

## Carpenter and Leopard Moths of Virginia (Lepidoptera: Cossioidea: Cossidae, Dudgeoneidae)

Steven M. Roble

Virginia Department of Conservation and Recreation  
Division of Natural Heritage  
600 East Main Street  
Richmond, Virginia 23219

### ABSTRACT

Seven species of the moth families Cossidae ( $n = 6$ ) and Dudgeoneidae ( $n = 1$ ) are reported for Virginia based on recent field work, museum specimens, literature records, and photographs. Four species, including *Givira anna* (Dyar), *G. francesca* (Dyar), *Inguromorpha basalis* (Walker), and *Zeuzeura pyrina* (Linnaeus), are recorded from Virginia for the first time. County and city records and capture dates are reported for all species.

*Keywords:* *Givira anna*, *Givira francesca*, *Inguromorpha basalis*, *Zeuzeura pyrina*, new state records, distribution, phenology.

### INTRODUCTION

This paper is the first installment of what is projected to be a series of papers documenting our current knowledge of the moth fauna of Virginia. Cossidae is a small family containing nearly 1,000 species in 151 genera (van Nieukerken et al., 2011), mostly in tropical regions. Approximately 50 species are reported from North America (Hodges et al., 1983), mostly from the western United States. Cossids are among the largest “microlepidoptera,” with wingspans ranging up to 8.5 cm (Covell, 1984). The larger species are robust and heavy-bodied (e.g., *Prionoxystus robiniae*). Many species are mottled gray with black markings on the wings, and females are typically larger than males. The larvae bore into branches or trunks of living shrubs or trees, sometimes resulting in considerable damage, and require up to 4 years to mature (Covell, 1984). The subfamily Cossulinae was recently transferred from Cossidae to Dudgeoneidae; the latter includes 57 species assigned to six genera (Mutanen et al., 2010; van Nieukerken et al., 2011).

The most recent monograph on the Nearctic cossid fauna (sensu lato) is the century-old treatment by Barnes & McDunnough (1911), but Covell (1984) and Solomon (1995) provided useful species accounts for most of the species discussed in this paper. Collectively, Beadle & Leckie (2012) and Leckie & Beadle (2018) contain brief

accounts for all of the species discussed below. Illustrations of adults can also be found on several websites (e.g., Moth Photographers Group [hereafter MPG], Butterflies and Moths of North America [BAMONA], BugGuide [BG], iNaturalist [iNat]). The purpose of this paper is to summarize our current knowledge on the distribution and phenology of the families Cossidae and Dudgeoneidae in Virginia.

### METHODS

Staff of the Virginia Department of Conservation and Recreation, Division of Natural Heritage (VDCR-DNH), including the author since 1992, have been sampling the moth fauna of the state for the past three decades, relying primarily on ultraviolet light traps, with more limited use of mercury vapor lights, sugar baiting, Malaise traps, diurnal netting, and other methods. Virtually no larval sampling has been conducted. Although these efforts have focused primarily on macromoths, thousands of micromoth specimens have been collected and pinned, particularly during the past two decades. Most specimens of Cossidae and Dudgeoneidae have been retained from these sampling events and constitute the majority of the material that I examined for this study.

Most specimens collected by VDCR-DNH staff and collaborators are deposited in the National Museum of Natural History (NMNH), Smithsonian Institution,

Washington, DC, and the Virginia Museum of Natural History (VMNH), Martinsville, VA, or retained in a reference collection at the agency's headquarters in Richmond, VA. Specimens collected in national parks (e.g., Shenandoah National Park, Blue Ridge Parkway, George Washington Memorial Parkway) have been returned to the respective parks in compliance with U.S. National Park Service policy.

