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Thirteen Additions to the Known Beetle Fauna of Virginia (Coleoptera: Scirtidae, Bothrideridae, Cleridae, Tenebrionidae, Melyridae, Callirhipidae, Cerambycidae, Chrysomelidae)

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INTRODUCTION

Ongoing inventories of the arthropod faunas of Virginia by our respective agencies continue to augment the lists of known resident species. Often these newly documented species are small and rarely collected, and their discovery in Virginia represents dramatic extensions in their established areas of distribution, sometimes by hundreds of miles.

We take this occasion to formally register thirteen beetle species, most of which fall into the category just described, as native to Virginia. Eight of these species are resident in the southeastern Coastal Plain of the state and three inhabit the Appalachians. Another was found near the Fall Line and the last is reported from widely scattered sites in Virginia. All material cited is deposited in the Virginia Museum of Natural History (VMNH), except that designated by the acronyms USNM (National Museum of Natural History), UGA (University of Georgia), and NCSU (North Carolina State University). VDNH identifies collections made by Virginia Division of Natural Heritage staff other than SMR.

SCIRTIDAE

Ora troberti (Guérin)
New northernmost and state records

Members of this genus and the related *Scirtes* resemble the chrysomelid "flea beetles" in having the hind femora greatly enlarged for jumping. *Ora troberti* is listed for FL and TX (Peck & Thomas, 1998; Young, 2002a) and AL (Löding, 1945). There is a specimen labeled "La." in the Casey Collection (USNM). White (1983) apparently used a specimen of *O. troberti* for his field guide illustration of the genus. Its occurrence along the Atlantic coast northward from Florida is not reported, but our collection records show that it reaches the Cape Henry area of Virginia. *Ora texana* Champion was listed as tentatively occurring in NC by Brigham (1982); the other two southeastern species of *Ora*, *troberti* and *hyacintha* Blatchley (Young, 2002a) were apparently not known to him. New state records for *O. troberti* are substantiated by the material listed here.

Virginia: *City of Virginia Beach*: "False Cape State

Pk, dunes north of cemetery, 18 August 1998, UV," S. M. Roble, C. S. Hobson, A. C. Chazal (VMNH 1).

North Carolina: *Dare Co.*: Kill Devil Hills, 16 Sept. 1955, K. V. Krombein (USNM 2).

South Carolina: *Horry Co.*: Myrtle Beach, July 1961, Rosenburg Collection (USNM 1).

Georgia: *Camden Co.*: Little Cumberland I., 30°58'N, 81°25'W, 28 - 29 November 1997, WES et al. (USNM 2); *Grady Co.*: 10 May 1929, C. O. Handley (USNM 1); Beachton, The Hall, 14 Oct. 1924, C. O. Handley (USNM 1).

The latter specimen is labeled "*Ora troberti* Guer. Det. L. L. Buchanan". The two from Little Cumberland Island and the one from False Cape State Park were collected at black lights in maritime dune forest dominated by live oak (*Quercus virginiana* Mill.).

BOTHRIDERIDAE

Sosylus costatus LeConte
New northernmost and state record

Collecting localities for this species were not provided by Stephan (1989) who merely listed material examined from the states of AL, AR, FL, GA, MS, SC, and TX. Kirk (1969) recorded *S. costatus* only from Wedgefield (Sumter County) in South Carolina, presumably the previous northernmost known locality. Our three specimens thus represent an extension of about 215 miles (340 km) northeastward from Wedgefield.

Virginia: *Isle of Wight Co.*: Blackwater Ecologic Preserve, 7 km south of Zuni: 1 June 1994 (1), 1 July 1994 (1), 12 July 1994 (1), all SMR, blacklight trap (VMNH 3).

Sosylus extensus Casey
New northernmost and state records

Stephan (1989) listed material examined from the states of AL, FL, GA, LA, MS, OK, and TX, stating that it was "uncommonly collected." This species is newly recorded for NC and VA on the basis of the following specimens:

Virginia: *City of Norfolk*: "9/29/53, Walker & Andy" (USNM 1).

North Carolina: *Polk Co.*: Tryon, "3245 g, Hopk[ins]. U.S./ *Castanea dentata* / W. F. Fiske Collector" (USNM 1).

This far-inland locality demonstrates that *S. extensus* is not restricted to the coastal lowlands and could be expected anywhere in the Virginia Piedmont region.

CLERIDAE

Enoclerus muttkowskii Wolcott
New southernmost and state record

According to Downie & Arnett (1996), this clerid occupies a fairly narrow east-west range from Vermont to Wisconsin, south only into Ohio and Pennsylvania. It appears to be only rarely collected: Knull (1951) cited only Cantwell Cliffs in Hocking County for relatively well-collected Ohio. The discovery of *E. muttkowskii* in central western Virginia apparently constitutes a substantial southward extension of the range along the Appalachians and may represent the southernmost locality for the species. None, at least, are included in the NCSU collections from North Carolina.

