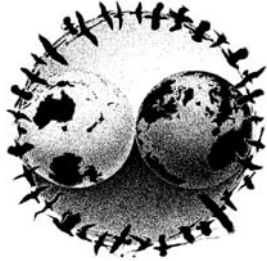


**REINTRODUCTION OF GRIZZLED SKIPPER (*PYRGUS WYANDOT*) AND
OLYMPIA MARBLE (*EUCHLOE OLYMPIA*) TO NIOC SUGAR GROVE:
2008 FIELD SEASON REPORT.**



**A REPORT TO THE
NAVY INFORMATION AND OPERATIONS COMMAND,
SUGAR GROVE, WEST VIRGINIA**

Providing

A report summarizing attempts to locate historical Grizzled Skipper and Olympia Marble populations in West Virginia.

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Report on Butterfly Reintroduction Project (2008 field season)

Background

The butterfly reintroduction project was proposed in a biological assessment of the Shale Barren Rock Cress (Nott 2006) and other species endemic to the rare shale barren habitats of the Appalachians. Since the mid to late 1980's two species of butterfly, the Grizzled Skipper (*Pyrgus Wyandot*) and Olympia Marble (*Euchloe olympia*) have been extirpated from many West Virginia shale barrens, including the Little Fork shale barren that lies within the stewardship of NIOC Sugar Grove, West Virginia. The report, submitted to NIOC Sugar Grove and the West Virginia Department of Natural Resources, concluded that these two species should be reintroduced to the shale barrens, and that the use of pesticides to control Gypsy Moth eruptions should not be permitted in the vicinity of shale barrens. The Little Fork shale barren provides an ideal location for reintroduction because a) access to high security DoD installations is extremely limited, b) Grizzled Skipper larvae feed exclusively on Canada Cinquefoil (*Potentilla canadiensis*) which appears to benefit from minimally invasive management of the trails and open clearings adjacent to the barren, and c) Forest Service pesticide spraying can be controlled not to impact the barren and adjacent habitat.

2008 Field Season

Attempts to locate historical populations and reintroduce the two butterfly species in the 2008 field season were conducted under the supervision of Dr. Phil Nott (IBP) with help, advice, and guidance from Steve Neithamer of NIOC Sugar Grove, West Virginia Natural Heritage Program biologist; Ashton Berdine, expert West Virginia lepidopterist, Thomas Allen; the USDA Forest Service (George Washington Ranger District), and the Virginia Department of Game and Inland Fisheries (DGIF).

Area search methods were employed to survey historical locations of Grizzled Skipper and Olympia Marble populations. Surveys were conducted between the flying hours of 11am and 4pm on warm sunny days (Allen 2007). Because West Virginia Grizzled Skipper larvae feed exclusively on Canada Cinquefoil and are leaf-rolling larvae. Thus, larvae may be detected by scanning patches of cinquefoil on trail sides and among

clearings associated with shale barrens. Similarly, Olympia Marble larvae feed on the very obvious vertical flowering bolts of rock cresses and mustards. The precise locations of historical populations and abundant cinquefoil habitat were recorded using Garmin GPS76 units. Those locations are deliberately withheld from this report and will be supplied on a need-to-know basis.

Phil Nott surveyed three historical locations of Grizzled Skipper and Olympia Marble populations in West Virginia shortly after the flowering of Red Bud and Dogwood in April 2008. No eggs, larvae, or flying adults were detected at Larenim Park, or at Hardy County and Pendleton County locations including the Little Fork shale barren. Between May and August two interns, Craig Campeau and Mack Frantz extended the surveys to include the Little Fork shale barren adjacent to the NIOC Sugar Grove satellite dish site; Larenim Park, Mineral County; powerline corridors in Hardy County, and Nathaniel Mountain. They also visited a number of undisclosed shale barren locations on Forest Service land. All species of Lepidoptera observed were recorded.

Late in the season the interns gained permission to survey a privately-owned shale barren on Route 50 near Burlington, West Virginia and reported evidence of Grizzled Skipper larval activity in the form of rolled leaves and silk trails. The interns had been instructed no to disturb such sites. IBP wrote to the owners seeking permission to visit again with Ashton Berdine and confirm the finding, and also collect gravid females in the spring of 2009. We received no reply and will attempt to contact the land owners again during the winter of 2008-09.

The interns re-established four butterfly transects that were initiated in 2007 and conducted surveys towards updating the NIOC Sugar Grove Butterfly Checklist. For each of a suite of more common butterflies and birds the interns designed two-sided, color-illustrated identification sheets.

Current Problems and Possible Solutions

- a) The main obstacle to relocating Olympia Marble and Grizzled Skipper to NIOC Sugar Grove is that our survey failed to detect adults, eggs, larvae, or pupae at any of

the historical locations so far (perhaps excepting the Route 50 site). We have concluded that the two species may have been extirpated from these locations. US Forest Service and State of Virginia officials have expressed that we can gain permission to collect live Olympia Marble females from USDA National Forest land in Virginia for relocation to Sugar Grove. Unfortunately, Virginia DGIF will not give permission to collect Grizzled Skipper from the last extant population in Virginia, which is also declining.

- b) After egg-laying flights have finished the collecting of larvae or pupae for relocation is not recommended if the source population is small. Thus, given funding, we intend to continue surveying historical locations next year and again report our findings to the West Virginia Natural Heritage Program. We will also gain permission to revisit the Route 50 location during the flight period.
- c) An historically abundant population of Grizzled Skipper inhabited forest trails on private land in Greenbrier County, although reports from recent years have suggested this population has dramatically declined in the last ten years (West Virginia DNR Natural Heritage Program). Despite several attempts to contact the owner's representative we have not yet gained permission to survey the property. We will continue to attempt to gain permission to survey.

Grizzled Skipper is listed by West Virginia Natural Heritage Program as a Species of Greatest Conservation Need. IBP is liaising with West Virginia DNR to pursue recovery of this species and assess the state-wide conservation status of Olympia Marble.

References

Allen, Thomas J., 1997. The butterflies of West Virginia and their caterpillars, Pittsburgh, Pa. : University of Pittsburgh Press, c1997

Nott M.P. 2006. Shale Barren Rock Cress (*Arabis Serotina*): A Literature Review and Analysis of Vegetation Data. *Technical report to the Navy Information and Operations Command, Sugar Grove, West Virginia* ([PDF](#)).