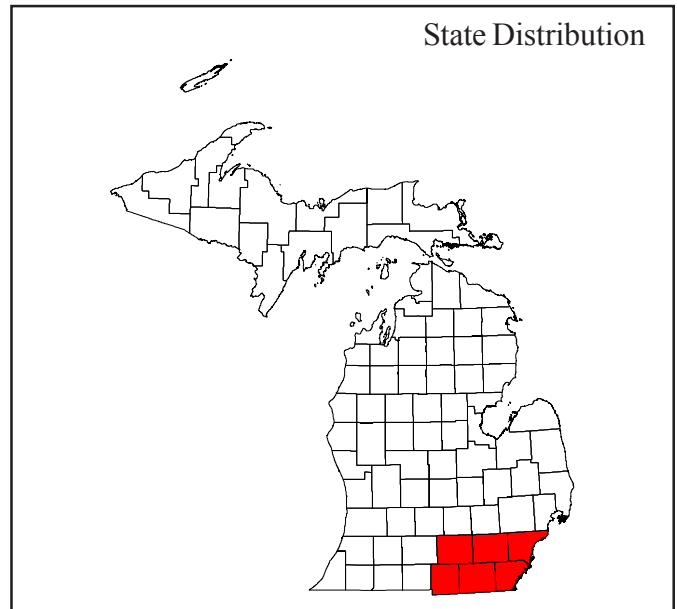
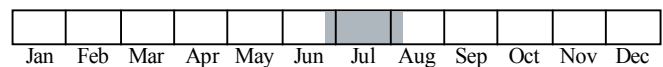


Photo by Barbara Barton



Best Survey Period



Status: State threatened

Global and State Rank: G3/S1

Family: HesperIIDae (skippers)

Total Range: Duke's skipper occurs in three regions of the eastern United States, 1) in southern Ontario, southeastern Michigan, northeastern Indiana and northern Ohio, 2) the lower Mississippi Valley from central Missouri and southern Illinois south to the Gulf Coast, and 3) along the Atlantic Coast from Southeast Virginia to southern Georgia (Opler and Krizek 1984). The subspecies *E. dukesi calhouni* occurs in peninsular Florida (Shuey 1996). Indiana populations are found in discrete areas of the northeast and southwest portions of the State (Shuey 2005). In Ohio, Duke's skipper is primarily found in the northwestern part of the state in the Black Swamp area (Iftner et al. 1992).

State distribution: Duke's skipper populations are currently known from seven locations in Jackson, Monroe, Wayne and Lenawee Counties. There are six historical records from Monroe County and one from Washtenaw County. It is unknown if populations still persist at these sites.

Recognition: Duke's skippers range in size from 32-38 mm (1¼-1½ in) with females slightly larger than males. The **upper surfaces of the short, rounded wings are deep brown**. Females have a **hindwing band that has two to three pale yellow spots**. Males have a **black stigma on the forewing**. The **underside of the hindwings in both sexes are light brown with pale yellow rays** (Opler and Krizek 1984, Scott 1986, Pyle 1995). Female Dion skippers (*Euphyes dion*) are similar, but Duke's skipper females can be differentiated by their blunt forewing tips and darker ground color (Iftner et al. 1992). Larvae have a black head and light green body. The pupae nest in sedge leaves by attaching themselves with silk threads into the upper portion of the plants (Nielsen 1999).

Best survey time: The flight period begins in late June and ends in early August, with the peak flight period during July. Surveys should be conducted during mid- to late afternoon in shaded to partially shaded *Carex lacustris* stands. Surveyors should walk slowly through the habitat, stopping frequently to visually survey the habitat for skippers, which are often observed flying low through the sedges. Duke's skippers can also be found at nectar sources within and adjacent to their habitat. Voucher specimens or good quality photos are needed to confirm identifications.



Habitat: Duke's skipper favors *Carex lacustris* patches in shaded forested wetlands, roadside ditches and floodplain forests. Several tree and plant species are associated with Duke's skipper habitat in Michigan; swamp white oak (*Quercus palustris*), scarlet oak (*Q. coccinea*), swamp white oak (*Q. bicolor*), sugar maple (*Acer saccharinum*), buttonbush (*Cephalanthus occidentalis*), swamp milkweed (*Asclepias incarnata*), and jewelweed (*Impatiens pallida*). Natural community associations include southern wet meadows, openings in southern swamps, inundated shrub swamps, and southern shrub-carr.

Biology: The flight periods for Duke's skipper are regionally dependent. In Ohio, southern Ontario, southeast Michigan, and northern Indiana, Dukes' skippers have one brood that flies during late June through early August. Dukes' skippers have two-three flights from mid-May through October in the mid- and southern portions of their range.

Eggs are laid under the leaves of their host plants, sedges in the genus *Carex*. After hatching, the larvae undergo several molts and diapause in the fourth instar stage. (Opler and Krizek 1984, Iftner et al. 1992, Pyle 1995, Glassberg 1999, Nielsen 1999).

Duke's skipper larvae feed on *Carex lacustris* in the northern parts of their range and *C. hyalinolepis* in the south (Opler and Krizek 1984, Iftner et al. 1992). Preferred nectar sources include buttonbush (*Cephalanthus occidentalis*), swamp milkweed (*Asclepias incarnata*), common milkweed (*A. syriaca*), and joe-pye-weed (*Eupatorium purpureum*). This species has an affinity for shaded, *Carex* patches in wet woods, and can also be found visiting nectar sources in adjacent open areas.

Conservation/management: Duke's skipper is listed as a threatened species by the Michigan Department of Natural Resources, with only seven extant populations known in Michigan. Protection of existing sites is critical. Habitat fragmentation and alteration, pesticide spraying, and invasive species are serious threats to this species. Changes in hydrology can alter the habitat by shifting the plant species composition, and thus should be avoided at known sites. Invasive species such as glossy buckthorn (*Rhamnus cathartica*), purple loosestrife (*Lythrum salicaria*), and common reed (*Phragmites australis*) should be removed since they can

displace the native vegetation. Spraying of pesticides for gypsy moths or agricultural pests near known sites is discouraged.

Research needs: A status survey for Duke's skipper and an analysis of their population dynamics would be valuable to assess the viability of known populations and identify significant metapopulations. Additionally, more life history studies are needed to identify larval hostplants and adult dispersal capabilities.

Related abstracts: Southern wet meadow.

Selected references:

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