

## Records of Butterflies and Skippers from the Southeastern Piedmont of Virginia

Anne C. Chazal, Steven M. Roble,  
Christopher S. Hobson, and Amber K. Foster<sup>1</sup>

Virginia Department of Conservation and Recreation  
Division of Natural Heritage  
217 Governor Street  
Richmond, Virginia 23219

### ABSTRACT

Little information is available on the butterflies and skippers from the southeastern Piedmont of Virginia. Records of butterfly and skipper species, kept incidental to field surveys for rare, threatened, and endangered animals on Fort Pickett – Maneuver Training Center, are presented. Fifty-one species of butterflies and skippers were identified on FP-MTC. Of these, 45 species were documented as new county records in at least one county. A total of 81 new county records are reported.

Key words: butterfly, inventory, Lepidoptera, military base, skipper

### INTRODUCTION

A total of 168 species of butterflies and skippers (superfamilies Papilionoidea and Hesperioidea, respectively) have been documented in Virginia (Clark & Clark, 1951; Covell, 1967; Opler et al., 1995; Pavulaan, 1997; Roble et al., 2001). Very little information is available on the butterflies and skippers from the southeastern Piedmont of Virginia. Specifically, Nottoway, Dinwiddie, and Brunswick counties are all under-represented in documentation of even common butterflies and skippers (Opler et al., 1995). For example, the monarch (*Danaus plexippus*), one of the most-recognized lepidopterans, has not been reported from these three counties although they are well within its range and ample habitat is available. This paper documents butterflies and skippers observed in these three counties by zoological staff of the Virginia Department of Conservation and Recreation, Division of Natural Heritage (DCR-DNH), in the course of working on Fort Pickett – Maneuver Training

Center (FP-MTC) during 1993, 1999, and 2000.

FP-MTC is located in the southeastern portion of the Piedmont physiographic region (Fenneman, 1938) primarily within Nottoway, Dinwiddie, and Brunswick counties, Virginia (a small portion lies within Lunenburg County) (Fig. 1). The area is predominantly rural in character with land-use and industry being largely forestry-related (Johnson, 1991; Thompson, 1991). The climate is classified as humid subtropical with hot humid summers and mild winters (Woodward & Hoffman, 1991). The topography is characterized by rolling plains dissected and drained by the Nottoway River and its tributaries. The Fall Line, marking the boundary between the hard, resistant bedrock of the Piedmont and the softer sedimentary deposits of the Coastal Plain, lies approximately 29 km (18 mi) east of the base. Elevation ranges from 58 to 137 m (190-450 ft) above sea level (Fleming & Van Alstine, 1994).

FP-MTC covers approximately 18,251 ha (45,100 acres), a large part of which is undeveloped to provide a natural landscape for military training activities. These same areas are used for forestry and wildlife management. About one quarter of FP-MTC is designated as a ‘controlled access area’ (CAA), and contains firing ranges and target sites for artillery and

<sup>1</sup>Present address of AKF: Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation, 101 N. 14th Street, 11th Floor, Monroe Building, Richmond, VA 23219

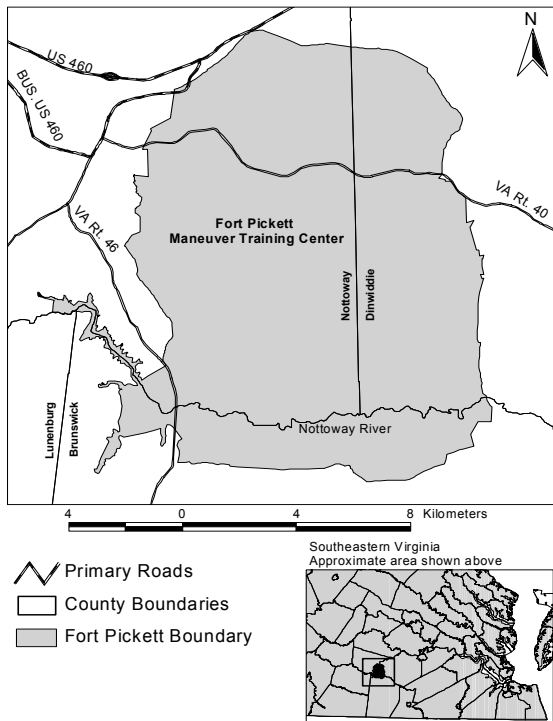


Fig. 1. Location and boundaries of Fort Pickett-Maneuver Training Center.

small arms training. This results in frequent fires, and the presence of unexploded ordnance has constrained development and forestry practices in this area.

