blanc (1995). Widespread in the eastern U.S.A. south to northern Florida (unpublished FSCA records).

Eutreta novaeboracensis (Fitch) – Records include: "Tennessee: Sevier Co., Great Smoky Mts. Natl. Park, Greenbrier Cove, 18.V.57, J. R. Vocker-oth, 1f (CNC), det. by FLB '83; Tennessee: Indian Gap, nr. Clingman's Dome, 6.VIII.57, W. R. Richards, 1f (CNC), det. by FLB '83" (Blanc 1995). Widespread in the eastern to central U.S.A. south to the southern Appalachian Mountains. The only recorded host is *Solidago canadensis* L. (as *S. altissima*) (Asteraceae) (Stolzfus 1977).

Eutreta rotundipennis (Loew) – Raven Fork near the confluence of the Oconaluftee River, pupa in stem gall of *Verbesina alternifolia* (L.) Britton ex Kearney (Asteraceae), 4 November 2001. This is a **New state record** for North Carolina. Previously reported from Cades Cove (Steck & Sutton 2000). This species has now been reared from upper stem galls in *V. alternifolia* and *V. occidentalis* (L.) Walt. from western Cades Cove with adults emerging in May through September. Amnon Freidberg also reared two specimens (USNM, TAUI) of this species in 1993 from galls on *V. alternifolia* from Washington, DC, Rock Creek Park (A. L. Norrbom, personal communication). These are **new host records** for *E. rotundipennis*. *Verbesina alternifolia* appears to be the preferred host with *V. occidentalis* utilized only late in the summer. *Eutreta rotundipennis* has been recorded previously from Kansas, Maryland, New York, and Texas (state record only). This species, although rarely collected elsewhere, is common throughout the open lower

elevations of the GSMNP wherever the host occurs in significant density.

Gymnocarena mississippiensis Norrbom – Cades Cove, 13-17 May and 6-14 August 2002. **New state record** for Tennessee. **New GSMNP record.** *Gymnocarena mississippiensis* was described by Norrbom (1992) based upon four specimens from Kentucky and Mississippi. After publication an additional specimen from Oklahoma was located in the FSCA bringing the total number of known specimens to five. To date, an additional five specimens have been trapped (6m Malaise) from two localities in the western end of Cades Cove. These specimens differ from the holotype in the position and extent of the hyaline wing spots but agree with the two paratypes from Mississippi and the specimen from Oklahoma. Additional collections and study will be required to determine if all specimens are conspecific. The host is not yet known, but other *Gymnocarena* are recorded from *Verbesina* species which are abundant in the area. To date, *G. mississippiensis* has been recorded only from western Cades Cove in GSMNP.

Neaspilota albidipennis (Loew) – Cades Cove, 7-8 August 2002; The Purchase, 5-16 August 2002. **New state records** for North Carolina and Tennessee. **New GSMNP record.** Adults swept from *Vernonia noveboracensis* (L.) Michx. and/or *V. gigantea* (Walt.) Trel. (Asteraceae). Adults are usually found on or near unopened flowers of the host, often in conjunction with other species of *Neaspilota*. This species is generally northern in distribution from the Great Plains states to the east coast, with isolated records from east-central Texas. These are the first records from the southern Appalachian Mountains. Hosts are restricted to species of *Vernonia*.

Neaspilota floridana Ibrahim – The Purchase, 11-16 August 2002. **New GSMNP record.** Previously recorded from nearby North Carolina. A single adult specimen was swept from *Vernonia noveboracensis* and/or *V. gigantea* (Asteraceae). This species is generally distributed throughout the eastern U.S.A. from Florida north to approximately the latitude of southern New York. Hosts are *Vernonia* species.

Neaspilota reticulata Norrbom and Foote – Chilhowee Mountains, Foothills Parkway West, 16 June 2002. **New state record** for Tennessee. **New GSMNP record.** Larvae of this recently described species (Norrbom and Foote 2000) were collected from flower heads of *Coreopsis major* Walt. (Asteraceae) and an adult female reared, emerging 17

July 2002. **New host record.** Additional larvae of what is likely this species were collected in August, 2002, but adults did not emerge from held material that year suggesting that *N. reticulata* is multivoltine with an overwintering generation. The collection site is a rather dry scrubby pineland along the crest of the Chilhowee Mountains. The host appears to be most common in recently burned areas and/or along open steep slopes and roadcuts. This species was previously recorded from Ohio and Michigan. It is likely that the southern Appalachian Mountains represent the southernmost extreme for the distribution of this unusual *Neaspilota*.

