

REVIEW OF THE NORTH AMERICAN GRAY *PYLA* GROTE
(LEPIDOPTERA: PYRALIDAE: PHYCITINAE) WITH DESCRIPTION OF A
NEW SPECIES FROM WESTERN UNITED STATES

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Abstract.—Eleven North American species of the “gray” section of the genus *Pyla* Grote are diagnosed by keys based on male and female genitalia. *Pyla westerlandi* Wilterding and Balogh, new species, is described from the Lake Tahoe region of California and central Oregon. The female of *Pyla criddlella* Dyar, previously known from only the male holotype, is described and *Phycitia bilineata* Curtis is placed as a new synonym of *Pyla fusca* (Haworth). The distribution, habitat, and flight period information for the gray *Pyla* species are summarized.

Key Words: life history, habitat, alvar, disjunction, genitalia, Criddle, Westerland, Aweme

Heinrich (1956) grouped nine species (four described as new) of *Pyla* Grote based on the color of the forewings in what he termed the “gray” section of the genus. Shortly thereafter, McDunnough (1958) described *Pyla gaspeensis* from the Gaspé region of Québec. Balogh and Wilterding (1998) described *Pyla arenaeola* from sandy habitats, particularly dunes, of central North America, and determined that the female of that new species was previously misassociated as the female of *Pyla aequivoca* Heinrich. In addition, *P. gaspeensis* was recognized as a synonym of *P. aequivoca*. During the course of that study, Julian Donahue (LACM) brought to our attention another new gray *Pyla* species based on material collected by the late Nils Westerland in the Lake Tahoe region of California and allowed us the opportunity to describe this distinctive moth.

Examination of nearly 1,000 specimens

of North American gray *Pyla* affords us the opportunity to review the group, add considerable new distributional and habitat information, and refine the identification of the species. The female of *Pyla criddlella* Dyar (1907), known to previous authors only from the male holotype is described here for the first time. Many of the gray *Pyla* species are similar in wing color and maculation and cannot be reliably determined without examination of the genitalia. The eleven North American gray *Pyla* are readily recognized based on distinctive genital features found in both sexes as illustrated in Heinrich (1956), Balogh and Wilterding (1998), and this paper (Figs. 1–6).

All *Pyla* species, including both the “gray” and “bronzy brown” species groups of Heinrich (1956), and with the exception of the Holarctic gray species *Pyla fusca* Haworth are limited to North America. The bronzy brown *Pyla* species are re-

stricted to montane and alpine habitats of western North America. In contrast, many gray species have western (typically north of a line from central California to Colorado) and/or transcontinental distributions in the northern states and boreal Canada (Figs. 8–10; see also *P. aequivoca*, Balogh and Wilterding 1998).

Life history information for most *Pyla* species is lacking; only the life histories of the holarctic *P. fusca* and the dune species, *P. arenaeola*, are known (Balogh and Wilterding 1998). In common with many phycitine larval strategies, the widespread *P. fusca* webs together the shoots and leaves of its hosts, primarily Ericaceae. The larvae of *P. arenaeola*, a species much more restricted in distribution occurring largely on sand dunes of the Great Lakes (Balogh and Wilterding 1998), constructs silk-lined sand tubes and feeds concealed beneath its host, bearberry, *Arctostaphylos uva-ursi* (L.) Sprengel (Ericaceae). If the life history strategy of *P. arenaeola* is representative for other *Pyla* species, larval dependence on particular substrates for shelter construction, specific ericaceous hosts, or both, might account for restricted and disjunct distribution patterns. For example, *Pyla insinuatrix* Heinrich, a species associated with fens, alvar, and coastal bogs in Nova Scotia, is distributed in a narrow band from the Atlantic coast to western Alberta (Fig. 8). *Pyla impostor* Heinrich, known from many localities in the west, has an apparently disjunct population in eastern Canada (Fig. 9). The new species described in this paper is primarily known from one locality on the northwest side of Lake Tahoe, California, and a single specimen from Crook County in central Oregon.

Specimens examined originated from the following institutions and private collections:

AMNH American Museum of Natural History, New York, NY (F. H. Rindge).

BGS Brian G. Scholtens, Charleston, SC.
 CNC Canadian National Collection, Ottawa, Ontario, Canada (J. F. Landry, B. Landry).
 CUI Cornell University Collection, Ithaca, NY (James Leibherr).
 EGV E. G. Voss, Mackinaw City, MI.
 GJB George J. Balogh, Portage, MI.
 JAB James A. Bess, Wanatah, IN.
 JHW John Wilterding, East Lansing, MI.
 JKM John K. Morton, Waterloo, Ontario, Canada.
 KS Ken Stead, Brantford, Ontario, Canada.
 LACM Los Angeles County Museum, Los Angeles, CA (J. P. Donahue).
 LAF Leslie A. Ferge, Middleton, WI.
 MCZ Museum of Comparative Zoology, Harvard University, Cambridge, MA (P.D. Perkins).
 MSU Michigan State University, East Lansing, MI (F. W. Stehr).
 NMNH National Museum of Natural History, Smithsonian Institution, Washington DC (M. A. Solis).
 UCB Essig Museum, University of California, Berkeley, CA (J. A. Powell).
 UM University of Minnesota, St. Paul, MN (P. J. Clausen).
 UMBS University of Michigan Biological Station, Pellston, MI (B. G. Scholtens).
 UMMZ University of Michigan Museum of Zoology, Ann Arbor, MI (M. F. O'Brien).
 UZMH Zoologiska Muset, Universitets Helsingfors, Helsinki, Finland (K. Mikkola).