I also visited the following collections to search for Virginia specimens: National Museum of Natural History, Smithsonian Institution, Washington, DC; American Museum of Natural History (AMNH), New York, NY; Carnegie Museum of Natural History (CMNH), Pittsburgh, PA; Academy of Natural Sciences of Drexel University (ANSP), Philadelphia, PA; McGuire Center for Lepidoptera and Biodiversity (MGCL), Florida Museum of Natural History, Gainesville, FL; Cornell University (CUIC), Ithaca, NY; University of Kentucky (UK), Lexington, KY; University of Connecticut (UConn), Storrs, CT; University of Kansas (KU), Lawrence, KS; University of Maryland (UMD), College Park, MD; West Virginia University (WVU), Morgantown, WV; Virginia Museum of Natural History, Martinsville, VA; Virginia Polytechnic Institute and State University (VPISU), Blacksburg, VA; Virginia Commonwealth University (VCU), Richmond, VA; Virginia Military Institute (VMI), Lexington, VA; Radford University (RU), Radford, VA; and Shenandoah National Park (SHEN), Luray, VA. The private collections of Susan Felker (Floyd, VA) and the late William Grooms (Ashburn, VA), both currently in the possession of VDCR-DNH, also were examined. Paul Dennehy (Danville, PA) and Kelly Richers (Bakersfield, CA) provided records from their private collections, and Brent Steury checked the national park service's database for records from the George Washington Memorial Parkway (GWMP).

I also reviewed published and unpublished literature sources (including the annual Season Summary published by The Lepidopterists' Society and regional reports in the Southern Lepidopterists' News) and selected internet websites (including LepNet, MPG, BAMONA, BugGuide, iNaturalist, iDigBio, SCAN, Maryland Biodiversity Project, North Carolina Biodiversity Project, and the Society of Kentucky Lepidopterists [Covell et al., 2018]), as well as other readily available photographs, some of which were sent directly to me, for relevant records. Photographic records are listed below only if a voucher specimen is not known to exist from the corresponding county or city.

## ANNOTATED CHECKLIST

Six species (one non-native) of Cossidae and one species of Dudgeoneidae are documented from Virginia. It is possible that one additional species of Cossidae may inhabit the state. Covell (1984) illustrated the adults of five of the confirmed species and included a brief species account for each. I have cited the appropriate plate number in his field guide for each species below. The checklist numbers of Hodges et al. (1983) precede the species' names in the list below. Common names (in brackets) follow those used by Covell (1984) or Solomon (1995). Detailed collection data are provided only if few specimens or localities are documented for Virginia.

### Family Cossidae

#### Subfamily Hypoptinae

2659 *Inguromorpha basalis* (Walker)

[Black-lined Carpenterworm Moth]

#### **NEW STATE RECORD**

Covell: 60(18)

Covell (1984) listed the range of this species as southeastern New Jersey to Florida, west to Missouri and Arkansas and noted that it is common southward. The hostplant is unknown. Schweitzer (1979) recorded this species from the New Jersey pine barrens, and Covell (1999) provided records from three localities in Kentucky, where the species is uncommon. Brou (2017c) suggested that Louisiana populations of *I. basalis* have three annual broods, with a combined flight season extending from April to September.

I am aware of only two Virginia records for *I. basalis*, both of which were obtained by VDCR-DNH staff at the same locality in the southeastern corner of the state (Fig. 1): City of Virginia Beach, First Landing State Park, 25 May 2006, A.C. Chazal and A.V. Evans (2), 9 June 2014, E.C. Orcutt (1). Both collections were made at the ecotone between live oak (*Quercus virginiana* Miller) upland forest and bald cypress (*Taxodium distichum* [L.] Richard) interdunal swamp habitat. More information is needed on the distribution and status of *I. basalis* in Virginia to determine if it warrants conservation attention in the state. The lone known locality is a state park, most of which is in a relatively natural condition.