Neaspilota vernoniae (Loew) – Cades Cove, 6-14 August 2002; The Purchase, 11-16 August 2002. **New state records** for North Carolina and Tennessee. **New GSMNP record.** Adults swept from *Vernonia noveboracensis* and/or *V. gigantea*. Adults are usually found on or near unopened flowers of the host, often in conjunction with other species of *Neaspilota*. Previously recorded from the central U.S. Plains States to the northeast Atlantic states. Hosts are restricted to *Vernonia* species.

Neotephritis finalis (Loew) – Cades Cove, 6-14 August 2002; The Purchase, 11-16 August 2002. **New Tennessee state record.** **New GSMNP record.** We have another record of specimens from North Carolina, Watauga County, Valle Crucis, 24-27 May 1999, swept from Asteraceae in an old field. An earlier record: "North Carolina: Macon Co., Highlands, 9.V.57, J. R. Vockeroth, 1m (CNC), det. by FLB '82" (Blanc 1995) was omitted from Foote *et al.* (1993). In GSMNP, adults were swept from an old field and bordering woodland edge containing a variety of Asteraceae, and we reared adults from an unidentified yellow-flowered species in Cades Cove. *Neotephritis finalis* has been very widely collected in the western U.S.A., and also occurs at scattered locations in the eastern United States south to northeastern Florida (unpublished FSCA record). *Neotephritis finalis* is known to utilize a wide range of Asteraceae as hosts and is expected to be generally distributed throughout the open fields and bordering woodlands of GSMNP.

Paracantha culta (Wiedemann) – Cades Cove, 15-16 June and 6 August 2002; Raven Fork near confluence with Oconaluftee River, 10 August 2002. **New state record** for Tennessee. **New GSMNP record.** Adults were collected on the introduced Bull Thistle, *Cirsium vulgare* (Savi) Tenore (Asteraceae), growing in an open field in the upper reaches of Cades Cove; however, no evidence for oviposi-

tion, eggs, larvae, or pupae have been found. The Bull Thistle has not been recorded as a host for *P. culta*. Widespread in the southeastern coastal plain and the Great Plains states west of the Mississippi River, this species does not seem to have been previously recorded from the Tennessee River drainage and north, including the Appalachian Mountains. Known hosts are various *Cirsium* species. Likely hosts for *P. culta* have not been frequently encountered in GSMNP.

Paramyiolia nigricornis (Doane) – one male from “North Carolina: Swain Co., Great Smoky Mts. Natl. Park, Clingman’s Dome, Forney Ridge Trail, 35°33’N 83°29’W, 1829 m., 29 May 1999, S. D. Gaimari, 1m (USNM USNM00215320), det. by A. L. Norrbom” is in the USNM. **New state record** for North Carolina. **New GSMNP record.** This poorly known species has been previously recorded from the northeastern U.S.A. and north into Canada. The southern Appalachian Mountains are likely to represent the southern extreme for its distribution. The host, or hosts, are unknown.

Procecidochares atra (Loew) – Sugarlands Park Headquarters, 6 September 2001, (DeFoe, Steck, & Sutton); Cades Cove, 6 September 2001; and The Purchase, 7-9 September 2001. **New state records** for North Carolina and Tennessee. **New GSMNP record.** In addition, empty galls undoubtedly of this species were also found in *Solidago canadensis* L. *sensu lato* (Asteraceae) at Cades Cove and Raven Fork near the confluence of the Oconaluftee River, 4 November 2001. Adults were reared from leafy stem and apical galls on three species of *Solidago*: *S. canadensis*, *S. erecta* Pursh, and *S. rugosa* P. Mill. The latter two species represent **new host records** for *P. atra*. Leafy gall morphologies are quite diverse, ranging from “pineapple-shaped” to “Christmas tree-shaped.” Adults emerged within three weeks after the collection of galls containing pupae during September. *Procecidochares atra* is widespread from Idaho to the northeastern United States and south to northern Florida, but not previously recorded from the southern Appalachian Mountain region. This species is common in open fields and/or woodland edges over a wide range of elevations in GSMNP.