Virginia: *Bath Co.*: shale barren, 1 km S Millboro Springs on Forest Service Rt. 462, 8 June 2000, Anne C. Chazal, VDNH (VMNH 1).

In size, coloration, and general facies, this species bears a remarkable superficial likeness to the common and widespread *E. ichneumoneus*, with which our specimen was originally placed in the VMNH collection. While the shape of the scutellum is a constant and easily seen structural difference, comparison of our material of the two species disclosed some additional specific characters:

E. ichneumoneus: apex of scutellum an acute triangle clothed in pale hairs; black basal marking of elytra not extending to anterior corner, humeral knob reddish; labrum black; black hairs confined to posterior half of pronotum, those of anterior half and head entirely golden-red.

E. muttkowskii: apex of scutellum broadly rounded and virtually glabrous; black basal marking of elytra extending forward to humeral shoulder including the basal knob; labrum concolorous with the reddish head; black hairs present on entire pronotal surface *and* dorsum of head.

Wolcottia pedalis (LeConte)
New southernmost and state records

The distribution of this beetle as outlined by Downie & Arnett (1996) extends from New Jersey westward - south of the Great Lakes - to South Dakota, Nebraska, and Missouri. It is said to be common in Ohio and Indiana, near the center of this area. The following Virginia record extends the known range southward along the Appalachians, and is about 180 miles (300 km) southeast of Scioto Co., Ohio, the southernmost locality for that state cited by Knull (1951). New state records for Maryland and West Virginia are also substantiated.

Maryland: *Anne Arundel Co.*: S[mithsonian] I[nstitution] Java Farm Biol. Survey, 16-VII-1968, R. E.

& Jan White, collectors (USNM 1). *Calvert Co.*: Chesapeake Beach, July 2, 1916, W. L. McAtee (USNM 1). *Montgomery Co.*: Plummer's Island, 15 VI [19]03, W. V. Warner (USNM 1); June 10, [19]08, Schwarz & Barber (USNM 1); 3 VI [19]14, R. C. Shannon (USNM 1); June 7, [19]14, W. L. McAtee (USNM 1).

Virginia: *Montgomery Co.*: tributary to Den Creek, marl fen off Rt. 641, ca. 3 km SE of Ellett, Malaise trap, 6-22 June 1999, SMR (VMNH 1).

West Virginia: *Marion Co.*: Rock Lake, elev. 1500 ft. [457 m], 9 mi. SE Fairmont, 20-VII-1974, Joseph Anderson (USNM 1).

The uniform black color and short, divergent elytra with a distinct convexity at the dorsal extremity of each, distinguish this small clerid from related forms.

TENEBRIONIDAE

Epitragodes tomentosus macilentus Casey
Verification of imprecise earlier Virginia record

The northernmost published record for this chiefly austral species appears to be that of Freude (1968) for "Virginia" without further specification. Actually a number of collections can be cited, all of them south of the Chesapeake estuary:

Virginia: *City of Virginia Beach*: Lynnhaven Bay, 13 August 1976, Robert D. Ward (USNM 1); Cape Henry, 20 July 1927, August Busck (USNM 1); Virginia Beach, 1-2 May 1982, WES, "Reared from larva / Under leaf litter of spreading plants on dunes" (USNM 1); same data except without "reared" label, 13 larvae, 2 pupae with larval skins, (USNM); False Cape State Park, 17-18 August 1998, S. M. Roble, C. S. Hobson, A. C. Chazal, VDNH, at UV light (VMNH 16). *City of Norfolk*: Norfolk [probably the Virginia Truck Crops Experiment Station], 3 July 1939, P. W. Oman (USNM 1). *City of Chesapeake*: Deep Creek, 27 August 1938, A. B. Gurney (USNM 1). *City of Suffolk:* South Quay, ca. 3 miles south of Franklin, UV light in pine barrens, 23 July 2002, S. M. Roble, C. S. Hobson, VDNH (VMNH 1). *Isle of Wight Co.*: 6 km south of Zuni at Blackwater River [Blackwater Ecological Preserve], 27-28 August 1989, WES (USNM 4 "At black light in burned-over pine & oak sandy scrub" and USNM 4 larvae).

Field notes by WES on 27 August 1989 describe the latter collection: "Explored roadsides through open sandy scrub–the best spots of fine loose white sand exposed here, + road edge lined with some different plants, mainly spreading clumps of *Polygonella polygama*. In sand under these were larvae of epitragines, prob. *Epitragodes*, not yet full grown..." and notes on the adults: "Tended the light in burned barrens + roadside from late dusk to after dark; just at full dark, within a minute of each other, 3 *Epitragodes* appeared on the sheet; one more found about an hour later." The larvae from the Virginia Beach site were also found in pure sand; other collections from barrier islands as well as inland sand barrens from the Carolinas to Alabama and Florida indicate that the species is an obligate psammophile, as are its close relatives (Steiner, 1995).

