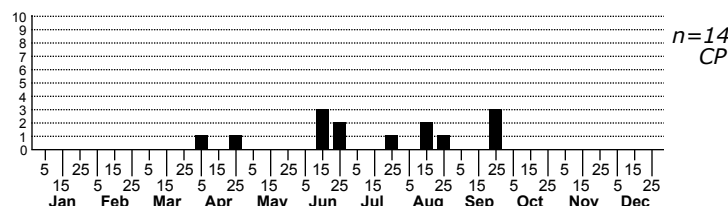
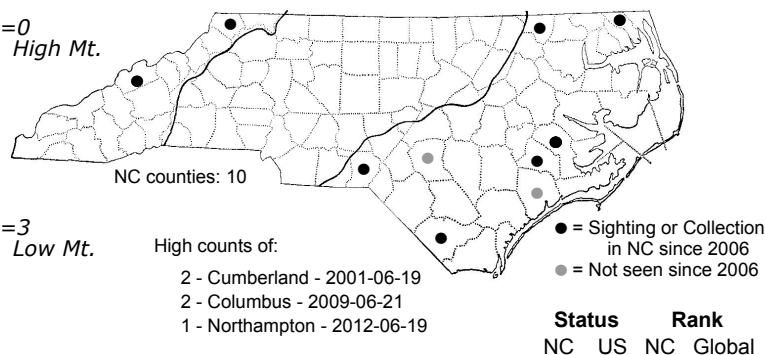
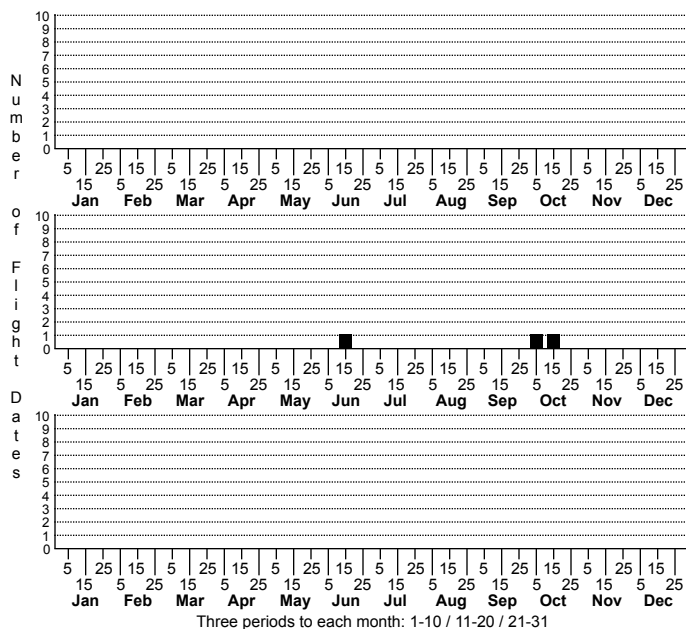


Rivula stepheni Stephen's Spotted Grass Moth



FAMILY: Erebididae SUBFAMILY: Rivulinae TRIBE:

TAXONOMIC COMMENTS: One of three species in this genus that occur in North America north of Mexico (Lafontaine and Schmidt, 2010), two of which have been recorded in North Carolina

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Sullivan (2009)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: A small, pale, subtly marked Grass Moth. According to Sullivan (2009), the ground color is ivory white, although in fresh specimens it may be more of a cream or pale yellow. There may be a dusting of darker brown scales but the most conspicuous marks are a pair of blackish spots in the reniform position, which may be surrounded by a grayish shade, at least in fresh specimens. A dark spot in the basal area of the forewing is diagnostic and there is also a row of dark, terminal spots at the end of each vein (Sullivan, 2009). Although not mentioned by Sullivan, there may also be a pair of dark spot in the orbicular position that are visible in at least some fresh specimens. The antemedian and postmedian are both diffuse and inconspicuous. The antemedian is rounded but the postmedian is sinuous, beginning at the costa before the pair of reniform spots, curving around them and meeting the inner margin slightly anterior to the reniform. The hindwings are paler than the forewings and unmarked, although there may be a dusky shade towards the outer margin. *Rivula propinqualis* is similar in size, shape, and ground color but has a darker patch covering the two reniform spots and has a well-defined, straight postmedian.

DISTRIBUTION: This species has now been found in the Low Mountains as well as the Coastal Plain; there is at least some possibility, therefore, that it can turn up more widely across the state, at least within suitable habitats

FLIGHT COMMENT: North Carolina records come from April and from June through September. There is not yet enough information to know if there are separate flights.

HABITAT: All of our records come from riparian habitats, including Coastal Plain Small Stream Swamps, Sandhill Streamhead Swamp Forest and Brownwater Cypress-gum Forest Coastal Plain, most of which have shallow areas or fringes that possess wetland graminoids, including sedges and grasses such as Mannagrass and Cutgrass. In the low Mountains where records were recently obtained for this species, the habitats are again riparian, with one site representing an open, graminoid-rich bog and another small stream floodplain dominated by River Cane (*Arundinaria gigantea*).

FOOD: Larval hosts are unknown but are probably wetland graminoids; the host plants identified for other species of *Rivula* include both grasses and sedges (Sullivan, 2009; Wagner et al., 2011).

OBSERVATION METHODS: All of our records were obtained from lights. *Rivula propinqualis* flies to some extent during the day and can be flushed by walking through its habitat; the same may be true for *R. stepheni*.

NATURAL HERITAGE PROGRAM RANKS: GNR SU [S2S3]

STATE PROTECTION: Has no legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: This species appears to be a habitat specialist although the habitats themselves are fairly widely distributed, at least as graminoid-rich wetlands. More information is needed on its host plants, however, as well as its distribution in the state before an accurate assessment can be made of its conservation status.