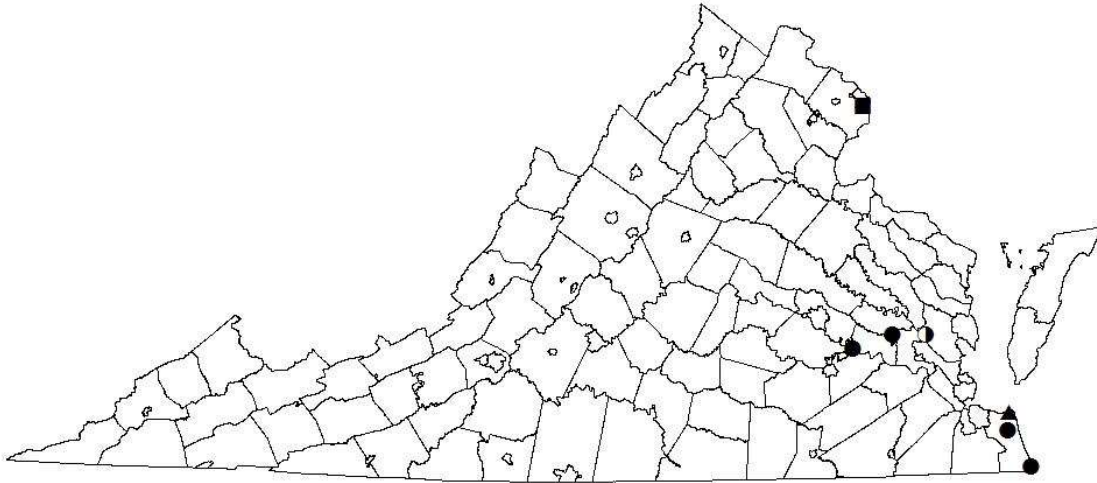


Fig. 1. Distribution of *Inguromorpha basalis* (triangle; voucher specimens), *Cossula magnifica* (triangle and dots = voucher specimens, half-filled circle = photograph), and *Zeuzera pyrina* (square; photographs) in Virginia. *Cossula magnifica* and *Z. pyrina* reach their northern and southern documented range limits, respectively, in Virginia.

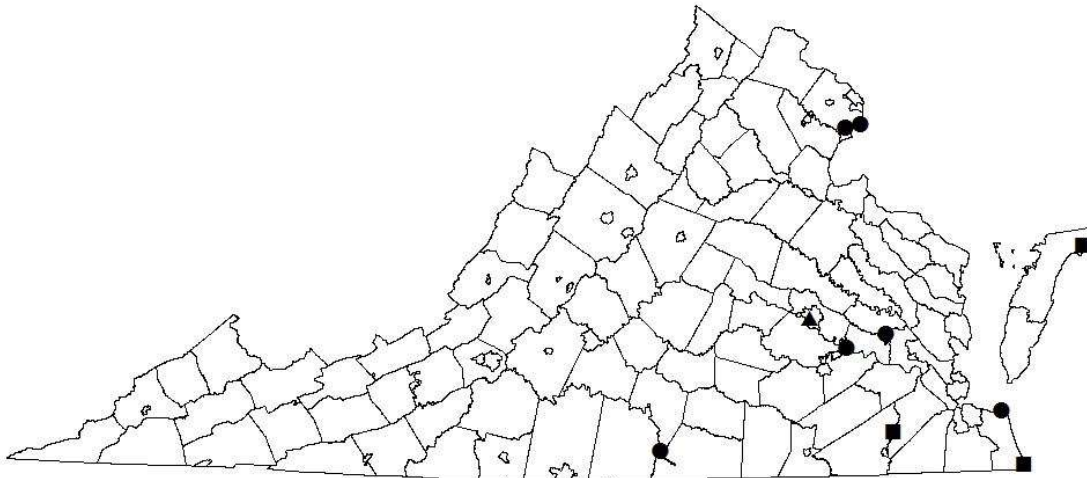


Fig. 2. Distribution of *Givira anna* (dots) and *G. francesca* (squares) in Virginia. Both species were documented at the locality (City of Richmond residential yard) indicated by a triangle.

2668 *Givira anna* (Dyar)  
[Anna Carpenterworm Moth]  
**NEW STATE RECORD**  
Covell: 60(15)

Covell (1984) listed the range of this infrequently collected species as southeastern New Jersey to Florida, west to Missouri and Arkansas, and noted that it is locally common in the Deep South, and the larvae bore into pine trunks. Schweitzer (1979) recorded *G. anna* from the New Jersey pine barrens. Brou (2017a) suggested that Louisiana populations have three annual

broods, with a combined flight season extending from March to mid-September. There are few known Virginia records of *G. anna* as detailed below, all from the eastern part of the state (Fig. 2).

Museum specimens examined: New Kent Co., 1 mi SE Lanexa, 29 July 1953, N.D. Richmond (CMNH, 1).

VDCR-DNH records: Charles City Co., Virginia Commonwealth University's Rice Environmental Education Center, 2 km SE jct. VA Rt. 5 and Co. Rt. 156, 27 June 2009, S.M. Roble and T.P. Roble (1) [also

photographed at this site on 7 June 2014 by M. Morris (BugGuide)]. Halifax Co., Kerr Reservoir, Hogan Creek Wildlife Management Area, 3 June 1998, A.C. Chazal and C.S. Hobson (1). Fairfax Co., George Washington Memorial Parkway, 1 km SE jct. Fort Hunt Road and Vernon View Drive, 30 May 2002, K.L. Derge (1); Fairfax Co., Fort Belvoir, Area T-17, 12 July 2012, C. Hobson, J. Pilcicki and T. Smith (1). City of Virginia Beach, First Landing State Park, 16 June 2007, S.M. Roble (2), 11 June 2009, A.V. Evans (2), 4 June 2014, S.M. Roble and E.C. Orcutt (1), 9 June 2014, E.C. Orcutt (1), 7 July 2014, E.C. Orcutt (2).