The two specimens from Norfolk and Cape Henry had been examined by Heinz Freude in 1963 and labeled by him as *E. t. macilentus*; they are doubtless the basis for inclusion of Virginia in the statement of range in his 1968 revision of the Epitragini.

Superficially, with its rather ovoid and dorsally convex form, this species resembles a hydrophilid beetle. The body and appendages are a dark reddish-brown, dorsally invested by prostrate silvery setae which coalesce randomly on the elytra to produce a speckled effect. The 16 VMNH specimens from False Cape are uniform in size, all in the 8.5-9.0 mm length range.

Glyptotus cribratus (LeConte)
New northernmost and state record

Although known from as far north as Raleigh, North Carolina (Brimley, 1938), this species has apparently not been documented for Virginia. Peck & Thomas (1998) gave widespread Florida records and also listed TX and "Bahamas." As with many southern Coastal Plain species, northern limits are often found in the Cape Henry area of Virginia, as is the case with this beetle.

Virginia: *City of Virginia Beach*: First Landing-Seashore State Park, along Main Trail, in leaf litter, 24 May 1989, RLH (VMNH 1).

In South Carolina, beetles have been taken in hollow trees and under bark (Kirk, 1969) and WES has observed similar habits for the species in several southeastern U.S. localities, and reared the larvae from dead, rotten branches on living hardwood trees. Live oak (*Quercus virginiana*) is a frequent host, and this tree has its northern limits at Cape Henry, Virginia.

Andrimus murrayi (LeConte)
New northernmost and state records

Campbell (1984) included *Andrimus* in a key to North American genera of alleculines (the "comb-clawed beetles," formerly a separate family) and illustrated some features of *A. murrayi*. Peck & Thomas (1998) listed *A. murrayi* as "endemic" to Florida, and the majority of specimens in collections examined are from that state,

where it occurs widely. Six other *Andrimus* species are known (Arnett, 1983; Aalbu et al., 2002) from Florida and Georgia; the four named by Casey are listed as synonyms by Peck & Thomas (1998) but they did not list the two described by Blatchley (which are in need of examination as probable synonyms of *A. murrayi*) from Florida. A record from Alabama (Baldwin County, as *A. nigrescens* Casey) was listed by Löding (1945) and several occurrences in South Carolina (Kirk, 1969) show that the beetle occurs along the Atlantic Coast. The specimens newly reported from North Carolina and Virginia, mostly taken at lights at or near beach localities, extend the known range northward.

Virginia: *City of Virginia Beach*: "Prs. Anne Co., Virginia Beach, 30 May 1972," WES (USNM 2).

North Carolina: *Columbus Co*.: Lake Waccamaw, 11 May 1985, WES & A. Gerberich, at black light in oak & pine scrub sand barrens near lake (USNM 1); *Dare Co.*: Frisco, 27 Apr. 1985, WES & J. Dix, at black light in dune scrub (USNM 57); Kill Devil Hills, V / 30-VI / 1, 1958, K. V. Krombein (USNM 27).

The Virginia specimens were found at what is now First Landing-Seashore State Park, at window lights on a building among live oak (*Quercus virginiana*) and other trees on stabilized dunes. *Andrimus* immature stages are unknown; larvae probably live in sandy soil. Adults have a vernal flight period and apparently do not hibernate in that stage. The species is most common along the barrier island strand and also occurs at sandy inland localities as shown by the Lake Waccamaw, NC record and numerous specimens from central Florida (USNM). Beetles are readily "attracted" to artificial lights and appear at dusk. They are similar in appearance to *Capnochroa fuliginosa* (Melsheimer), illustrated by Aalbu et al. (2002), but that alleculine is much larger and inhabits upland deciduous forests. Male *Andrimus* antennae are longer and more serrate than those of the females.

MELYRIDAE

Collops balteatus LeConte
New northeasternmost and state record

This species, superficially a large version of the common *C. quadrimaculatus*, has not been recorded north of Florence and Rock Hill, South Carolina (Kirk, 1969, 1970). We can add this distinctly austral species to the Virginia faunal list on the basis of the following capture:

Virginia: *Chesterfield Co.*: Loch Braemar community swimming pool, north shore of Gregory Pond, 1.2 km NE jct. US Route 360 and Co. Route 653, 3 June 2000, SMR (hand capture) (VMNH 1).

While the discovery of the species in Virginia represents a northward range extension of some 260 miles (440 km), a more interesting fact about *C. balteatus* came to light incidental to inquiry about its occurrence elsewhere. Apparently it was not frequently collected for a century after its description from Texan specimens (LeConte, 1852). In his subsequent revision of the genus, Fall (1912) could not amplify the range ("It is known to me only from Texas"), and the USNM collection has no specimens from the Atlantic Coast states. Löding (1945) documented the species for southern Alabama, and as noted, Kirk (1969, 1970) listed it for three sites in South Carolina, greatly augmenting the area of distribution.