Procecidocharoides penelope (Osten Sacken) – Spruce Fir Trail, and Newfound Gap, 9 August 2002; The Purchase, 5-16 August 2002; and Cades Cove, 6-14 August 2002. **New state record** for Tennessee. **New GSMNP record.** Previously recorded from extreme southwestern North Carolina. A number of adults were swept from White

Snakeroot, *Ageratina altissima* (L.) King & H.E. Robins (Asteraceae) at the three former sites and a single adult trapped (6m Malaise) from the western end of Cades Cove. Having a generally northeastern distribution in the U.S.A. and bordering Canada, the southern Appalachian Mountains appear to represent the southern extreme of occurrence. The only known host is *A. altissima*. *Procecidocharoides penelope* appears to be generally distributed throughout the higher elevations of GSMNP where the host is found but may be most common where there is a conifer overstory. Extensive searching at somewhat lower elevations where the host was abundant but with a deciduous overstory failed to locate this species.

Rhagoletis chionanthi Bush – Sugarlands Park Headquarters, 6 September 2001 (DeFoe, Steck, & Sutton). **New state record** for Tennessee. **New GSMNP record.** Third instar larvae were collected from ripe fruits of *Chionanthus virginica* L. (Oleaceae) and adults emerged during June 2002 in the laboratory. At the same locality, a number of adults were trapped using yellow sticky and McPhail traps during 6-15 August 2002. Most published records of *R. chionanthi* have been from northern and central Florida, but it has also been collected in South Carolina and Pennsylvania (Bruce McPheron, personal communication). The host, *C. virginica*, is rare and localized in GSMNP and *R. chionanthi* may well be restricted to a single cultivated plant at Sugarlands.

Rhagoletis cingulata (Loew) – Foothills Parkway West, 10 July 2000; Cades Cove, 6-14 August 2002; and The Purchase, 11-18 June 2002. **New state record** for North Carolina. **New GSMNP record.** Larvae emerged from fruits of *Prunus serotina* Ehrh. (Rosaceae) collected from the former locality and a single adult was trapped (6m Malaise) at each of the latter sites. This species is widespread in the eastern and southern USA and had been previously recorded from northeastern Tennessee. Its principal native host is *P. serotina*, although other *Prunus* species also are infested, and it is a pest (“cherry maggot”) in commercial cherry. *Rhagoletis cingulata* is probably far more common and generally distributed in GSMNP than these records would seem to indicate.

Rhagoletis pomonella (Walsh) – The Purchase, 11-16 August 2002. **New GSMNP record.** Previously recorded from western North Carolina. Several adults were trapped (yellow sticky and red ball traps) in cultivated apple. In addition, one adult was swept from a nearby grassy field. Also

known as the apple maggot, this fly is native to the eastern United States and has been introduced into several western States. It will likely be found wherever old apple orchards still exist in GSMNP. This species has also been recorded from other Rosaceae including *Crateagus*.

Rhagoletis suavis (Loew) – Sugarlands Park Headquarters, 2 November 2001 (DeFoe, Steck, & Sutton); Cades Cove, 4 November 2001; Raven Fork near the confluence of the Oconaluftee River, 4 November 2001; and The Purchase, 5-16 August 2002. **New state record** for Tennessee. **New GSMNP record**. At all sites except The Purchase, late instar larvae were collected from husks of fallen fruits of Black Walnut, *Juglans nigra* L. (Juglandaceae) and adults emerged in May 2002 in the laboratory. In addition, adults were trapped (6m Malaise) at The Purchase. This species, also known as the walnut husk fly, is widespread in the eastern United States south to north-central Florida and had been previously recorded from North Carolina. *Rhagoletis suavis* appears to be extremely common and widespread in the GSMNP wherever the host is to be found.