Photo records: City of Richmond, West 45<sup>th</sup> Street (residential yard), 6 June 2016, A. Belden (Fig. 3; image also posted on BAMONA).

Virginia flight dates: 30 May–29 July

2671 *Givira francesca* (Dyar)

[No common name]

**NEW STATE RECORD**

[Not in Covell]

*Givira francesca* is superficially similar to, but considerably smaller than, *G. anna*. Brou (2017b) suggested that Louisiana populations have four annual broods, with a combined flight season extending from April to October, reaching peak abundance in late June. February is the only month for which *G. francesca* records are lacking from Florida (Heppner, 2003). The arboreal ant *Crematogaster ashmeadi* uses the abandoned larval burrows of *G. francesca* as refuges (Tschinkel, 2002).

This species was not treated by Covell (1984), but Heppner (2003) reported that its range includes Florida, Georgia, Alabama, and Mississippi. Virginia is near the northern distributional limit of *G. francesca*, apparently exceeded only by a recent record (2015) from Dorchester County, Maryland (BugGuide; Maryland Biodiversity Project). All known Virginia records are from the eastern part of the state (Fig. 2), with both species of *Givira* documented from an urban residential yard in the City of Richmond (A. Belden, pers. comm.).

I did not find any museum specimens of *G. francesca*, but have collected this species at the following localities in southeastern Virginia: Accomack Co., Assateague Island, Chincoteague National Wildlife Refuge, 24 June 1998, A.C. Chazal and S.M. Roble (1). Isle of Wight Co., Blackwater Ecological Preserve, 4 mi S Zuni, 1 July 1994, S.M. Roble (1). City of Virginia Beach, False Cape State Park, 3–4 August 2005,



Fig. 3. *Givira anna* adult observed at mercury vapor light in the City of Richmond on 6 June 2016 (photograph by Allen Belden).



Fig. 4. *Givira francesca* specimen collected at mercury vapor light in the City of Richmond on 21 August 2018 (photograph by Allen Belden).

S.M. Roble and G.W. Wahl III (4), 7 September 2005, S.M. Roble (1). I am aware of only one other specimen record from Virginia: City of Richmond, West 45<sup>th</sup> Street (residential yard), 21 August 2018, A. Belden (Fig. 4; image also posted on BAMONA).

Virginia flight dates: 24 June–7 September

Comments: Due to the limited number of Virginia records, *G. francesca* is currently placed on the VDCR-DNH Animal Watchlist (Roble, 2016).

Subfamily Cossinae

2675 *Acosus centerensis* (Lintner)

[Poplar Carpenterworm Moth]

[Not in Covell]

This is a northern species that bores into poplars, reportedly preferring quaking aspen (Bailey, 1883). Its known range extends south to New York and New Jersey (Solomon, 1995). Since several native poplars are

present in some northern Virginia counties (Weakley et al., 2012; VBA, 2018), it is possible that *A. centerensis* occurs in that part of the state, but there are no confirmed records for Virginia or Maryland (Glaser et al., ms; Maryland Biodiversity Project).

2693 *Prionoxystus robiniae* (Peck)  
[Carpenterworm Moth]  
Covell: 7(6, 9)

This is a widespread North American species, the larvae of which bore into the wood of ash, chestnut, locust, oak, poplar, willow, and other trees (Covell, 1984). Oaks of the red oak group are the primary foodplant in the eastern and southern United States (Drooz, 1985). The damage caused by larvae decreases the value of hardwood timber (for illustrations of larval tunnels see Solomon [1995] and Cranshaw [2004]). Solomon & Hay (1974) prepared an annotated bibliography for this species, which is the most-studied cossid due to its economic importance.