KEYS TO THE GRAY *PYLA*

Males

In the following key the term clasper (*sensu* Heinrich) refers to a process from the mesial aspect of the valva (including valva base) and should be distinguished from the costal process, a projection from

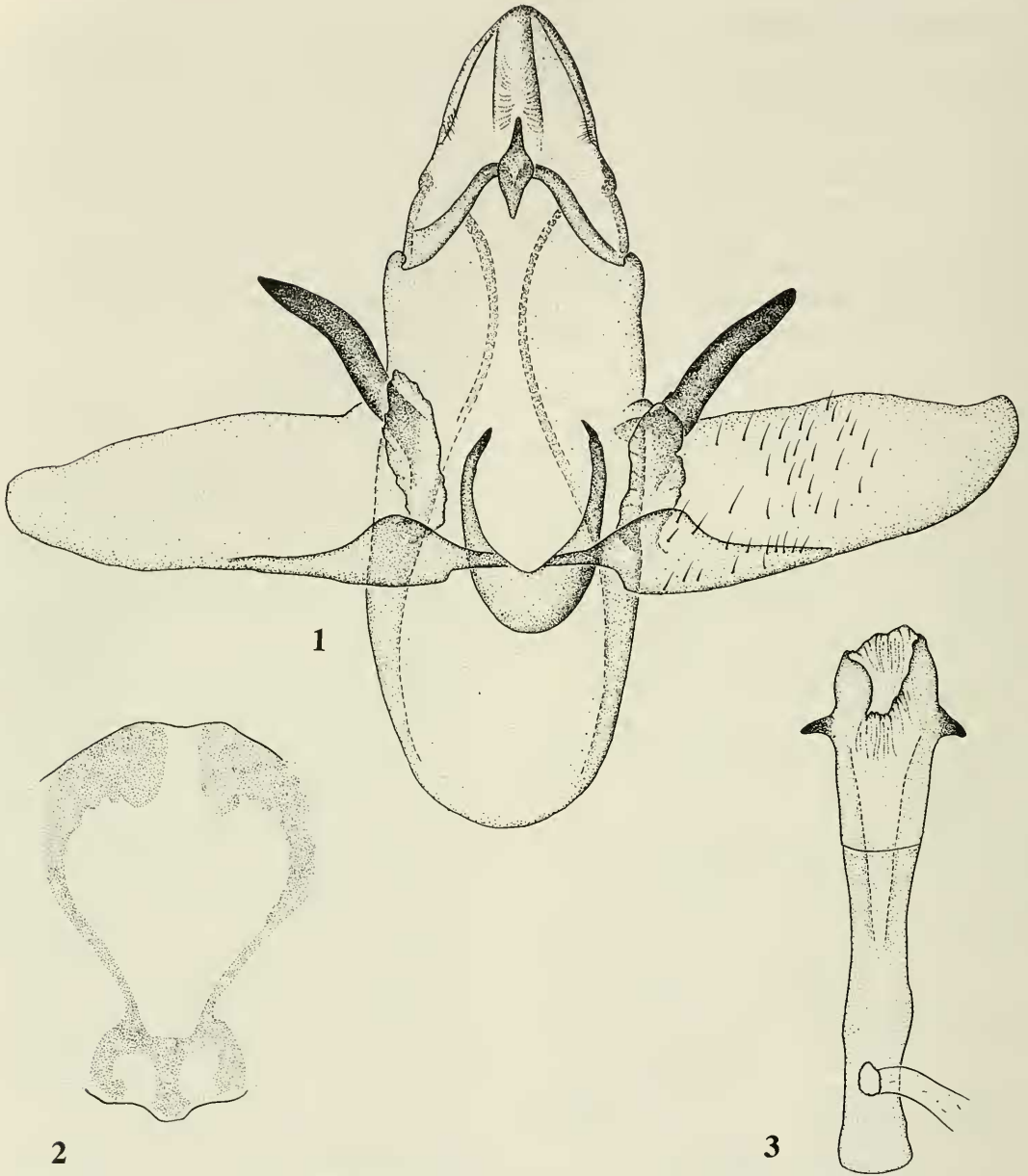
the sclerotized costal edge of the valva. All *Pyla* species included in this key have the aedeagus divided distally into two variably sclerotized lateral elements, with one or both divisions developed posteriorly into sclerotized spines or processes. In some species one division is reduced, sometimes greatly so as in *Pyla fusca* where the right division is straight, very thin, and normally appressed against the much larger left division and thus inapparent in many preparations.

