



Best Survey Period



Status: State threatened

Global and state rank: G4G5/S2S3

Family: HesperIIDae (skippers)

Range: Found locally over most of eastern United States from Wyoming, central Colorado, northern New Mexico, and central Texas east to New Hampshire and Massachusetts; south to Florida and the Gulf Coast; north to Michigan and Manitoba (Galsberg 1999).

State distribution: Very local, but occurs scattered throughout much of the Lower Peninsula having been recorded from a total of 19 counties (MNFI 2006, Nielsen, 1999). Probably occurs in small colonies elsewhere in the state. The dusted skipper may be overlooked at sites as adults are flying in habitats that don't appear very conducive to butterfly watching during May and June. For example, sites that are dominated by warm season grasses which are slow to green and often contain few or widely scattered nectar sources.

Recognition: The dusted skipper (Lepidoptera: HesperIIDae) has a wingspan between 28-34 mm with much frosting on the marginal wing areas below. The most diagnostic feature of this skipper is **that adults**

have a "masked" appearance due to their dark eyes being bordered by the white palps below and a white eye stripe above (Glassberg 1999). The caterpillar is pink-lavender dorsally and pale gray on the sides and is covered with long, yellow-white hairs (Glassberg 1999). Similar species in overlapping habitats include the cobweb skipper (*Hesperia metea*) and the roadside skipper (*Amblyscirtes vialis*). The cobweb skipper is smaller and has well-defined white spots on the forewing below. The roadside skipper is considerably smaller and lacks the white eye stripe.

Best survey time: The single brooded, adult flight period for the dusted skipper stretches from late May through, mid-June in Michigan with the peak abundance occurring in early June in most years. The best way to survey for this species is by meandering thorough potential habitat while checking nectar sources or perches such as low forbs and grasses.

Habitat: In Michigan, the dusted skipper occurs in remnant, dry sand prairies, openings within oak and oak-pine barrens, and dry open fields where native warm season grasses occur. The dusted skipper is considered by some to be a remnant-dependent species (Panzer et al. 1995). These areas are usually dominated by grasses such as little bluestem (*Schizachyrium scoparium*), poverty grass (*Danthonia spicata*), and



fall witchgrass (*Leptoloma cognatum*). Forbs commonly found in *hianna* habitat include wild strawberry (*Fragaria virginiana*), birdfoot violet (*Viola pedata*), rough blazing star (*Liatris aspera*), butterflyweed (*Asclepias tuberosa*) various asters (*Aster* spp.), lupine (*Lupinus perrennis*), and horsemint (*Monarda punctata*). Rare plants associated with the dusted skipper include pale agoseris (*Agoseris glauca*), Alleghany plum (*Prunus alleghaniensis* var. *davisii*), and Hill's thistle (*Cirsium hillii*).

Biology: A single brood in the north with two broods (March-April, October) in Florida. Adult males perch low to the ground or on the ground awaiting receptive females. Adults are wary, flying swiftly and darting from perch to perch covering lots of territory (personal observations). Males when flushed from perches tend to fly off into the distance, whereas females usually settle just a few meters from their original perch (Iftner et al. 1992). Adults have been observed visiting various flowers including blackberry (*Rubus* sp.), red clover (*Trifolium pratense*), strawberry (*Fragaria virginiana*), puccoon (*Lithospermum* sp.), phlox (*Phlox* sp.), vervain (*Verbena* sp.), dwarf dandelion (*Krigia biflora*), goat's beard (*Tragopogon* sp.), Russian olive (*Elaeagnus angustifolia*), cinquefoil (*Potentilla* sp.), purple vetch (*Vicia americana*), penstemon (*Penstemon* sp.), and pale agoseris (*Agoseris glauca*). Big (*Andropogon gerardii*) and little bluestem (*Andropogon scoparius*) are known larval host plants (Opler and Krizek 1984). The larvae feed on grass blades and bind several leaves together to form a shelter. Late instar (or nearly full-grown larvae) over winter, with pupation occurring the following spring in a sealed case at the base of the host plant 1-3 inches above the ground (Heitzman and Heitzman 1974).