*Prionoxystus robiniae* is the largest cossid in Virginia, with females considerably larger than males (female wingspans are up to 60% larger than males in Louisiana; Brou, 2009). The gray and black mottled pattern of adults is highly cryptic when they rest on tree trunks (Solomon, 1995). Color images of adults, larvae, pupae, and larval galleries are presented by Cranshaw (2004). Solomon (1995) summarized the life history of this species and provided black and white images of an adult, eggs, larva, larval gallery, pupal case, frass, a bark scar, and damage caused by larvae to trees and lumber.

The available records listed below indicate that *P. robiniae* is the most common and widespread cossid in Virginia (Fig. 5).

Literature records: Albemarle (oak damage; USDA, 1954a), Culpeper (sight record: Pavulaan, 2001), Fairfax (Brown, 2008; NMNH), Montgomery (Girault, 1913), and Rappahannock (Manderino et al., 2014 [Appendix S2]) counties; cities of Falls Church (Rohwer, 1916; description of a parasitic wasp of *P. robiniae* in chestnut [*Castanea*]), Hampton (oak damage; USDA, 1954b), Lynchburg (oak damage; USDA, 1954b), and Virginia Beach (Bastian, 2011; “fairly common”).

Specimen records (by county or city only): Arlington (NMNH), Augusta (VDCR-DNH), Bedford (VDCR-DNH, VPISU), Caroline (VDCR-DNH), Dickenson (VDCR-DNH), Fairfax (GWMP, NMNH, VDCR-DNH), Floyd (S. Felker collection), Franklin (VDCR-

DNH), Giles (VDCR-DNH, VPISU; Garriock & Caldwell, 2010), Gloucester (VCU), Hanover (VDCR-DNH), Isle of Wight (VDCR-DNH), King and Queen (VDCR-DNH), Lee (VDCR-DNH), Loudoun (W.R. Grooms collection), Montgomery (MGCL, NMNH, VPISU), New Kent (CMNH), Nottoway (VPISU), Page (SHEN), Patrick (VDCR-DNH), Prince William (KU, VDCR-DNH), Pulaski (VDCR-DNH), Richmond (VPISU), Roanoke (VPISU), Rockbridge (VMI, VPISU), Rockingham (K. Richers collection), Stafford (NMNH, VDCR-DNH), Surry (VDCR-DNH), Sussex (VDCR-DNH), Tazewell (VDCR-DNH), and Warren (CMNH, MGCL) counties and the cities of Fall Church (NMNH) and Virginia Beach (NMNH, VDCR-DNH).

Photo records (by county or city only): Bath (BAMONA), Buckingham (BAMONA, iNat), Carroll (iNat), Charles City (BG, iNat), Chesterfield (BAMONA, iNat), Greene (BG), James City (iNat), Louisa (BG), Nelson (iNat), Northampton (iNat), Northumberland (BAMONA), Pittsylvania (iNat), Powhatan (J. Reilly), and Spotsylvania (iNat) counties, and the cities of Fredericksburg (BG), Richmond (BAMONA), and Williamsburg (BG, iNat).

Virginia flight dates: 22 April–27 September

2694 *Prionoxystus macmurtrei* (Guérin-Ménéville)  
[Little Carpenterworm Moth]  
Covell: 7(7)

The range of this species extends from Quebec to Florida, west to Minnesota and Texas (Covell, 1984). The larvae bore into the wood of ash, maple, and oak (Covell, 1984). Solomon (1995) summarized the life history of this species and provided black and white images of adults, larvae in tunnels, and a pupal case. Forbes (1923) remarked that *P. macmurtrei* is “Rare in collections. Widespread but apparently quite local in distribution...” This same pattern seems to hold for Virginia, where the few known records are widely scattered, especially in the eastern portion of the state (Fig. 6). The documented flight period is much shorter than that of *P. robiniae*.

Published Virginia records: I did not find any published records that specifically document this species from Virginia, but given its widespread distribution in eastern North America, I presume that such references exist.

