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A NEW SPECIES OF *DIORYCTRIA* ZELLER
(LEPIDOPTERA: PYRALIDAE) FROM TEXAS

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Abstract.—*Dioryctria caesirufella* is described and male and female imagines and genitalia are figured. Imagines and inflated vesicae of the most closely allied species, *D. pygmaeella* Ragonot, are figured for comparison.

Over the course of several years collecting at various localities on the Edwards Plateau in central Texas, the authors accumulated a large series of a phycitine which bears a strong resemblance to *Dioryctria pygmaeella* Ragonot. Through the kind assistance of Vernon Brou, D. C. Ferguson, and the late Charles P. Kimball, comparative series of this insect were obtained from Louisiana, South Carolina, and Florida. In addition, two examples of *pygmaeella* were collected by the junior author in eastern Texas, near Conroe.

Dioryctria caesirufella Blanchard and Knudson, NEW SPECIES

Figs. 1, 2, 5-13

Description.—*Head:* Front and vertex light ochreous. Labial palpus gray with reddish dusting, upturned, exceeding front by nearly 1 eye diameter. Maxillary palpus small, squamous. Antenna simple, pubescent, gray. First segment of flagellum elongate. Small medial spines arise from 2nd and 3rd segments.

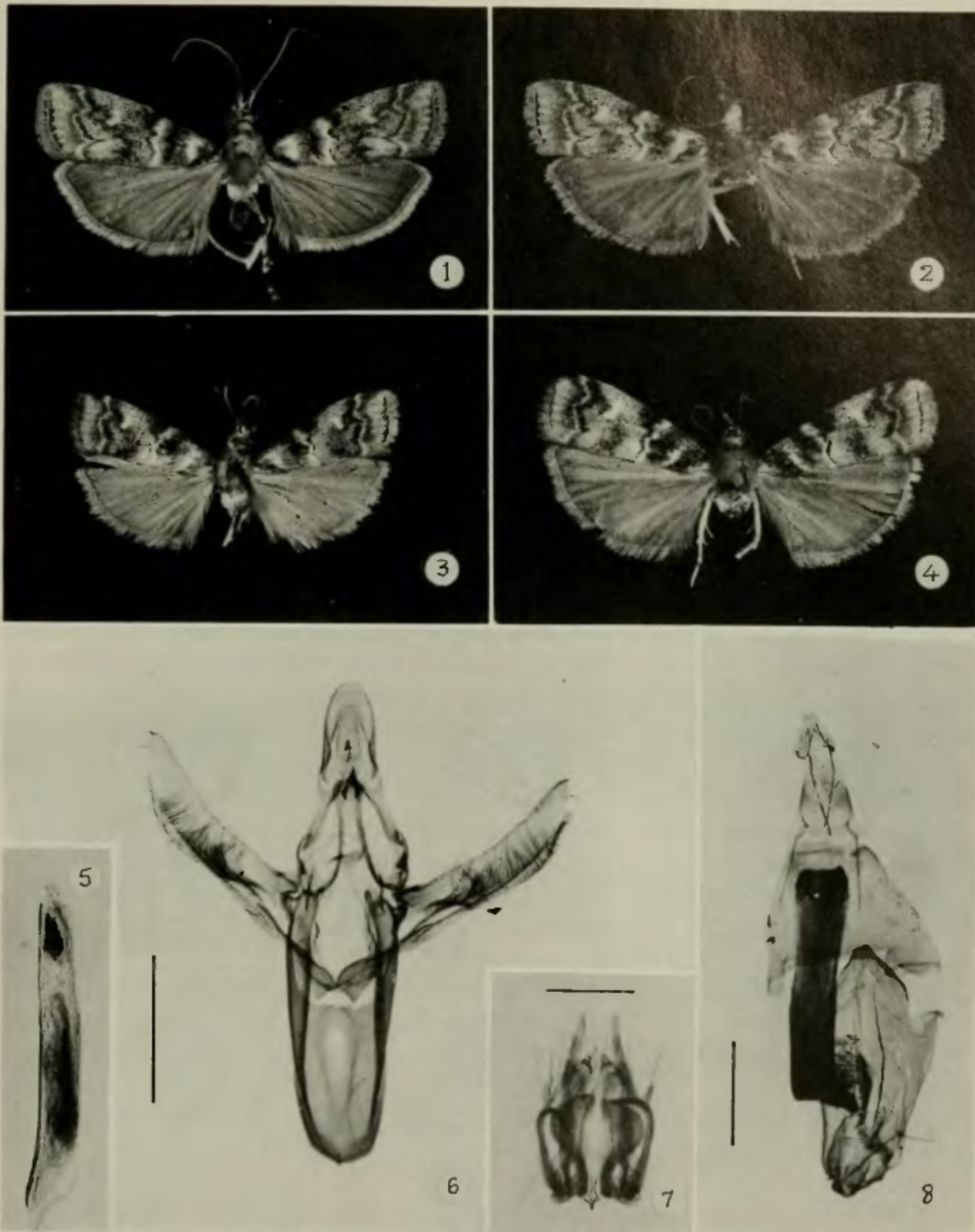
Thorax: Tegula and mesonotum gray with reddish dusting.

