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Common Name: HARPER'S DODDER

Scientific Name: *Cuscuta harperi* Small

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cuscutaceae (dodder) or Convolvulaceae (morning-glory)

Rarity Ranks: G2G3/S1

State Legal Status: Endangered

Federal Legal Status: none

Federal Wetland Status: none

Description: Parasitic, annual **vine** with brittle, yellowish-orange, thread-like **stems**, twining around and attaching to host plants with tiny suckers, often forming loose mats. **Leaves** reduced to tiny, orange, alternate scales. **Flower clusters** lack bracts at the base. **Flowers** about $\frac{1}{16}$ inch

(1 mm) long, with 4 green sepals and 4 white petals with upturned tips. **Fruit** a round capsule, less than $\frac{1}{16}$ inch (1 mm) long, slightly flattened on top.

Similar Species: Field dodder (*Cuscuta pentagona*, synonym: *C. campestris*) is common on rock outcrops; its yellow stems are usually attached to stems of Confederate daisy (*Viguiera porteri*, synonym: *Helianthus porteri*). Field dodder flowers are larger than those of Harper's dodder, with 5 sepals and 5 petals. Common dodder (*C. gronovii*) has coarse, stringy stems and its flowers have 5 petals and 5 sepals. Compact dodder (*C. compacta*) has coarse, stringy stems and greenish flowers with fringed bracts at their base.

Related Rare Species: None in Georgia.

Habitat: Piedmont granite outcrops and Coastal Plain Altamaha Grit outcrops.

Life History: Harper's dodder usually parasitizes pineweed (*Hypericum gentianoides*) on granite outcrops, and small-headed blazing star (*Liatris microcephala*) and rayless goldenrod (*Bigelowia nudata*) on Altamaha Grit. Research on the common species, field dodder (*Cuscuta pentagona*), has shown that young dodder plants locate their hosts by responding to airborne chemicals given off by the host plant. When a young dodder plant germinates from seed, it must quickly find a host plant because it lacks roots to take up water and minerals from the soil and has no chlorophyll in its stems and leaves to make food. When the young dodder plant detects its host, it grows quickly in that direction and coils around the stem or leaf of the host, embedding tiny suckers called haustoria into the vascular tissue of the host. The dodder stem between the ground and its connection to the host plant then dies. New dodder stems grow from the coils, rapidly expanding to another host plant. Harper's dodder is an annual that flowers and sets seeds, but nothing has been reported on pollination and seed dispersal for this species.

Survey Recommendations: Surveys are best conducted during flowering (late June–September) and fruiting (August–October) since flowers or fruits are required for identification.

Range: Approximately 20 populations are known from Georgia and Alabama.

Threats: Destruction of granite and sandstone outcrops by quarrying, trash dumping, and off-road-vehicle use. Competition from invasive exotic pest plants.

Georgia Conservation Status: Four populations are known, all on private lands.

Conservation and Management Recommendations: Protect granite outcrops from quarrying, trash dumping, and off-road vehicle use. Direct foot traffic away from rare plant sites. Create buffers and limit development around outcrops. Eradicate exotic pest plants.

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Author of species account: Linda G. Chafin

Date Compiled or Updated:

L. Chafin, April 2007: original account

K. Owers, Jan. 2010: updated status and ranks, added pictures

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Cuscuta harperi