Museum records: Fairfax Co., Great Falls Park, 9 May

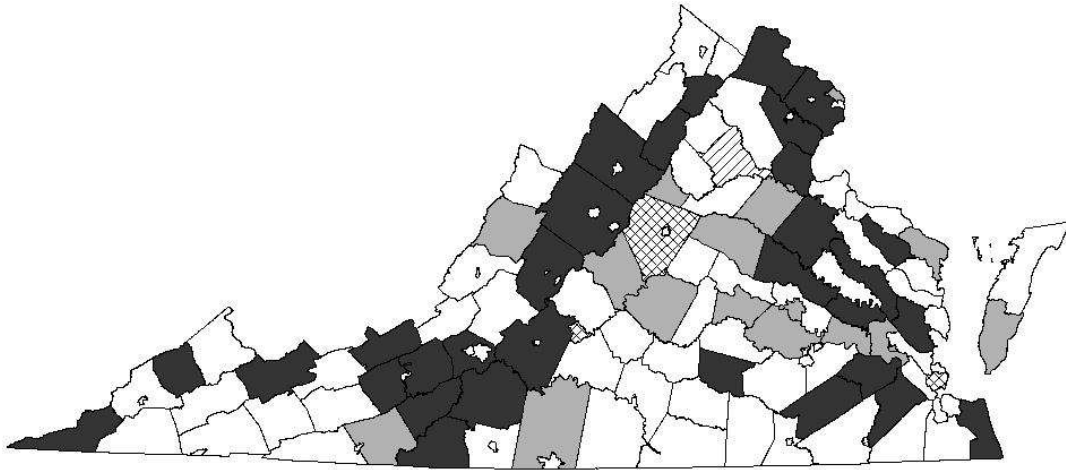


Fig. 5. County and city distribution of *Prionoxystus robiniae* in Virginia (dark shading = voucher specimens, light shading = photographs, diagonal hatching = published sight record; cross hatching = reports of tree damage).

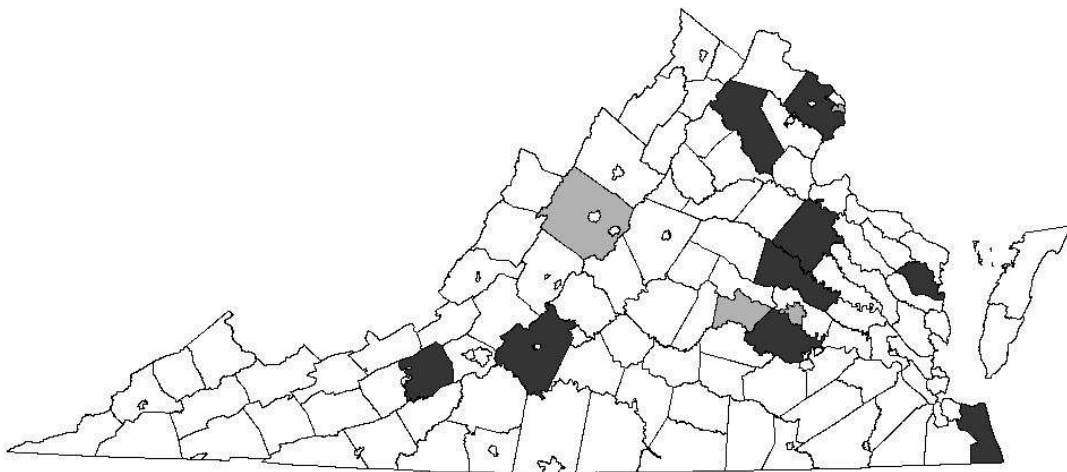


Fig.6. County and city distribution of *Prionoxystus macmurtrei* in Virginia (dark shading = voucher specimens, light shading = photographs).

2005, J. Glaser (GWMP, 1). Giles Co., Newport, 19 May 1977, B.C. Kondratieff (VPISU, 1). Montgomery Co., [probably Blacksburg vicinity], 21 May 1914, [E. A. Smyth] (NMNH, 1); same but no date [ca. 1900, E. A. Smyth] (NMNH, 2); Blacksburg, 30 May 1955, R.S. Tulloss (VPISU, 1); same locality, 7 May 1959, D. Burnett (VPISU, 1); Brush Mountain, 9 June 1963, C.V. Covell (MGCL, 1). City of Falls Church, 31 May 1916, J. N. Knull (NMNH, 1).

Private collections: Lancaster Co., 0.5 mi NE Kilmarnock, 22 May 2013, P. Dennehy (photo of specimen is BAMONA record 927857).