With such a fragmentary background for the beetle, it was a surprise to learn that *C. balteatus* is abundant and widespread in eastern North Carolina, represented by over 60 specimens from 11 counties in the NCSU collection (Fig. 1). The earliest capture date among this material is 1958, at Raleigh. Since Brimley (1938) did not list the species for North Carolina, it seems reasonable to assume that it arrived there sometime during the following

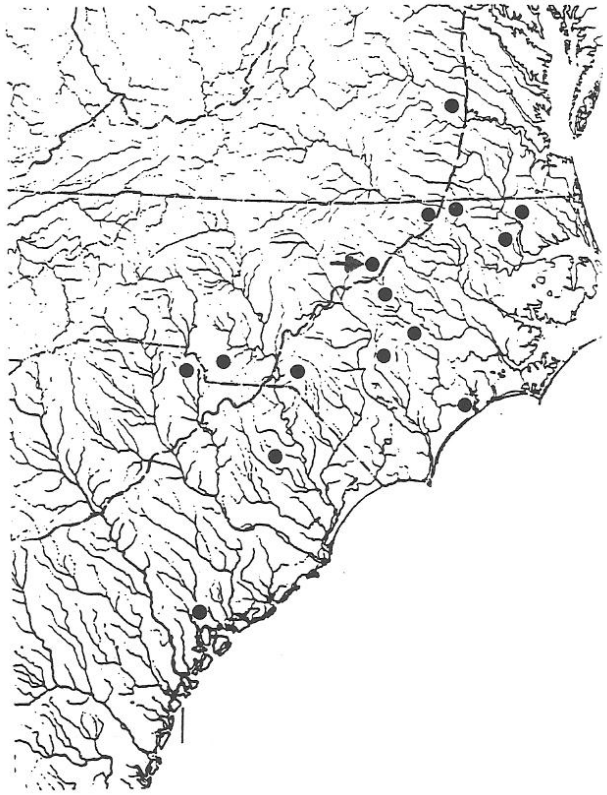

Fig. 1. Distribution records for *Collops balteatus* in Virginia and the Carolinas. The western edge of the Coastal Plain is approximated by the dashed line. The site of earliest collection (Raleigh, 1958) is indicated by the arrow.

20-year interval. Collections were made in Wake, Onslow, and Scotland counties in 1959, implying a fairly general dispersal already by 1960.

If this be true, it is curious that by 1969, Kirk had records for only three widely separated counties in South Carolina, not what one would expect if the spread was from south to north along the coast. It is also curious that Peck & Thomas (1998) did not include *C. balteatus* in their list of Floridian beetles, since southern Alabama is close to the Florida "panhandle". The dynamics of the situation are not clear: is the apparent eastward spread of the species the result of natural dispersion, or of an accidental anthropogenic introduction? In either case, it is clear that about 50 years ago the species found North Carolina to be a good place in which to prosper and colonize.

Considering the capture of *C. balteatus* in three North Carolina counties adjoining the Virginia state line in 1963 (Gates), 1970 (Warren), and 1980 (Northampton), it is noteworthy that the first Virginia specimen was not taken until 2000 despite a decade of relatively intensive collecting efforts in the southeastern part of the state.

Temnopsophus bimaculatus Horn
New northeasternmost and state records

An elegant little beetle, rarely collected even within its main range area, *T. bimaculatus* has been recorded from South Carolina and Florida west to Louisiana and north to Minnesota and Michigan ("swept from vegetation along Lake Michigan") (Kirk, 1969, 1970; Downie & Arnett, 1996; Peck & Thomas, 1998). Kirk (1969, 1970) listed the species for Horry and Dorchester counties in South Carolina. Brimley (1938) had no specimens from North Carolina but several have been found there since his book was prepared. Although these specimens were collected in 1954, Wray (1967) did not list this species for North Carolina either. Our single capture site in southeastern Virginia extends the known range some 235 miles (376 km) northeastward along the Coastal Plain, and we supply the unpublished North Carolina records to fill in the resultant hiatus.

Virginia: *City of Virginia Beach*: Dam Neck Navy Base, from pitfall in interdunal swale, 4 July 1991 (2♂♂, 1♀), 12 October 1990 (1♂), all K. A. Buhlmann, VDNH (VMNH 4).

North Carolina: *Pender Co.*: Burgaw, 4 May 1954, D. M. Weisman (NCSU 4). *Tyrell Co.*: no locality specified, 1 May 1954, D. M. Weisman (NCSU 1).

