

Term Project, NATH 2275, Pat Durkin

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"Preserving Trash Habitat for Butterflies"

Like all of us, Nature is a clever exploiter of resources: for any uneven distribution of energy, any chemical potential, organisms have adapted that can turn that energy gradient into a source of food and thus the basis of life.

So it should not be surprising that even in the most barren, apparently unproductive habitats, life is to be found. But what might be unexpected is that some of our most charismatic wildlife, the butterflies, call these so-to-speak "waste grounds" home.

For the most part, members of a population of butterflies don't move around a lot (the migration of Monarchs to Mexico is a stunning exception). They are dependent on the local plant life to provide nectar for flying adults as well as leaves for crawling, chewing larvae. While most adults can take nectar from various sources, caterpillars of most species specialize in eating one species of plant and overcoming that plant's chemical defenses.

Here in the mid-Atlantic region, we encounter all sorts of "trash habitat." Consider just three: serpentine barrens; damp meadows; and transition habitats. For each, there are specialist caterpillars that can exploit the sort of flora growing there – larval butterflies that have achieved some parity in the biochemical arms race with their food. Rich Cech and Guy Tudor, in their handbook *Butterflies of the East Coast*, explain what kinds of colorful fliers can be found in each place.

Serpentine barrens (like the protected area called Soldier's Delight in Maryland) are just one class of various habitats with reduced productivity due to deficiencies of the underlying geology. Plant life under such conditions must cope with soils that are laden with heavy metals and that retain water poorly. And in turn, the butterfly species that thrive here must digest the food plants' unusual chemistry. Serpentine specialists include one of the delicately-patterned hairstreaks (Edwards' Hairstreak) and several of the sprightly skippers.

Damp meadows and water edges are likewise difficult to turn to economic use, but this class of habitat provides sustenance to a wide variety of butterfly life. Denizens include the Baltimore Checkerspot, recognized as the state insect of Maryland for its vivid gold and black pattern.

Finally, the category of "transition habitats" represents several different milieus marked by humans but not so strongly that they cannot support abundant life – fallow fields, scrubby second growth, power line cuts, and rural roadsides. Almost all of the mid-Atlantic's butterfly families are represented in transition habitats: Black Swallowtail, American Copper, Variegated Fritillary, and many members of the skipper family.

These apparent waste grounds nevertheless require attention lest they be overused or degraded so that they can't support butterfly life. They can be preserved by measures large and small.

In the large, we should resist pressures to exploit barrens lands for various uses, like renewed mining of metals. We should continue to find ways to protect damp meadows and wetlands in general, whether by direct land acquisition through public or private entities or by conservation easements.

Land management practices in the small can make a big difference to the success of butterflies in the various transition habitats. Indiscriminate mowing (too early, too often, too closely) kills butterflies in the larval and pupal form and takes out the plants that adults and caterpillars depend on for food.

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