VDCR-DNH records: Bedford Co., Blue Ridge Parkway, Peaks of Otter Recreation Area, Sharptop Mountain, 13 June 2001, J.C. Ludwig (1). Caroline Co., Fort A.P. Hill Military Reservation, Meadow Creek below Jordan Crossing Pond, 26 May 2009, O.S. Flint and S.M. Roble (1). Chesterfield Co., Scotford Road, ca. 1.2 km SE jct. Rt 175 and 679, 24 April 2004, S.M. Roble (1); same data but 24 April 2011 (1); same data but 6 June 2015 (1). Fairfax Co., Fort Belvoir Military Reservation, 24 May 2012, C.S. Hobson and J. Pilcicki (1). Fauquier Co., Bull Run Mountain Natural Area Preserve, High Point, 4 May 2006, K.H. Bass and M.J. Kieffer (1). Hanover Co., 2 km W Vontay, 5 May 1997,

J.C. Ludwig (1). City of Virginia Beach, First Landing State Park, 4 May 2006, M.E. Dougherty and A.V. Evans (1).

Photo records: Augusta Co. (BG), Powhatan Co. (J. Reilly), City of Alexandria (BG), City of Richmond (BAMONA).

Virginia flight dates: 4 April–13 June

#### Subfamily Zeuzerinae

2700 *Zeuzera pyrina* (Linnaeus)  
[Leopard Moth]

#### **NEW STATE RECORD**

[Not figured in Covell, but mentioned in text]

This European species was introduced into the northeastern United States sometime before 1879 (Anonymous, 1904). As of the early 1980s, its range extended from Maine to Pennsylvania (Covell, 1984). There are subsequent records from Maryland (Glaser et al., ms; Maryland Biodiversity Project) and Kentucky (Covell, 1999). Photographic records on the BAMONA and iNaturalist websites indicate a current range that extends from New England west to Ontario and south to northern Virginia. The range expansion of *Z. pyrina* in North America has been slow due to the poor flight capabilities of adult females (Solomon, 1995). The larvae bore into elm, maple, and more than 100 other trees and shrubs (Solomon, 1995). They have a 2-year life cycle (Covell, 1984).

Color images of this species can be found in Cranshaw (2004), Beadle & Leckie (2012), and several websites (e.g., MPG, BAMONA, BugGuide, iNaturalist). Solomon (1995) summarized the life history of this species and provided black and white images of adults, eggs, larvae, pupae, and larval tunnels. The black and white pattern of *Z. pyrina* superficially resembles that of the Giant Leopard Moth, *Hypercompe scribonia* (Stoll), a species of tiger moth (Erebidae: Arctiinae).

I did not find any voucher specimens from Virginia, but there are four recent photographic records available online (BAMONA, BG, iNat), all from the City of Alexandria, a suburb of the District of Columbia (Fig. 1). These records apparently constitute the first documentation of *Z. pyrina* in the state, nearly a century and a half after its introduction into the Northeast. Dates of observation are 30 May 2013, 17 May 2017, 24 May 2018, and 3 July 2018, suggesting a recent arrival to Virginia.

Family Dudgeoneidae Berger, 1958

#### Subfamily Cossulinae

2674 *Cossula magnifica* (Strecker)  
[Pecan Carpenterworm Moth]  
Covell: 7(4)

Covell (1984) gave the range of this species as coastal North Carolina to southern Florida and west to Mississippi, whereas Boethel et al. (1980) and Brou (2007) provided records from Louisiana, and Solomon (1995) stated that its range extends south to Texas, Mexico, and Guatemala. Covell (1984) noted that *C. magnifica* is locally common and the larvae bore into the wood of oak, hickory, pecan, and persimmon.

Drooz (1985), Solomon & Payne (1986), and Solomon (1995) summarized the life history of this species and provided black and white images of an adult, larva, larval holes and galleries, frass, and damage caused by larvae to lumber. Color images of a larva, larval tunnels, and an entrance hole with frass are provided by Cranshaw (2004).

The first Virginia specimen of *C. magnifica* was collected more than 60 years ago, but the species was not reported from the state until Bastian (2011) described it as “rare” in his little known, self-published book on the natural history of Virginia Beach. No supporting information was provided by the author, who shared his unpublished photograph of *C. magnifica* with me. In fact, this species is common in Virginia Beach, where more than 60 specimens have been collected by VDCR-DNH staff. Its range extends farther north and inland to at least Charles City, New Kent, and Gloucester counties (Fig. 1). There are no Maryland records of *C. magnifica* (Glaser et al., ms; Maryland Biodiversity Project), but this species is widely distributed in the Coastal Plain and Piedmont regions of North Carolina, with surprisingly few records from the coastal counties of that state (North Carolina Biodiversity Project).