The drawing (Fig. 2) will serve to identify this species if and when it is collected again in Virginia. The modification of the basal antennomere is diagnostic, as is the general body form with convex, basally depressed, elytra. However, our series shows that the "hooked" first antennomere is a male character only, a point not made clear in identification manuals (e.g., Downie & Arnett, 1996).

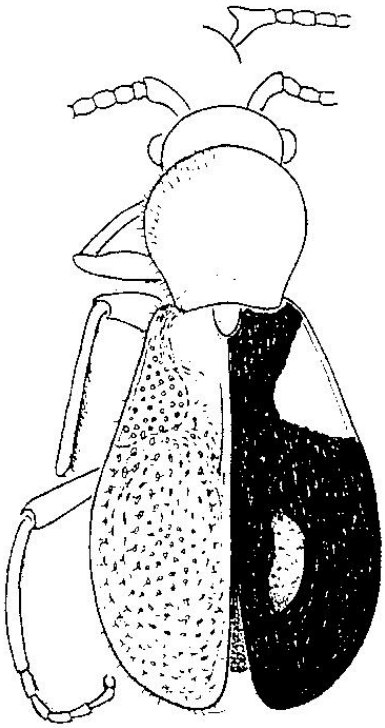

Fig. 2. *Temnopsophus bimaculatus* Horn. Habit sketch of female from Dam Neck Navy Base, City of Virginia Beach dorsal aspect, showing elytral punctation on left side, color pattern on right. Elytra are depressed across basal third, otherwise strongly convex. Metatibiae are noticeably arcuate in both sexes, in drawing represented shorter in reality owing to foreshortening effect of downward curvature. Modified first antennomere of male shown in separate sketch above front of female.

CALLIRHIPIDAE

Zenoa picea (Palisot de Beauvois)
New state records

This rarely collected beetle, formerly classified in Rhipiceridae or as a separate family, is the only known callirhipid in North America (Young, 2002b). It was recorded from Ohio, Indiana, Pennsylvania, and Florida

by Downie & Arnett (1996). Kirk (1969) recorded it for Florence, South Carolina. Ulke (1902) listed it for the District of Columbia "under bark of trees" and Staines (1983) reported some Maryland records, reviewed some ecological notes, and added Kansas and Texas to the western periphery of the overall range (probably based on material in the USNM). Neither Brimley (1938) nor Wray (1967) included *Z. picea* in their lists of North Carolina insects.

This species is now known from both eastern and western parts of Virginia as well as the bordering states of North Carolina and West Virginia, as documented by the following collections. Additional Maryland and DC records that supplement the reports of Ulke (1902) and Staines (1983) are also provided.

Maryland: *Anne Arundel Co.*: 6 km ESE of Laurel [Patuxent Research Refuge], 39°05'N, 76°48'W, 24 July 1995, coll. M. E. Epstein & WES, "At black light; open sandy gap in mixed forest" (USNM 1). *Baltimore Co.*: 8 km SE Essex, 26 April 1987, WES & J. M. Swearingen "under driftwood and debris on sand beach" (USNM 1 larva). *Charles Co.*: Smallwood State Park, 38°33'N,77°12'W, 27 July 2002, colls. WES, J. M. Swearingen et al., "At black light in mature mixed forest" (USNM 2). *Montgomery Co.*: 4 mi. SW of Ashton, 39°06'30"N, 77°01'30"W, 27 [and] 30 July 2002, G. F. Hevel (USNM 2); Cabin John Bridge, July 28, 1912, F. Knab (USNM 1); Jacksons Island, 8.8.1920, H. S. Barber (USNM 1); North Potomac, 39°6.8'N, 77°15.2'W, 6 July 2002, Steven Lingafelter, "blacklight" (USNM 1); Plummer's Island, Nov. 5, 1905, H. S. Barber, "in log of sassafras" (USNM 3 larvae) [and] Schwarz & Barber, "*ex* hollow sassafras" (USNM 1 larva, 2 adults); May 14, 1906, Schwarz & Barber, "*ex* sassafras in jar" (USNM 1 larva); 4 Nov. [19]72, T. L. Erwin, coll., "Found dead in cabin" (USNM 1); 38°58'N, 77°10'W, 22 July 1995, coll. M. E. Epstein, WES & J. M. Swearingen "In mixed forest; at black light on island summit" (USNM 2); 16 July 1997, M. E. Epstein, WES, J. M. Swearingen & A. Brower colls. (USNM 1); 13 July 2002, colls. WES, J. M. Swearingen et al., "On rotten wood at base of dead standing *Quercus rubra* at dark" (USNM 2); Rockville, 2 [and] 26 VII 1980, Scott W. Gross (USNM 2). *Prince Georges Co.*: Cedarville State Forest, near Cedarville Pond, 38°38'N,76°48'W, 20 July 2002, colls. WES, J. M. Swearingen et al., "At black light at edge of mature mixed forest near open pond" (USNM 1) and "on rotten wood in hollow base of beech" (USNM 1); College Park, 18 VII-[19]42, George B. Vogt, "at light" (USNM 1).