In 1993, 1999, and 2000, FP-MTC contracted with DCR-DNH to conduct surveys for rare and endangered species. In the course of this fieldwork, lists of butterflies and skippers observed were often kept. It was not the intent of these surveys to develop a comprehensive species list for lepidopteran species occurring on the base. Thus, the list reported here is not necessarily a complete species list for FP-MTC but reports observations recorded incidental to field surveys.

Surveys were conducted in a variety of habitats including fire-maintained pine savannah, old fields, bottomland hardwood forest, upland pine/oak forests, riversides, ponds, and beaver meadows. Not all habitats were equally surveyed. For example, access to the fire-maintained pine savannah was limited to only 3-4 mid-summer surveys each year due to on-going training on the base. Observations may also reflect roadside and residential area sightings. Some specimens were collected; however, most records are based on visual identification. Collected specimens are located in the

DCR-DNH collection.

Records of butterfly species were gathered from field notes taken by each zoologist. If exact locations were known, the county in which the observation took place was indicated. Observations where the location was vague or uncertain were not included in the data.

Fifty-one species of butterflies and skippers were identified on FP-MTC (Table 1). Of these, 45 species were observed in at least one new county compared to data presented by Opler et al. (1995). A total of 81 new county records were documented. None of the species is considered rare or endangered by DCR-DNH (Roble, 2003).

By way of comparison, Clark & Trainer (1941) documented 73 species of butterflies and skippers during surveys for Lepidoptera from adjacent Prince Edward County. Opler et al. (1995) listed 75 species from this county. In 1998 and 1999, a survey of butterflies and skippers was conducted by DCR-DNH on Marine Corps Base, Quantico in the northeastern Piedmont of Virginia. Sixty-one species were documented from habitats similar to those at FP-MTC (Chazal, 2000). It is likely that the number of butterfly and skipper species present on FP-MTC is higher than reported here and that further, more concentrated efforts would expand the list.

The diversity, complex life cycles, and numbers of Lepidoptera make them an important component of ecological systems as pollinators, prey, and primary consumers. Butterflies and skippers are relatively well-studied groups of insects because of their accessibility and their aesthetic appeal; however, they are often overlooked as an important part of natural resource management. The first step to including them in the conservation process is to identify the species present and the habitats with which they are associated. The records presented here should help to fill information gaps in our understanding of the distribution of butterflies and skippers in Virginia.

#### ACKNOWLEDGMENTS

The Commonwealth of Virginia, Department of Military Affairs, provided funding to DCR-DNH for fieldwork in 1999-2000. Funding for fieldwork conducted in 1993 was provided by Fort Pickett and administered by the U.S. Department of Defense and The Nature Conservancy. Numerous people helped with access to FP-MTC including Bob Wheeler, Verl Emrick, Jennifer Cooke, Mark Daniel, and Joe Bozo. Katharine L. Derge and Sherri E. White assisted with zoological fieldwork.

Table 1. Butterfly and skipper species observed by DCR-DNH in 1993, 1999, and 2000 on FP-MTC. The county in which the observation occurred is given. An ‘X’ indicates visual observation only, a ‘C’ indicates a specimen from FP-MTC is in the DCR-DNH collection, an ‘O’ indicates the species is reported from that county by Opler et al. (1995), and a ‘P’ indicates a photograph was taken by S. M. Roble. Common names follow Opler et al. (1995).