Museum specimens examined: New Kent Co., 1 mi SE Lanexa, 1–6 July 1956, N.D. Richmond (CMNH, 1). City of Virginia Beach: Oceana [Naval Air Station], 21 and 25 June 1973, W.A. Allen (VPISU, 2); Cape Henry, Seashore [now First Landing] State Park, 10 June 1974, D. Davis and M. Davis (NMNH, 7).

VDCR-DNH records: Charles City Co., Virginia Commonwealth University’s Rice Environmental Education Center, 2 km SE jct. VA Rt. 5 and Co. Rt. 156, 12–13 June 2004, S.M. Roble et al., Bioblitz survey (1),

27 June 2009, S.M. Roble and T.P. Roble (3). City of Virginia Beach, False Cape State Park, 5–6 July 2005, S.M. Roble (21), 2 August 2005, S.M. Roble and G.W. Wahl III (1), 3 August 2005, S.M. Roble (1). City of Virginia Beach, First Landing State Park, 20–21 June 2006, A.C. Chazal and P. Bedell (28), 16 June 2007, S.M. Roble and B.M. Roble (6), 10–11 June 2009, A.V. Evans (3), 4 June 2014, S.M. Roble and E.C. Orcutt (1), 10 June 2014, E.C. Orcutt (1), same but 24 June 2014 (1), same but 1 July 2014 (3).

Photo records: Gloucester Co., Pinetta, 4 July 2006 (T. Kain). City of Virginia Beach (“Hampton Roads area”), 1 June 2012 (BG).

Virginia flight dates: 1 June–3 August.

Covell (1984) listed the flight season of *C. magnifica* rangewide as March to June, whereas Brou (2007) reported that captures ( $n = 517$ ) at his study site in Louisiana ranged from mid-April to late July, with the vast majority taken during May and the first half of June.

#### DISCUSSION

The total of seven species in the families Cossidae and Dudgeoneidae reported from Virginia is comparable to that recorded from Kentucky (5 species; Covell, 1999), Maryland (5 species; Glaser et al., ms; Maryland Biodiversity Project), and North Carolina (6 species; North Carolina Biodiversity Project). Except for the genus *Prionoxystus*, there are few known records of Cossidae from Virginia. However, *Cossula magnifica* (Dudgeoneidae) is relatively common in sandy coastal habitats in the City of Virginia Beach (e.g., False Cape and First Landing state parks) where persimmon grows.

#### ACKNOWLEDGMENTS

Numerous VDCR-DNH staff, especially Anne Chazal, Chris Hobson, Chris Ludwig, Megan Ayers, Ellison Orcutt, Maureen Dougherty, Art Evans, Kathy Gipe (nee Derge), Amber Foster, and Tom Smith, have contributed to the agency’s efforts to document and assess the moth fauna of Virginia during the past three decades. This work has been supported directly and indirectly by numerous grants from multiple sources, as well as the citizens of Virginia. I thank Dale Schweitzer and Don Davis for verifying several of the *Givira francesca* specimens and Allen Belden for granting permission to publish his photographs of both *Givira* species.

For facilitating my visits and/or granting permission to examine specimens in their care, I thank Patricia Gentili-Poole, Donald Davis, John Brown, and James Young (NMNH), Eric Quinter (AMNH), John Rawlins and Robert Davidson (CMNH), Jon Gelhaus and Jason Weintraub (ANSP), Charles Covell and Andrew Warren (MGCL), James Liebherr and Jason Dombroskie (CUIC), Eric Chapman (UK), David Wagner and Jane O’Donnell (UConn), Zachary Falin (KU), Charles Mitter (UMD), John Strazanac (WVU), the late Richard Hoffman (VMNH), Eric Day and Paul Marek (VPISU), Karen Kester (VCU), Paul Moosman (VMI), and Karen Powers (RU). Brent Steury checked the national park service (GWMP) database for records of cossid moths collected during the survey by Steury et al. (2007). Paul Dennehy and Kelly Richers graciously provided records from their private collections and Susan Felker and William Grooms (via Robert Lyon) donated their collections to VDCR-DNH. Teta Kain and James Reilly shared their photos of Virginia moths with me.

Finally, I thank John Brown, Bo Sullivan, Steve Hall, Charlie Covell, and Dale Schweitzer for reviewing the manuscript and providing helpful comments.

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