District of Columbia: Oxon Run, July 16, 1921, E. V. Shannon, "on oak bark" (USNM 1).

West Virginia: *Hampshire Co.*: 10 km S Capon Bridge at Cacapon River, 39°13'N, 78°28'W, 21-22 July 2002, WES, J. M. Swearingen, J. R. Ott & E. Silverfine, collectors, "At black light in mixed mature forest, crest of shale slope above river" (USNM 1).

Virginia: *Dickenson Co.*: Breaks Interstate Park, Haysi, 1-14 July 2000, Robert Vigneault (VMNH 7). *Fairfax Co.*: Black Pond, reared from *Castanea dentata,* 9-19 July [year not given], F. C. Craighead (USNM 1); Falls Church, 3 June [19]17, G. M. Greene (USNM 1); near Plummer's Island, 27 July 1920, H. S. Barber (USNM 1). *Fauq.*[*Fauquier*; possibly in error for Fairfax] *Co.*: Belvoir, 5 July 1940, Dieke, rotten wood (USNM 6). *King George Co.*: Chotank Creek Natural Area Preserve, ca. 1 km NW Berthaville, 21 August 2001, K. L. Derge and R. O. Wilson, VDNH, uv light (VMNH 1). *King & Queen Co.*: Dragon Run Swamp at Rt. 603 bridge, east of Mascot, 18 July 2000, C. S. Hobson and A. C. Chazal, VDNH (VMNH 1). *Loudoun Co.*: Bluemont, 15 July 1911, W. R. Walton (USNM 1).

North Carolina: *Columbus Co.*: Lake Waccamaw, 6 July 1985, WES & A. Gerberich, "At black light in oak & pine scrub sand barrens near lake" (USNM 1).

Additional states from which *Z. picea* specimens have been seen (USNM) include Kentucky, Georgia, Louisiana, Missouri, Illinois, and Oklahoma.

It seems likely that the Virginia range is discontinuous, with the population at the Breaks separated from the eastern contingents by the southern Appalachians. Virtually all of the collections have been made during July; apparently the species has a limited period of adult activity. Most of the specimens known to have been collected at lights are males (antennae larger), while those reared or found on rotten wood are usually females. Specimens usually occur on or near old trees; the species is perhaps an indicator of mature forest habitat. This is supported by the century-long span of records from Plummer's Island, Maryland, where mature forest has persisted and expanded there during this period (Erwin, 1981).

CERAMBYCIDAE

Urographis triangulifer LeConte
New northeastern and state records

Existing literature sources provide only an ambiguous image of the distribution of this striking cerambycid. Linsley & Chemsak (1995) state only "East-central United States to Kansas, Texas, and Alabama." Dillon (1956) was about equally vague: "Ohio and Alabama west to Texas." Yanega (1996) provided an illustration of the species and also summarized the distribution as "East central US." Occurrence in the Atlantic Coast States was,

however, already established for Long Island, New York (Leonard, 1928) and for Clemson and Columbia, South Carolina (Kirk, 1970). In a checklist of Maryland cerambycids, Staines (1987) listed a record from Virginia (no locality given) but did not have a Maryland record. Downie & Arnett (1996) included "NC" in their state list, but on what basis is unclear as this species is not mentioned by either Brimley (1938) or Wray (1967) in their lists of North Carolina insects (and there are no NC specimens in the NCSU or USNM collections). Downie & Arnett (1996) also include "FL" but again without obvious attribution and *U. triangulifer* is not listed for that state by Peck & Thomas (1998). Knull (1946) cited only Cincinnati as a known Ohio locality, and Fattig (1947) specified only Athens and Lumpkin in his list of Georgia cerambycids.

Although widely distributed, this species is apparently not often collected and we take this occasion to provide the following unpublished records:

Maryland: *Montgomery Co.*: "Plummer['s] Is[land], 8.5.[19]43, H. S. Barber, on Boxelder" (USNM 1).

Virginia: *Sussex Co.*: ca. 6 km SE Sussex Court House, Rt. 632, 14 July 1997, RLH, UV trap at Honey Pond (VMNH 1).