Forewing: Ground color bluish gray with reddish dusting, mainly along costa. Antemedial line white, angled shortly outward from costa and inwardly excavate on fold, so that overall course is nearly vertical. Within antemedial line are nearly vertical bands of dull yellow, bright reddish orange, violet brown, white, and blackish brown, respectively, from line toward base. Reddish shade widest and most noticeable, even in worn examples. Antemedial line bordered outwardly with black, merging into a subtriangular costal spot. Cell spot white, crescentic. Subterminal line white, with a sharp inwardly directed cusp at cell and again on fold, margined inwardly with black, outwardly with reddish orange. Terminal line black. Fringe gray.

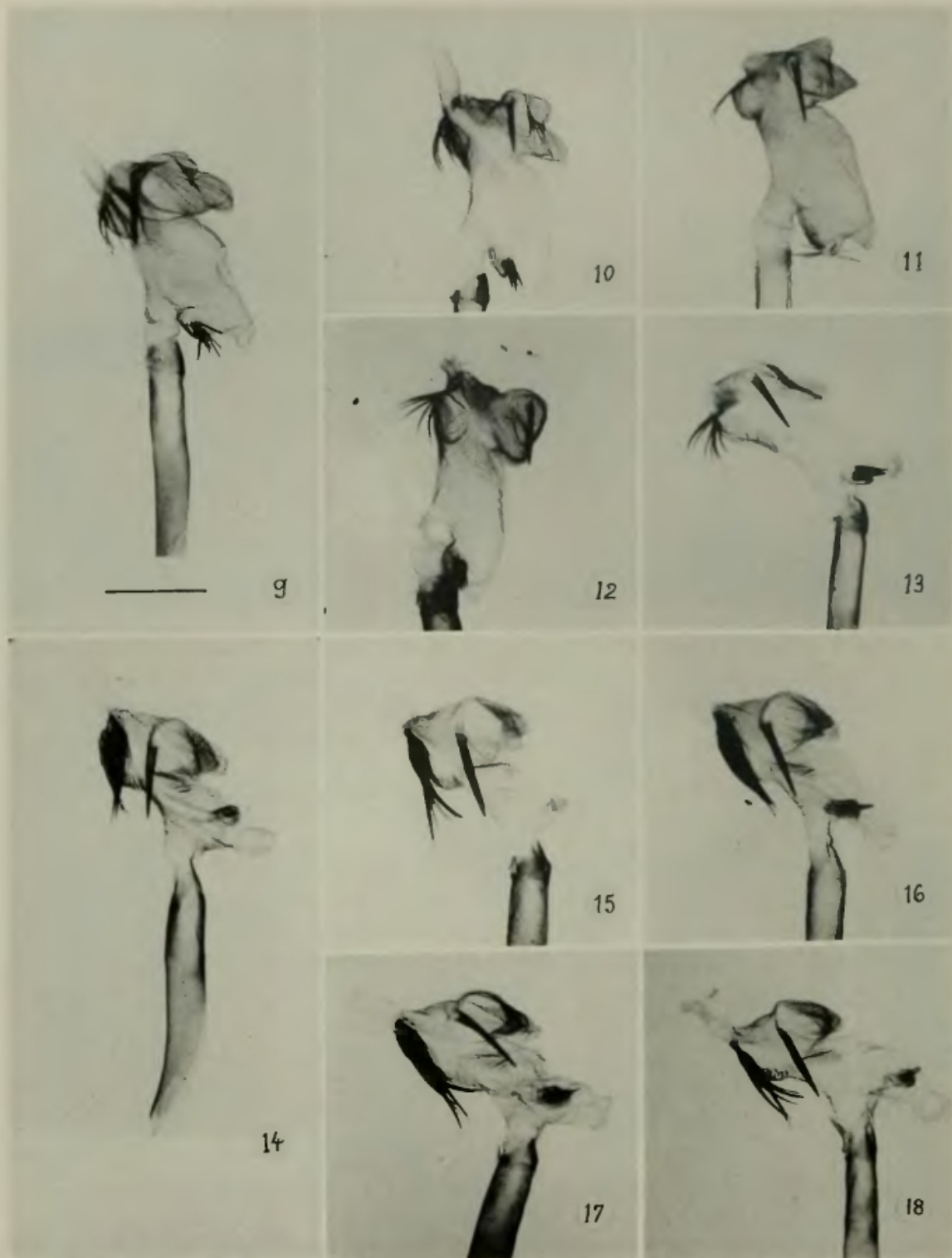
Hindwing: Ochreous gray, darker along outer margin. Fringe light gray.