Rhagoletis* sp. nr. *mendax – Sugarlands Park Headquarters, 2 November 2001 (DeFoe, Steck, Sutton), and Raven Fork near the confluence of the Oconaluftee River, 4 November 2001. **New state records** for Tennessee and North Carolina. **New GSMNP record**. Larvae of this undescribed species of the *Rhagoletis pomonella* complex were collected from fruits of *Cornus florida* L. (Cornaceae), and adults emerged in June 2002 in the laboratory. This species, apparently restricted to the Flowering Dogwood, *Cornus florida*, originally was included under *Rhagoletis cornivora* Bush (Bush 1966); however, it is presently classified as an undescribed species of the *pomonella* complex more closely related to *R. mendax* (Smith and Bush 1999). Previously recorded from Florida (Bush 1966) and “E. U.S.” (Smith and Bush 1999). This *Rhagoletis* species appears to be generally distributed throughout the low elevation woodlands where flowering dogwood is a common understory element.

Stenopa vulnerata (Loew) – The Purchase, 7-9 September 2001 and 5-16 August 2002. An earlier female is in the USNM with the following labels: “Gt. Smoky Mts. National Park Tennessee / Headquarters. June 15, 1946 Geo. Steyskal”. This represents a **New state record** for Tennessee. Other records for North Carolina include: “North Carolina: Nance, det. by Phillips '23; North Carolina: Smokemont,

15.VIII.47, R. R. Dreisbach, (USNM), det. by RN” (Blanc 1995) and a female in the USNM labelled “Mt. Toxaway, alt. 3000-4000 ft. NC”. Specimens from The Purchase were swept from an old field. This species has been reported from eastern and western United States and Canada plus the Great Plains provinces of Canada. The southern Appalachian Mountains appear to represent the southern extreme of its range in the eastern U.S.A. The host for *Stenopa vulnerata* was reported as *Senecio aureus* (Asteraceae) (Novak and Foote 1975) which is common throughout the fields, riparian woodlands, and stream edges of GSMNP over a wide range of elevations.

Strauzia perfecta (Loew) – SW boundary of GSMNP along State Road 28 east of Twenty Mile Station, 3 September 2001; and The Purchase, 7 September 2001. This species was previously recorded from GSMNP by Steck and Sutton (2000). Larvae were collected from stem mines in *Ambrosia artemisiifolia* L. (Asteraceae). **New host record**. *Strauzia perfecta* had been reported previously only from *A. trifida* L. (Steyskal 1986, Stolzhus 1988). In GSMNP, *A. trifida* is relatively uncommon, and we have collected *S. perfecta* larvae from it only at Metcalf Bottoms. *Ambrosia artemisiifolia* is more widespread in GSMNP and thus appears to be the primary host of *S. perfecta*. Larvae-infested stems of *A. artemisiifolia* were brought to the laboratory in September 2001; the larvae had vacated the stems by November to pupariate in the soil, and adults emerged in summer of 2002. *Strauzia perfecta* has been recorded throughout the eastern and central United States from Tennessee/ North Carolina northward.

Tephritis pura (Loew) – Cataloochee Valley, 16 May 2002; Sugarlands Headquarters, 17 May 2002; Cades Cove, 12 June 2002; SW boundary of GSMNP along State Road 28 east of Twenty Mile Station, 13 June 2002; Raven Fork near the confluence of the Oconaluftee River, 14 June 2002; The Purchase, 18 June 2002. **New state record** for Tennessee. **New GSMNP record**. Previously recorded from extreme southwestern North Carolina. At each site, puparia were taken from often indistinct apical stem swellings in *Solidago gigantea* Ait. (Asteraceae) and, possibly *S. canadensis* (Asteraceae), from which adults emerged in the laboratory in June-July of the same year. This is the **first host record** for *T. pura*. An additional record is “St. Louis County / Duluth MN / UMD research farm / collected 9 Sept 2002 / emerged 12 Sept 2002 / Host Plant *Solidago altissima*” (Joanne

Itami, personal communication). This species is generally northern in distribution ranging throughout Canada and west to Alaska with the southern Appalachian Mountains appearing to represent the southern extreme in the eastern United States. This is probably one of the most common tephritids in GSMNP; although adults have not yet been collected in the field, galls containing their immature stages are present in very large numbers in the open fields of GSMNP during the spring and early summer.