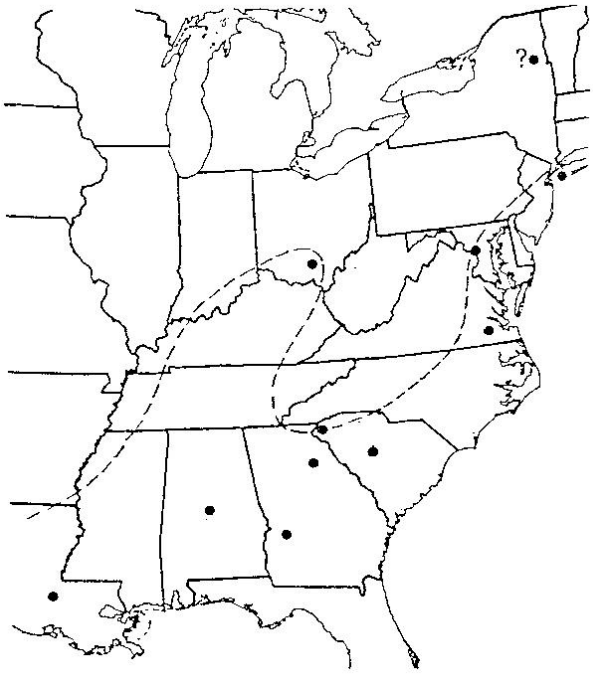

Fig. 3. Known distribution of *Urographis triangulifer*. Symbols represent records from the literature and museum specimens as discussed in the text. Postulated limits of range are shown by the dashed line. The record for Mt. Whiteface, New York, is questioned as improbable in the context of the basic austral pattern.

Georgia: *Bibb Co.*: Macon, 1 June 1996, J. C. Bourne (UGA 6). *Clarke Co.*: Whitehall Forest, 1-5 June 1978, R. H. Turnbow (UGA 1),

These records collectively suggest a lowland distribution extending from Long Island to central Georgia, thence west to Texas and northward in the interior as far as southern Ohio and Indiana (Fig. 3). If this pattern is eventually confirmed, some doubts must be attached to the record by Leonard (1928: 453) for Whiteface Mountain, Essex Co., New York, which is incongruent for an austral species. The lack of records for the Coastal Plain in South Carolina, Georgia, and Florida is singular.

CHRYSOMELIDAE

Trirhabda borealis Blake
New southernmost and state record

The original description of this species (Blake, 1931: 16) listed material from a transcontinental range: Massachusetts to Washington and south to West Virginia. The subsequent seven decades have seen no refinement of this distribution. Wilcox (1954) did not list it for Ohio, nor did the same author add new localities in his survey of the subfamily Galerucinae (Wilcox, 1965). It is therefore of some interest to provide two new collecting sites that extend the known range farther southward in the Appalachians:

Virginia: *Grayson Co.*: White Top Mountain, open field on south slope at 5000 ft. [1524 m], at jct of FS 89 and the Appalachian Trail, 11 July 1993, RLH (VMNH 2), same site, 2 August 2002, RLH (VMNH 3); Piney Creek bog, ca. 6 km SSE of Galax, 7 July 2000, SMR (VMNH 4).

Specimens from the White Top locality were taken by sweeping of low herbage in which hayscented fern (*Dennstaedtia punctilobula)* and an assortment of low composites were dominant. It was not thought at the time to determine plant associations for the beetles.

These specimens could be readily identified with the use of Blake's (1931) monograph, the outline of the aedeagus being particularly useful in excluding other eastern members of the genus.

Since both of the cited localities are less than four miles (6 km) north of the North Carolina state line, it seems inevitable that *T. borealis* will be discovered in contiguous parts of both that state and Tennessee.

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LITERATURE CITED

Aalbu, R. L., C. A. Triplehorn, J. M. Campbell, K. W. Brown, R. E. Somerby, & D. B Thomas. 2002. Tenebrionidae Latreille 1802. Pp. 463-509 *in* R. H. Arnett, M. C. Thomas, P. E. Skelley, & J. H. Frank (eds.), American Beetles. Volume 2. CRC Press, Boca Raton, FL.

Arnett, R. H. 1983. Checklist of the Beetles of North and Central America and the West Indies. Flora and Fauna Publications, Gainesville, FL. 2,173 pp.

Blake, D. H. 1931. Revision of the species of beetles of the genus *Trirhabda* north of Mexico. Proceedings of the United States National Museum 79(2): 1-36.

Brigham, W. U. 1982. Aquatic Coleoptera. Pp. 10.1-10.136 *in* A. R. Brigham, W. U. Brigham, & A. Gnilka (eds.), Aquatic Insects and Oligochaetes of North and South Carolina. Midwest Aquatic Enterprises, Mahomet, IL.

Brimley, C. S. 1938. The Insects of North Carolina. North Carolina Department of Agriculture, Raleigh. 560 pp.

Campbell, J. M. 1984. *Onychomira floridensis*, a new genus and species from Florida with a revised key to the genera of North American Alleculidae (Coleoptera). The Coleopterists Bulletin 38: 288-300.

Dillon, L. S. 1956. The Nearctic components of the Tribe Acanthocinini (Coleoptera: Cerambycidae). Part I. Annals of the Entomological Society of America 49: 134-167.

Downie, N. M., & R. H. Arnett. 1996. The Beetles of Northeastern North America. 2 volumes. Sandhill Crane Press, Gainesville, FL. 1,721 pp.

