

green, slightly infuscated on anterior border of the segments; ranged appendages black; tubercles of second thoracic and eighth abdominal segments fuscous; a piceous latero-dorsal blister on first thoracic segment. Length 3 mm. *Mature caterpillar*: Head yellow with piceous arched bands. Body transversely banded with more or less interlocking bands of white, black, and lemon yellow; spiracles piceous; filaments black. Length 45 mm. Feeds on various species of *Asclepias* but especially *A. cornuti* and has been found also on *Acerates* and even on *Apocynum*. *Chrysalis*: Delicate pea green, tubercles gilt, but those of third abdominal segment set in a tricolored band, shining piceous in front, gilt behind and nacreous between, the last two dividing the tubercles. Length 27 mm.—The entire United States and southern Canada from Atlantic to Pacific, but believed to winter in the more southern portions and annually to migrate north, breeding beyond as well as within its natural region, returning south in the autumn in swarms. At least double brooded in the

south. Wintering as a butterfly, on the wing all summer.

### Tasitia Moore.

*Butterfly*: Palpi moderately slender, thinly clothed with hairs and scales; club of antennae less than twice as stout as stem. Discoidal cell relatively short, in the fore wings hardly more than one half, in the hind wings less than three fifths the length of the wing; fore wings less produced, being less than twice as long as broad, the cell no longer above than below; androconial pouch of hind wings larger than in *Anosia*. *Egg*: Unknown. *Caterpillar at birth*: Unknown. *Mature caterpillar*: With a pair of long fleshy filaments on the second thoracic, second and eighth abdominal segments, in all cases much longer than the segments.

## LIFE HISTORIES OF NORTH AMERICAN GEOMETRIDAE.—XXXIV.

BY HARRISON G. DYAR, WASHINGTON, D. C.

### *Deilinia quadraria* Grote.

*Egg*. Elliptical, the large end strongly, a little obliquely truncate, the other flattened depressed; truncate end convex in the center. Reticulations linear, narrow, slightly raised, arranged in straight rows the length of the egg or very slightly spiralled, alternated, so that the parallel lines are waved; just at the edge of the truncation the reticulations become small, sharp ridges. Truncate end smooth, obscurely reticulate. Light blue-green; size .9 x .55 x .4 mm.

*Stage I*. Head rounded, reddish luteous, the pointed mouth brown; slightly bilobed,

free, nearly erect. Body moderate, normal, uniform, smooth, whitish; a rather broad purple brown dorsal stripe, roundedly diffuse at the ends and a similar subventral one on joints 2 to 13, narrowly diffuse at the ends, segmentarily submaculate in darker. Feet whitish, normal; tubercles and setae obsolete.

*Stage II*. Head rounded, bilobed, with small shield-shaped clypeus, free, erect; whitish, dotted mottled in purple gray, but leaving a pale, erect streak on each lobe. Body slender, rapidly vibrant before looping; whitish, opaque; dorsal stripe broad, purple



brown, rounded at the ends; subventral segmentary spots connected by a subobsolete line. Later the dorsal stripe is grayish shaded, obsoletely resolved into several lines, segmentarily maculate. Sides pale gray, very obsoletely lined, finely, like the dorsum. Still later the dorsal stripe fades to obsolescence, leaving a slight shade and a few dots. The subventral spots remain separate.

*Stage III.* Head rounded, bilobed, thick, flattish before; gray white, flecked with black, heavily so outwardly and each side of the median suture in the vertical notch; width, .8 mm. Dorsum to the tubercles dark gray with a darker, geminate dorsal and single subdorsal line (i and ii); sides whitish with three fine dark lines, the lower one on tubercle iii; a broader, but narrow, whitish stigmal space. Subventer and venter like the sides with a number of fine, dark, rather irregular lines and a row of rounded, nearly black subventral segmentary patches. Feet pale, dark dotted, stained at base by the dark subventral patches. Tubercles in distinct black spots. Later more uniformly hoary gray with subdorsal and stigmal pale lines and discreet subventral black spots.

*Stage IV.* Head 1.5 mm. wide, whitish with large mottlings in dots of black, thickly in the clypeus, those on the lobes somewhat parallel to the clypeus, the dots subconfluent in lines. Body smooth, uniform, moderate. Dorsum dark gray, with about six crinkled dotted pale lines on each side, of which the subdorsal is straight and more distinct than the others with the dark tubercles i and ii above it. Stigmal line white,

yellow blotched behind the spiracles, diffuse below, narrow, cut by the black tubercle iv. Venter lighter gray, finely lined in dark gray and cinereous, the black subventral segmentary patches rounded and distinct. Tubercles in black spots. Feet dull reddish, black spotted, the abdominal ones dark; no shields.

*Stage V.* (Brown form). Head rounded, shallow bilobed, erect, free; clypeus broadly triangular, the paraclypeal pieces narrow, parallel; lilaceous white, thickly, uniformly covered with black dots, the pale spaces between somewhat serpentine; width 2 mm. Body normal, moderate, cylindrical, equal; dorsum blackish gray, mottled dotted in longitudinal lines, leaving obscurely a paler dorsal and subdorsal line, dark shaded before the black tubercles. Stigmal line narrow, distinct, pale yellow, dark yellow blotched at the black rimmed spiracles. Venter lighter, mottled dotted in black on a wood-brown gray ground, the tubercles black. Feet lilaceous, dark mottled. Setae short, dark. (Green form). Head green, faintly brown mottled. Body green, dorsum faintly lined in white, finely dotted, the subdorsal line the most distinct. Stigmal line white, narrow, yellow blotched at the spiracles. Venter more faintly white mottled lined.

*Food plant.* A low, thorny shrub growing on the foot hills, 500 feet or more above the plains (*Ceanothus fendleri*).

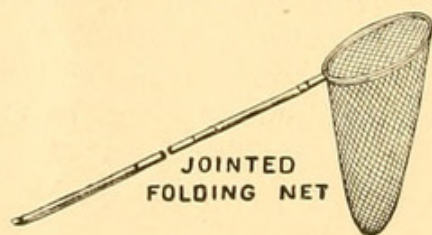
Eggs from ♀♀ taken near the summit of the foot hills back of Golden, Colorado. Eggs May 30th to June 27th from different females; mature larvae by July 10th. Pupation in the ground.

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