Tomoplagia obliqua (Say) – Cades Cove, 2 September 2001, 12-17 June and 7-8 August 2002; SW boundary of GSMNP along State Road 28 east of Twenty Mile Station, 3 September 2001; The Purchase, June 2002. A previous specimen with the labels: "Tennessee: Knox Co., [unspecified locality], 22 Jul 1956, 1m (USNM USNM00051405), det. by R. H. Foote"; is in the USNM. **New state records** for North Carolina and Tennessee. **New GSMNP record.** An adult was hand collected on the inflorescence of *Vernonia noveboracensis* and/or *V. gigantea* at the Twenty Mile Station site. In addition, numerous adults were reared from flowers of *Vernonia noveboracensis* and/or *V. gigantea* from Cades Cove emerging within a few weeks of collection (Sept-Oct, 2001) and adults trapped (6m Malaise) at The Purchase. *Tomoplagia obliqua* has been recorded previously from the Mississippi River valley, Florida, and scattered localities along the Atlantic coast north to Massachusetts, but not previously known from the Appalachian Mountain region or Piedmont. Published hosts are various species of *Vernonia*.

Trupanea dacetoptera Phillips – The Purchase, 11-18 June 2002. **New GSMNP record.** Previously recorded from North Carolina: "North Carolina: Lake Toxaway, 1f, det. by RHF'60" (Blanc 1995). Adults were trapped (6m Malaise) along the edge of an old field at about 5,000' elevation. *Trupanea dacetoptera* has been recorded from the Mississippi River drainage east to the Atlantic coast and from central Florida north to southeastern Canada. In Florida, the host is *Gnaphthium obtusifolium* L. (Asteraceae): however, there is one record from *Pityopsis graminifolia* (Michx.) Nutt. (Asteraceae) (as *Heterotheca microcephala* Small) (Benjamin 1934). No host has yet been recorded for this species within GSMNP.

Trypeta tortilis Coquillett – Cades Cove, 2-9 September 2001, 13-17 May 2002, 12-17 June 2002, 15 June 2002 (larvae); The Purchase, 7-9 September 2001, 14-17 May 2002, 11-18 June 2002, 5-16

August 2002. Previously recorded from GSMNP at Newfound Gap (Steck & Sutton, 2000). An earlier specimen from North Carolina has been located at the USNM having the following label data: "North Carolina: Mitchell Range, Game Refuge, 3200 ft., 22 Jun 1939, C. P. Alexander, 1 male (USNM 00031324)". Specimens were also collected earlier from the Tennessee part of GSMNP: "Tennessee: Sevier Co., Great Smokey Mts. Natl. Park, Greenbrier, nr. Ranger Station, 20 Sep 2000, D. & M. Davis, 2 females (USNM00031322, USNM 00031323)". The latter specimens represent the **first Tennessee state record** for this species. Numerous adults of this species were collected using 6m Malaise traps from western Cades Cove and The Purchase. Larvae obtained from large blotch leaf mines in *Senecio aureus* L. (Asteraceae) from along Abrams Creek in Cades Cove (15 June 2002) were reared to adults in early July of the same year. *Senecio aureus* represents a **new host record** for this species. The range of variation seen in the wing pattern of reared specimens from *Senecio aureus* is less than that of trapped specimens; it is not clear if this represents sampling bias or if there is a sympatric, cryptic species complex present, perhaps utilizing additional, as yet undiscovered, hosts. This species, or complex, appears to be relatively common in the deciduous riparian woodlands of GSMNP.