Conservation/management: Habitat protection and enhancement are essential to the conservation and long-term survival of the dusted skipper in Michigan. Habitat destruction from non-consumptive recreation (ORV use) and military use, certain silvicultural practices, loss of habitat due to encroachment by woody plants, and development continues to threaten this species. Immediate action should be taken to protect existing populations from further habitat degradation and loss. Fire suppression has encouraged the closing of formerly open-canopied oak and oak-pine barrens and reduced the size and quality of adjoining sand

prairies. Managing the prairie and barrens communities, especially through carefully controlled, prescribed burns, is critical to the long-term survival of the skipper. Prior to beginning a burn management program, the location and extent of habitat use of populations of the dusted skipper and other rare plant and animal species should be determined. Burn management units should be established with special attention to micro-geographic variation in the distribution of rare species and their host plants (Opler 1981). Dividing sites into several management units, burned in a rotation, should assure that a substantial fraction of the population is unexposed to fire in any prescribed burn. For division to be effective, however, actual skipper habitat within a site has to be determined so that it will be divided among the units (Dana 1991). As with other leaf sheltered larvae that overwinter, fall or early spring burning may pose a greater risk than late spring burns because it may catch a substantial fraction of the dusted skipper caterpillars still in elevated shelters (Dana 1991, Heitzman and Heitzman, 1974). It could also have an additional impact by depriving larvae of the insulating value of litter and dead vegetation, which helps to hold snow cover (Ehrenreich and Aikman 1963).

Research needs: In Michigan the dusted skipper has not been seen in recent years at many of the sites with previous records. Therefore, a first step would be to re-survey for them. Additional habitat should be systematically surveyed as well. Most of the research on this species has been conducted in Missouri (Heitzman and Heitzman, 1974) or Pennsylvania and New Jersey (Shapiro 1965). Therefore, more life history studies need to be conducted in the Great Lakes region before more specific management recommendations can be provided. Studies should focus on larval ecology, population dynamics, dispersal capabilities of adults, and information on habitat requirements other than foodplants. Very site specific studies should look at where the skipper occurs on the site before any burn regimens are implemented. Any information on speed of recolonization after prescribed burns would be useful. This information can be used to better design management units and burn rotations.

Related abstracts: dry sand prairie, pine barrens, oak-pine barrens, Hill's thistle, pale agoseris



Selected references

- Dana, R.P. 1991. Conservation management of the prairie skippers *Hesperia dacotae* and *Hesperia ottoe*: basic biology and threat of mortality during prescribed burning in spring. Minnesota Agricultural Experiment Station Bulletin 594-1991. (AD-SB-5511-S). University of Minnesota, St. Paul.
- Ehrenreich, J.H., and J.M. Aikman. 1963. An ecological study of the effects of certain range management practices on native prairie in Iowa. Ecol. Monogr. 33: 113-130.
- Glassberg, J. 1999. Butterflies through binoculars: The East. Oxford University Press, New York. 242 pp.
- Heitzman, J.R., and R.L. Heitzman. 1974. *Atrytonopsis hianna* biology and life history in the Ozarks. J. Res. Lepid. 13:239-45.
- Iftner, David C., John A. Shuey, and John V. Calhoun. 1992. Butterflies and skippers of Ohio. Ohio Bio. Surv. Bull. New Series Vol. 9 No. 1 xii + 212 pp., 40 color plates.
- Nielsen, M.C. 1999. Michigan butterflies and skippers: A field guide and reference. Michigan State University Extension Bulletin E-2675. 248 pp.
- Panzer, R., D. Stillwaugh, R. Gnaedinger and G. Derkovitz. 1995. Prevalence of remnant-dependence among the prairie and savanna-inhabiting insects of the Chicago region. Natural Areas Journal 15(2): 101-116.
- Opler, P. A. 1981. Management of prairie habitats for insect conservation. Natural Areas J. 1(4): 3-6.
- Opler, P. A., and G. O. Krizek. 1984. Butterflies east of the Great Plains. Johns Hopkins Univ. Press, Baltimore.
- Shapiro, A.M. 1965. Ecological and behavioral notes on the *Hesperia metea* and *Atrytonopsis hianna* (Hesperiidae). J. Lepid. Soc. 19(4): 215-21.

Abstract citation

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