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*PHYLLOPHAGA LONGISPINA* (SMITH), A NORTHERN MAY BEETLE NEW TO THE FAUNA OF VIRGINIA (COLEOPTERA: SCARABAEIDAE). — Originally described (Smith, 1889) as *Lachnosterna longispina* on the basis of three male specimens collected in Michigan (Grand Ledge) and South Carolina (locality not specified), this species has not figured frequently in subsequent literature. Adult host plants include members of the beech, dogwood, ebony, elm, heath, lily, maple, rose, walnut, and witchhazel families (Fattig, 1944; Luginbill & Painter, 1953). In their treatment on the North American May beetle fauna, Luginbill & Painter (1953) recorded *P. longispina* only from Ontario, Michigan, Indiana, Ohio, and Georgia, and noted that adults are present in May and June. Downie & Arnett (1996) merely repeated these same records. However, Brimley (1938) had recorded *P. longispina* from North Carolina (Sunburst, Haywood Co.; June and July records), McNamara (1991) listed it for Quebec, and McCutcheon et al. (1994) reported this species from six counties in West Virginia based on collections made between 20 May and 27 June. Of the 29 species of *Phyllophaga* recorded from West Virginia by these authors, *P. longispina* accounted for only 0.15% (n = 20) of the specimens examined. However, Utz et al. (2007) found that *P. longispina* was an important prey item (n = 58) of Brook Trout (*Salvelinus fontinalis*) in a Randolph County, West Virginia stream. Harpootlian (2001) recorded *P. longispina* from South Carolina (Oconee Co.), and Robbins et al. (2006) added Massachusetts and New Hampshire to the known distribution of this species. During the latter study, 106 specimens of *P. longispina* were collected at three of 59 trapping sites scattered throughout (mostly) eastern North America (no stations were in Virginia) among nearly 57,000 male *Phyllophaga* captures, thus representing only 0.19% of the total.

*Phyllophaga longispina* is added to the May beetle fauna of Virginia on the basis of the following blacklight trap collections made by staff of the Virginia Department of Conservation and Recreation, Division of Natural Heritage; voucher specimens are deposited in the Virginia Museum of Natural History (VMNH), Martinsville, Virginia, and Shenandoah National Park (SNP), Luray, Virginia:

*Bath Co.*: Warm Springs Mountain, 1 mi S of Virginia Route 39, [3100'], 4 June 1999, J. C. Ludwig (VMNH, 1). *Grayson Co.*: Grayson Highlands State Park, [vicinity of Virgil J. Cox Visitor Center, Haw Orchard Mountain, 4900'], 2 June 2011, S. M. Roble

(VMNH, 12). *Page Co.* [all sites in Shenandoah National Park]: Betty's Rock, 3671', 29 June 2005, A. C. Chazal and S. M. Roble (SNP, 4); Crescent Rock Overlook, 3551', 7 June 2006, A. C. Chazal and S. M. Roble (SNP, 1); Mary's Rock, 3477', 29 June 2006, A. C. Chazal and A. P. Hutto (SNP, 3); Pinnacles, 3754', 29 June 2006, A. C. Chazal and A. P. Hutto (SNP, 1). *Rockingham Co.*: Shenandoah National Park, Dean Mountain Ridge, 3344', 8 June 2005, A. C. Chazal and C. S. Hobson (SNP, 17).

This uncommon, primarily northern species has not been documented at other high elevation localities in western Virginia that have been sampled repeatedly (e.g., Buffalo Mountain, Burkes Garden, Peaks of Otter, Laurel Fork). Trapping at another site (red spruce stand near Massie Gap) in Grayson Highlands State Park one night earlier yielded several other species of *Phyllophaga*, but no specimens of *P. longispina*.