Zonosemata electa (Say) – The Purchase, 7-9 September 2001; Cades Cove, 6 September 2001 (larvae), 15 June 2002, 6-14 August 2002. **New state record** for North Carolina. **New GSMNP record.** Previously recorded from Tennessee and South Carolina. One adult was swept from an old field containing *Solanum carolinense* L. (Solanaceae) at The Purchase and numerous larvae emerged from fruits of *S. carolinense* collected from various parts of Cades Cove. Additional adults were swept from the introduced Bull Thistle, *Cirsium vulgare* (Savi) Tenore (Asteraceae) in eastern Cades Cove. *Zonosemata electa*, although probably multivoltine in Florida (Sutton & Steck, unpublished data), may be univoltine in GSMNP. Larvae emerging from fruit collected in September 2001 overwintered as pupae, and adults emerged May 2002 in the laboratory. As yet, there is no evidence for an additional summer generation in GSMNP. *Zonosemata electa*, also known as the pepper maggot, is widespread in the eastern U.S.A. It appears to be generally distributed in open areas of the GSMNP where its host is present.

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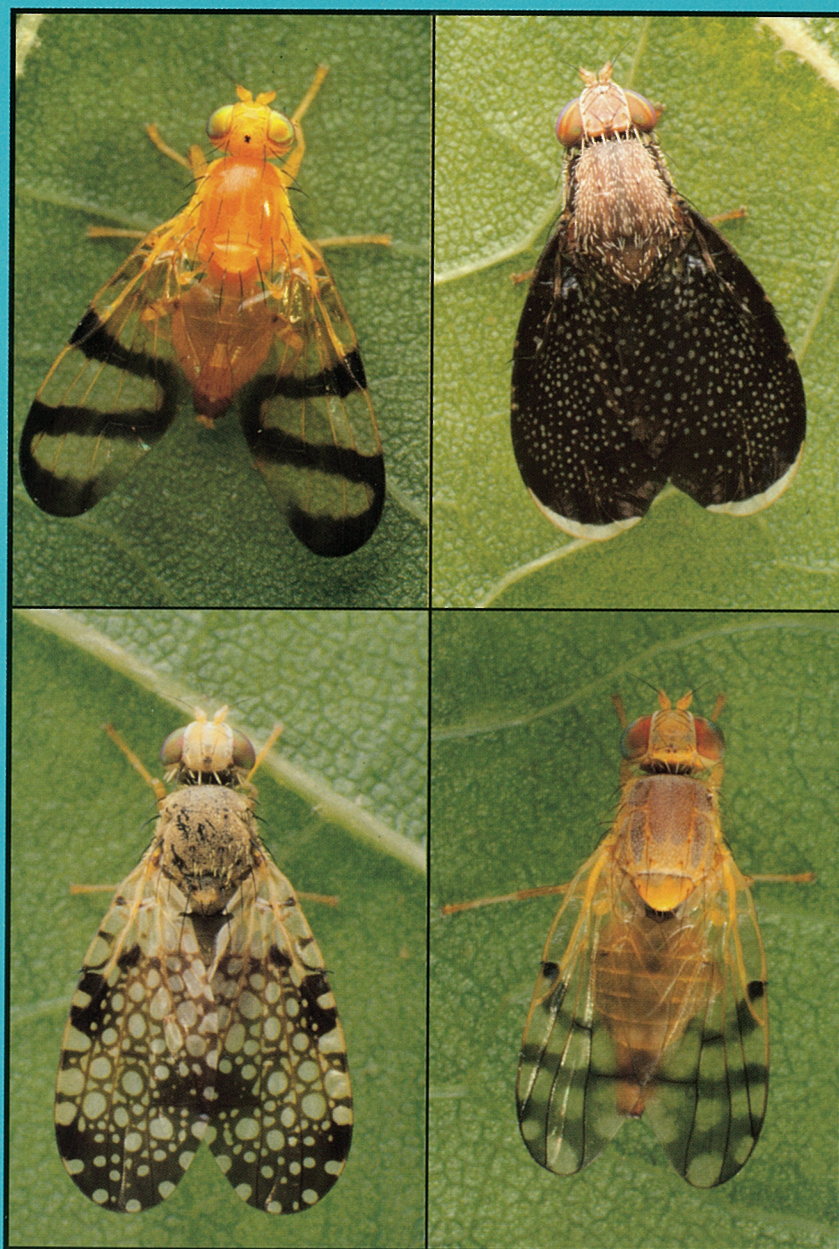
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(See caption, p. 2)

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