<u>Family</u>	<u>Species</u>	<u>Common name</u>	<u>Brunswick</u>	<u>Dinwiddie</u>	<u>Nottoway</u>
Papilionidae	<i>Battus philenor</i>	Pipevine swallowtail			X, O
	<i>Eurvtides marcellus</i>	Zebra swallowtail	X	X	X, O
	<i>Papilio glaucus</i>	Eastern tiger swallowtail	X	X	X, O
	<i>Papilio polyxenes</i>	Black swallowtail		X	X
	<i>Papilio troilus</i>	Spicebush swallowtail	X	X	X
Pieridae	<i>Anthocharis midea</i>	Falcate orangetip	X		O
	<i>Colias eurvtheme</i>	Orange sulphur	X, O	X, O	X, O
	<i>Eurema lisa</i>	Little yellow		X	
	<i>Eurema nicippe</i>	Sleepy orange	X		
	<i>Phoebis sennae</i>	Cloudless sulphur	X	X	X, O
	<i>Pieris rapae</i>	Cabbage white	X, O		X, O
Lycaenidae	<i>Callophrys ervneus</i>	Juniper hairstreak	X		O
	<i>Calycopis cecrops</i>	Red-banded hairstreak	X		X
	<i>Celastrina ladon</i>	Spring azure	X		
	<i>Celastrina neglecta</i>	Summer azure	C	X	X
	<i>Everes comyntas</i>	Eastern tailed-blue	X	C	X, O
	<i>Feniseca tarquinius</i>	Harvester	C		
Nymphalidae	<i>Asterocampa celtis</i>	Hackberry emperor	C		
	<i>Asterocampa chlyton</i>	Tawny emperor	X	X, O	
	<i>Cercyonis pegala</i>	Common wood nymph		X, O	X
	<i>Chlosyne nycteis</i>	Silvery checkerspot	C		
	<i>Cyllopsis gemma</i>	Gemmed satyr			C
	<i>Danaus plexippus</i>	Monarch	X	X	X
	<i>Eutroia claudia</i>	Variiegated fritillary	X	C	X
	<i>Hermeuptychia sosvbis</i>	Carolina satyr	C	C, O	C, O
	<i>Junonia coenia</i>	Buckeye	X	X	X
	<i>Libytheana carinenta</i>	American snout		X	X
	<i>Limenitis archippus</i>	Viceroy		X	X
	<i>Limenitis arthemis astyanax</i>	Red-spotted purple			P
	<i>Megisto cymela</i>	Little wood satyr	X	X, O	X
	<i>Phyciodes tharos</i>	Pearl crescent	X	C	C, O
	<i>Polveonia comma</i>	Eastern comma			X
	<i>Polygona interrogationis</i>	Question mark			X
	<i>Satyrodes appalachia</i>	Appalachian brown	X	C, O	X
	<i>Speyeria cybele</i>	Great spangled fritillary	X	X	X
	<i>Vanessa atalanta</i>	Red admiral		X, O	O
	<i>Vanessa cardui</i>	Painted lady			X
<i>Vanessa virginiensis</i>	American lady	X	X	X	
Hesperiidae	<i>Achalarus lyciades</i>	Hoary edge		X	C
	<i>Ancyloxypha numitor</i>	Least skipper	X	X	X
	<i>Atalopedes campestris</i>	Sachem		X	X
	<i>Eparevireus clarus</i>	Silver-spotted skipper	X	C	X
	<i>Erynnis baptisiae</i>	Wild indigo duskywing			C
	<i>Erynnis horatius</i>	Horace's duskywing		C, O	O
	<i>Erynnis juvenalis</i>	Juvenal's duskywing	X		O
	<i>Euphyes dion</i>	Dion skipper		C	
	<i>Nastra lherminier</i>	Swarthy skipper	O	O, X	
	<i>Poanes zabulon</i>	Zabulon skipper	C	X	X
	<i>Polites themistocles</i>	Tawny-edged skipper	O	X	
	<i>Pompeius verna</i>	Little glasswing	X	X	
	<i>Thorybes bathyllus</i>	Southern cloudwing	X	C	C

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