Length of forewing: Male: $N = 8$, 7.2-10.4 mm, average 8.7 mm; female: $N = 9$, 8.3-10.5 mm, average 9.4 mm.

Male genitalia (Figs. 5-7, 9-13): Extremely similar to *D. pygmaeella*, with major difference in vesica (Figs. 9-13). In both species are 3 groups of cornuti, borne on diverticula. Near proximal end (closest to aedeagus), is a cluster of small cornuti



Figs. 1-8. 1, 2, 5-8, *Dioryctria caesirufella*. 3, 4, *D. pygmaeella*. 1, Male holotype, Kerr Co., Tex., Kerrville St. Pk., 19-VIII-80. 2, Female paratype, same data as holotype. 3, Male, St. John Parrish, La., Edgard. 4, Female, same data as Fig. 3. 5, Aedeagus of paratype, slide ECK 20, same data as holotype. 6, Male genitalia of paratype, slide ECK 20. 7, Compound ventral tufts of paratype male, slide AB 3394, Blanco Co., Tex., Pedernales Falls St. Pk., 4-V-73. 8, Female genitalia of paratype, slide ECK 19, same data as holotype. The lines in Figs. 6-8 represent 1 mm.



Figs. 9-18. 9-13, *Dioryctria caesirufella*. 14-18, *D. pygmaeella*. 9, Inflated vesica of paratype, slide ECK 327, same locality as holotype, 15-V-82. 10, Inflated vesica of paratype, slide ECK 331, same data as Fig. 9. 11, Inflated vesica of paratype, slide ECK 326, same data as Fig. 9. 12, Inflated vesica of paratype, slide ECK 335, same data as Fig. 9. 13, Inflated vesica of paratype, slide ECK 169, Kerr Co., Tex., Hunt, 23-VIII-81. 14, Inflated vesica, slide USNM 56094, McClellanville, S.C., Wedge Plantation, 5-VIII-75. 15, Inflated vesica, slide USNM 56070, same locality as Fig. 14, 30-VII-73. 16, Inflated vesica, slide USNM 56072, same locality as Fig. 14, 31-VII-75. 17, Inflated vesica, slide ECK 370, St. John Parrish, La., Edgard, 2-VII-79. 18, Inflated vesica, slide ECK 55, Montgomery Co., Tex., Conroe, 14-IX-77. The line in Fig. 9 represents 1 mm. Figs. 9-18 are all the same scale.