The North Carolina State University Entomology Department (NCSU) collection has three specimens of *P. longispina* captured recently in North Carolina by W. D. Merritt: Surry Co., Lowgap, April 2012 (1) and Watauga Co., Elk Knob State Park, 11 June 2010 (2). The former site is just south of the Virginia state line off the Blue Ridge Parkway. The recent All Taxa Biodiversity Inventory (ATBI) of Great Smoky

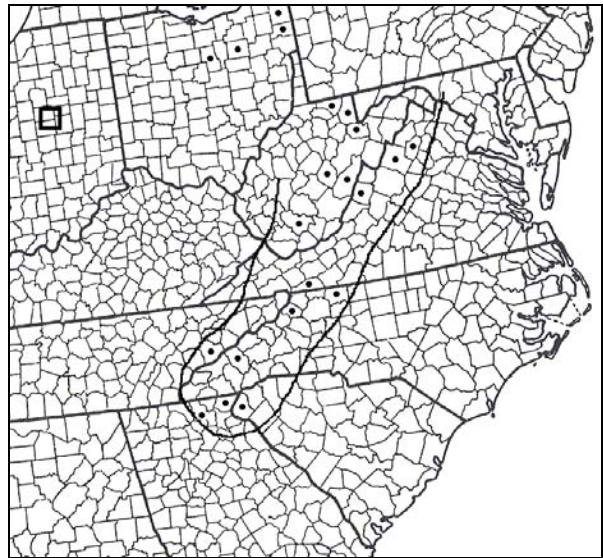


Fig. 1. County distribution (solid dots) and state records (square) of *Phyllophaga longispina* at the southern end of its range, with the inferred distributional limits (line). Records from VMNH, NCSU, Brimley (1938), Fattig (1944), Neiswander (1963), McCutcheon et al. (1994), Harpootlian (2001), Robbins et al. (2006), and Discover Life in America website (ATBI database). Luginbill & Painter (1953) recorded *P. longispina* from Indiana without details; Blatchley (1910) and Chandler et al. (1955) lacked records for that state.

Mountains National Park yielded specimens from at least three locations (Haywood Co., NC and Sevier Co., TN) in the park (Discover Life in America, 2012). Fattig (1944) recorded this species from three localities in northeastern Georgia. The distribution of *P. longispina* at the southern end of its range is confined to a rather narrow band along the Appalachians (Fig. 1).



Fig. 2. Male genitalia, with expanded aedeagus, of *Phyllophaga longispina* from Grayson Co., Virginia (upper: dorsal view; lower: right lateral view).

Luginbill & Painter (1953) provided photographs of the genitalia of many species of *Phyllophaga*, including *P. longispina*, but the images are small and, for most species, only the configuration of the heavily sclerotized terminalia was shown. We take this occasion to provide drawings of the expanded aedeagus and male metatibial spurs (Figs. 2-3). The aedeagus has numerous small, subequal black spines dispersed generally over the surface. The lower unarticulated (fixed) spur of males is about as long as the upper articulated spur; both spurs are slender and acute (Luginbill & Painter, 1953).

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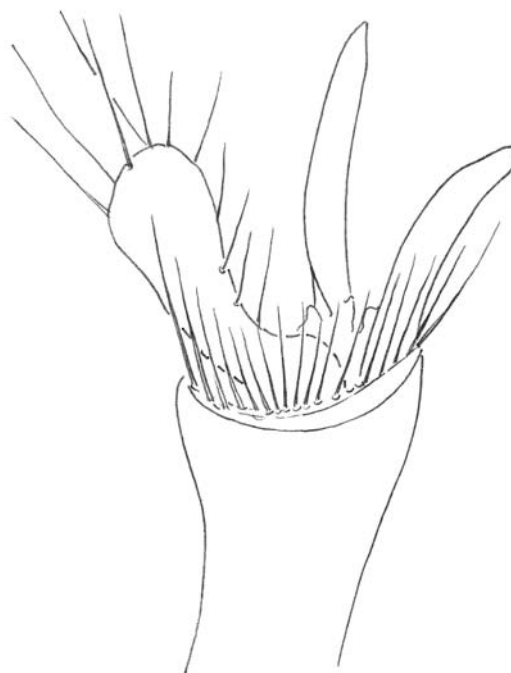


Fig. 3. Apex of metatibia of male *Phyllophaga longispina* from Grayson Co., Virginia.

earlier draft of the manuscript. Robert Blinn of the Department of Entomology, North Carolina State University, Raleigh, North Carolina generously provided records of *P. longispina* in the collection under his care.

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- Steven M. Roble  
Virginia Department of Conservation and Recreation  
Division of Natural Heritage  
217 Governor Street  
Richmond, Virginia 23219
- Richard L. Hoffman\*  
Virginia Museum of Natural History  
21 Starling Avenue  
Martinsville, Virginia 24112

\*Deceased