Erwin, T. L. 1981. Natural history of Plummers Island, Maryland XXVI. The ground beetles of a temperate forest site (Coleoptera: Carabidae): An analysis of fauna in relation to size, habitat selection, seasonality, and extinction. Bulletin of the Biological Society of Washington 5:105-224.

Fall, H. C. 1912. Revision of the North American species of *Collops*. Journal of the New York Entomological Society 20: 249-274.

Fattig, P. W. 1947. The Cerambycidae or long-horned beetles of Georgia. Emory University Museum Bulletin 5: 1-48.

Freude, H. 1968. Revision der Epitragini (Coleoptera, Tenebrionidae). Teil II. Entomologische Arbeiten aus dem Museum G. Frey 19: 32-143.

Kirk, V. M. 1969. A list of the beetles of South Carolina. Part 1 - Northern Coastal Plain. South Carolina Agricultural Experiment Station Technical Bulletin 1033: 1-124.

Kirk, V. M. 1970. A list of the beetles of South Carolina. Part 2 - Mountain, Piedmont, and southern Coastal Plain. South Carolina Agricultural Experiment Station Technical Bulletin 1038: 1-117.

Knull, J. N. 1946. The long-horned beetles of Ohio (Coleoptera: Cerambycidae). Ohio Biological Survey Bulletin 39: 133-354.

Knull, J. N. 1951. The checkered beetles of Ohio (Coleoptera: Cleridae). Ohio Biological Survey Bulletin 42: 269-350.

LeConte, J. L. 1852. Catalogue of the melyrides of the United States, with descriptions of new species. Proceedings of the Academy of Natural Sciences, Philadelphia 6: 163-171.

Leonard, M. D. 1928. A list of the insects of New York with a list of the spiders and certain other allied groups. Cornell University Agricultural Experiment Station Memoir 101: 5-1121.

Linsley, E. G., & J. A. Chemsak. 1995. The Cerambycidae of North America, Part VII, No. 2: Taxonomy and classification of the Subfamily Lamiinae, Tribes Acanthocinini through Hemilophini. University of

California Publications in Entomology 114: 1-292.

Löding, H. P. 1945. Catalogue of the beetles of Alabama. Geological Survey of Alabama Monograph 11: 1-172.

Peck S. B., & M. C. Thomas. 1998. A distributional checklist of the beetles (Coleoptera) of Florida. Arthropods of Florida and Neighboring Land Areas 16: 1-180.

Staines, C. L., Jr. 1983. The Rhipiceridae of Maryland. The Maryland Entomologist 2: 38-40.

Staines, C. L., Jr. 1987. An annotated checklist of the Cerambycidae (Coleoptera) of Maryland. The Maryland Entomologist 3: 1-9.

Steiner, W. E., Jr. 1995. Structures, behavior, and diversity of the pupae of Tenebrionidae (Coleoptera). Pp. 503-539 *in* J. Pakaluk & S. A. Slipinski (eds.), Biology, Phylogeny, and Classification of Coleoptera. Papers Celebrating the 80th Birthday of Roy A. Crowson. Volume 1. Muzeum i Instytut Zoologii PAN, Warszawa.

Stephan, K. H. 1989. The Bothrideridae and Colydiidae of America north of Mexico (Coleoptera: Clavicornia and Heteromera). Occasional Papers of the Florida State Collection of Arthropods 6: 1-65.

Ulke, H. 1902. A list of the beetles of the District of Columbia. Proceedings of the United States National Museum 25(1275): 1-57.

White, R. E. 1983. A Field Guide to the Beetles of North America. Houghton Mifflin Co., Boston. 368 pp.

Wilcox, J. A. 1954. Leaf beetles of Ohio (Chrysomelidae: Coleoptera). Ohio Biological Survey Bulletin 43: 353-506.

Wilcox, J. A. 1965. A synopsis of the North American Galerucinae (Coleoptera: Chrysomelidae). Bulletin of the New York State Museum 400: 1-226.

Wray, D. L. 1967. Insects of North Carolina, Third Supplement. North Carolina Department of Agriculture, Raleigh. 181 pp.

Yanega, D. 1996. Field Guide to Northeastern Longhorned Beetles (Coleoptera: Cerambycidae). Illinois Natural History Survey Manual 6. Champaign, IL. 174 pp.

Young, D. K. 2002a. Scirtidae Fleming 1821. Pp. 87-89 *in* R. H. Arnett, M. C. Thomas, P. E. Skelley, & J. H. Frank, (eds.), American Beetles. Volume 2. CRC Press, Boca Raton, FL.

Young, D. K. 2002b. Callirhipidae Emden 1924. Pp. 144-145 *in* R. H. Arnett, M. C. Thomas, P. E. Skelley, & J. H. Frank, (eds.), American Beetles. Volume 2. CRC Press, Boca Raton, FL.