and a small sclerotized plate. In *caesirufella*, these cornuti number from 5–8. In *pygmaeella* (Figs. 14–18), these cornuti fewer in number or occasionally absent (Fig. 15). Difference in number may reflect fact that cornuti are deciduous. Distally, near ejaculatory duct, is a cluster of from 7–10 curved cornuti on a small diverticulum, and a single straight cornutus on a large diverticulum. In *caesirufella*, curved cornuti much smaller and more delicate than in *pygmaeella*, their average length being $\frac{1}{2}$ of those in *pygmaeella*. Single, separate cornutus in *caesirufella*, averages $\frac{3}{4}$ the length of that in *pygmaeella*.

Female genitalia (Fig. 8): Not significantly different from *pygmaeella*.

Holotype (Fig. 1).—♂, Kerrville State Park, Kerr Co., Texas, 19-VIII-80, collected by E. Knudson and deposited in the National Museum of Natural History, Washington, D.C.

Paratypes.—Same locality as holotype, 19-VIII-80, 3 ♂, 8 ♀ and 15-V-82, 25 ♂, 18 ♀; Kerr Co., Texas, 10 miles west of Hunt, 22-VIII-81, 2 ♂, 1 ♀; Comal Co., Texas, Canyon Lake, 20-V-79, 2 ♀, all collected by E. Knudson; Blanco Co., Texas, Pedernales Falls State Park, 4-V-73, 1 ♂; Boundary of Hays and Comal counties, Texas, El Rancho Cima, 29-VIII-75, collected by A. & M. E. Blanchard.

Remarks.—Aside from genitalic differences outlined above, there are differences in the imagines of *caesirufella* and *pygmaeella* in color and maculation. *Dioryctria caesirufella* is predominantly bluish gray with a contrasting reddish orange band inside the antemedial line. *Dioryctria pygmaeella* is a darker purplish brown, being much more heavily suffused with red. The reddish shade inside the antemedial line is less contrasting. The reddish shade outside the subterminal line is broader in *pygmaeella* than in *caesirufella*. In *pygmaeella*, the antemedial line tends to be outwardly oblique from the costa, whereas, in *caesirufella*, it is generally vertical. The course of the subterminal line in *pygmaeella* tends to be straighter, the cusps being replaced by shallow indentations. Another difference is size, *pygmaeella* being smaller. The length of the forewing in nine *pygmaeella* males ranged from 6.7–8.6 mm, averaging 7.6 mm; in ten females, from 7.2–8.5 mm, averaging 7.9 mm.

The range of the two species does not overlap, *caesirufella* having been collected in four counties on the Edwards Plateau in central Texas, while *pygmaeella* is widely distributed from the middle Atlantic states through Florida, and thence along the Gulf Coast region into eastern Texas. *Dioryctria pygmaeella* is known to feed on bald-cypress (*Taxodium distichum* (L.) L. C. Rich, Taxaceae), and this is also the presumed foodplant of *caesirufella*, as all specimens were collected in close proximity to this tree. However, there is a gap that occurs in the distribution of bald-cypress in Texas, separating the eastern populations from the Edwards Plateau population by about 200 miles. According to Lynn Lowrey of Conroe, Texas, a recognized expert on Texas trees, "Although there is no recognized subspecific or varietal difference between the eastern populations and central Texas populations of bald-cypress, attempts to transplant individuals of each population to the other region have failed, which indicates, at least, a difference in the growing requirements of the two populations." *Dioryctria caesirufella* seems to have well-defined spring and fall broods, whereas *pygmaeella* appears to be multiple brooded, with records (from Louisiana) covering every month from April through September.

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