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COMMON RINGLET (*COENONYMPHA TULLIA*), A NON-NATIVE BUTTERFLY NEW TO THE VIRGINIA FAUNA.—There is an ever-growing body of literature documenting the adverse impacts of exotic (non-native) species on native floras and faunas around the world (e.g., Drake et al., 1989; Rodda et al., 1997; Mack et al., 2000; Mack & Lonsdale, 2001; Stohlgren et al., 2003; Brockerhoff et al., 2006; Strayer et al., 2006). This realization has prompted the formation of invasive species councils and databases at both the national and state levels (e.g., U.S. Department of Agriculture, 2008).

The known macrolepidopteran fauna of Virginia, comprised of approximately 1,300 species of butterflies, skippers, and (mostly) macromoths, includes only a half dozen or so species that are not native to the state. The most ubiquitous of these is the Cabbage White (*Pieris rapae*), a European import that has been present in the state since at least the 1870s (Clark & Clark, 1951), is a pest of cabbage and related vegetables, and can be extremely abundant (e.g., Taber [2003] reported that more than 33,000 adults were estimated to have been observed during a recent Fourth of July butterfly count on the Eastern Shore of Virginia). The European Skipper (*Thymelicus lineola*) was first recorded in Virginia in 1968 (Straley, 1969); it now occurs throughout the northern and western parts of the state, having expanded its range southward since its accidental introduction into Ontario in 1910 (Opler, 1998). This species is occasionally a pest of timothy grass (*Phleum pratense*), an agricultural crop.

Among the macromoths, the Gypsy Moth (*Lymantria dispar*), yet another European import, was first recorded in Virginia around 1980 and is a well-known pest whose voracious larvae consume upwards of 178,000 ha (440,000 acres) of tree leaves (primarily

oaks) in the state annually (Virginia Tech, 2008). Despite aggressive suppression efforts by the Virginia Department of Agriculture and Consumer Services and the U.S. Forest Service's "Slow the Spread" program, this species continues to expand its range southward in Virginia (reaching Giles and Montgomery counties in the past few years).

Another recent European import is the Large Yellow Underwing Moth (*Noctua pronuba*). First documented in Virginia in 1998 (Roble et al., 1999), this species has expanded its range in the past decade to span the entire state (recent collections by staff of the Virginia Department of Conservation and Recreation, Division of Natural Heritage, range from Dickenson County in far southwestern Virginia to the City of Virginia Beach along the Atlantic Ocean). To date, we are not aware of any reports that defoliation by larvae of this species in Virginia has reached pest levels, but it was recently identified as a pest of hay (with at least one documented major defoliation event), and possibly vegetables, in Michigan (DiFonzo, 2007).

Other exotic macromoths known to occur in Virginia include the Ailanthus Silkmoth (*Samia cynthia*; present at least historically, but its current status in the state is unknown; possibly extirpated) and the noctuid *Anomis commoda*, both of Asian origin.

The increasingly popular but largely unregulated practice of releasing exotic butterflies, whether species not native to Virginia or populations of native species originating from other states, at weddings and other celebrations could potentially result in the establishment of exotic species if they can withstand the winter climate of Virginia (which will likely become more mild with global warming). Recent or future reports of tropical and subtropical species such as Queen (*Danaus gilippus*), Julia (*Dryas julia*), White Peacock (*Anartia jatrophae*), and Zebra (*Heliconius charitonius*) in Virginia should be carefully scrutinized because they may be the result of intentional releases rather than long distance movements by natural migrants or vagrants. The condition of any observed or captured individuals of these species may provide a clue as to their natural or artificial occurrence in the state, with worn individuals potentially more likely to have arrived here on their own and fresher ones more likely the result of releases.

The purpose of this note is to document the arrival of a new, non-native species of butterfly to Virginia, apparently due to an intentional translocation of the species outside of its natural range to a site near the Virginia border. On 7 August 2007, one of us (SMR) collected an adult Common Ringlet (*Coenonympha tullia*) in a beaver meadow bordering Buck Run in the Laurel Fork Recreation Area, George Washington

National Forest, in extreme northwestern Highland County, Virginia. This site is within 0.5 km of the West Virginia state line. On 16 June 2008, MWD observed an adult Common Ringlet nectaring on Hawkweed (*Hieracium aurantiacum*) in a grassy meadow along Slabcamp Run, a nearby drainage less than 1 km farther south in the Laurel Fork Recreation Area. He returned to the site two days later and observed three more adults, vouchering one specimen. Our observations span two field seasons, thus suggesting that a reproducing population of Common Ringlets now inhabits the Laurel Fork Recreation Area.

The Common Ringlet is a Holarctic species that ranges from Alaska to Baja California in western North America, but only as far south as northern Wisconsin and Michigan east to southern Ontario, southern Quebec, the New England states and Long Island, New York in the East (Opler, 1998). Glassberg (1999) reported that the species did not originally occur in the northeastern United States, but has been expanding its range southward due to the appearance of a double-brooded population in eastern Canada in the early 1960s. It was first recorded in Maine in 1968, the lower Hudson River Valley in 1990, and New Jersey in 1994 (Cech & Tudor, 2005). Glassberg (1999) boldly predicted that it will eventually reach Georgia, whereas Cech & Tudor (2005) noted that its rate of range expansion appears to have slowed during the past decade.

We are not aware of any previous reports of Common Ringlets in Virginia and our discovery of this species in the mountains raised doubts that this population was part of the expanding northeastern United States population. Several posts on a butterfly listserv as well as feedback from several butterfly enthusiasts lead us to conclude that the Virginia records of Common Ringlet represent recent emigrants from a population that was intentionally introduced at Spruce Knob Lake in eastern West Virginia (Randolph County near Pendleton County line). This site is 15-20 km north of the Laurel Fork Recreation Area. Apparently, an anonymous butterfly enthusiast translocated the species to the Spruce Knob area from New England within the past decade (the species was not recorded for West Virginia by Allen [1997]). Our specimens are assignable to the subspecies *Coenonympha tullia inornata* (Inornate Ringlet), which is known to inhabit the northeastern United States. Common Ringlets are reportedly now abundant around Spruce Knob Lake and we believe that this population has expanded via dispersing individuals to extend south across the West Virginia-Virginia border into the Laurel Fork Recreation Area. The recent arrival of this species into Virginia from the introduced population at Spruce

Knob Lake may obscure the documentation of the possible future arrival of the naturally expanding population from the Northeast. What impact, if any, the Common Ringlet will have on the native biota of the Laurel Fork Recreation Area or other parts of Virginia remains to be determined. Cech & Tudor (2005) characterized this species as an adaptive generalist with boreal affinities.

Voucher specimens of Common Ringlets from the Laurel Fork Recreation Area will be deposited in the Virginia Museum of Natural History, Martinsville, VA.

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