- 1. Aedeagus with one or both lateral divisions terminating in a single, outcurved, pointed process, or the divisions symmetric and each with a single, subapical, laterally directed spine 2
- Aedeagus with each lateral division terminating as a nearly straight, or slightly incurved, blunt or pointed process, or one or both divisions with multiple distal spines (these spines may be laterally outcurved) 7
- 2. Aedeagus asymmetric, only one division terminating as an outcurved pointed process 3
- Aedeagus symmetric, each division terminating as an outcurved pointed process or each division with a single laterally directed subapical spine 4
- 3. Aedeagus slender, the left division outcurved and pointed, the right division very small and inapparent; vesica with a fine hairlike cornutus; valva with clasper at about ½ length, clasper knoblike and tipped with spines (Heinrich 1956, fig. 369) *fusca* (Haworth)
- Aedeagus wider and both divisions apparent, the right division outcurved to a sharp point, the left division shorter and straight; vesica without cornutus; valva with clasper near base, clasper toothlike or triangular (Heinrich 1956, fig. 368) *criddlella* Dyar
- 4. Each aedeagus division terminating distally as an outcurved pointed process 5
- Each aedeagus division with a single subapical laterally directed spine 6
- 5. Valva with costal process at ¾ length, and clasper beyond middle of valva; juxta without spine clusters (Balogh and Wilterding 1998, figs. 1–5) *arenaeola* Balogh and Wilterding
- Valva without costal process and clasper near base of valva; juxta with comb-like clusters of spines (Heinrich 1956, fig. 370) *hypochalciella* (Ragonot)
- 6. Tegumen with two pairs of projecting spined lobes from ventrolateral margin; valva with clasper at ½ valva length, clasper semicircular

- and much shorter than valva width (Heinrich 1956, fig. 367) *aenigmatica* Heinrich
- Tegumen without spined lobes; valva with clasper near base, clasper a thick, pointed curved process and longer than valva width (Figs. 1–3) *westerlandi* Wilterding and Balogh, n. sp.
- 7. Aedeagus with multiple distinct distal spines on one or both divisions 8
- Aedeagus with each division terminating in a blunt or pointed process and at most a single subapical spine (*P. impostor* may have a few widely scattered spinules along length of distally pointed processes) 9
- 8. Aedeagus divisions with one or more stout posterolaterally directed spines, more numerous on left division; juxta with paired, long, slender and pointed posterior processes; valva with clasper short and tooth-like or triangular (Heinrich 1956, fig. 366; Balogh and Wilterding 1998, figs. 6–10) *aequivoca* Heinrich
- Aedeagus divisions with multiple small apical spines; juxta without pointed elongate processes; valva with clasper an elongate spine (Heinrich 1956, fig. 371) *hanthamella* Dyar
- 9. Aedeagus with right division longer than left, the left with a subapical spine, each division with a helix-like twist at middle third (Heinrich 1956, figs. 362, 363) *fasciolalis* (Hulst)
- Aedeagus divisions nearly equal in length and without a helix-like twist 10
- 10. Aedeagus divisions pointed distally; valva with clasper a long, thin, pointed process near base of valva, and valva without costal processes (Heinrich 1956, fig. 364) *impostor* Heinrich
- Aedeagus divisions blunt distally; valva with clasper a short slightly irregular ridge at ½ valva length as well as a thick and heavily spined costal process at base (Heinrich 1956, fig. 365) *insinatrix* Heinrich

Females

- 1. Ostium bursae with dense ventrolateral sclerotization, sclerotized projections, or scobinate lobes or plates 2
- Ostium bursae membranous, or only lightly sclerotized with fine granulations or folds 9
- 2. Corpus bursae with extensive convolute sclerotized folds on posterior half (Heinrich 1956, fig. 850) *impostor* Heinrich
- Corpus bursae membranous or with at most weakly developed small patches of sclerotization 3
- 3. Ductus bursae sclerotized posteriorly and with lateral margins subparallel, the sclerotization extending onto ostium bursae and var-



Figs. 1-3. *Pyla westerlandi*, male genitalia. 1, Genital capsule, valves spread, aedeagus removed, ventral view. 2, Eighth sternite, ventral view, without scale tufts. 3, Aedeagus, ventral view.

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| <p>ably developed into a ventrolateral sclerotized rim 4</p> <p>- Ductus bursae without dense sclerotization, outer margins bulge laterally, or if lateral margins subparallel, ductus bursae semimembranous; ostium bursae with paired ventrolateral sclerotized plates or scobinate lobes 6</p> <p>4. Ostium bursae ventrolateral sclerotization a sinuate, liplike band; ductus seminalis from</p> | <p>right-sided lobe of the corpus bursae (Heinrich 1956, fig. 860) <i>hanhanella</i> Dyar</p> <p>- Ostium bursae otherwise modified; ductus seminalis from the dorsal aspect of the corpus bursae 5</p> <p>5. Ostium bursae sclerotization paired convolute sclerotized lobes with deep central notch (Heinrich 1956, fig. 853) <i>aenigmatica</i> Heinrich</p> <p>- Ostium bursae sclerotization funnel shaped</p> |
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and without deep central notch (Heinrich 1956, fig. 854) *hypochalcicella* (Ragonot)

- 6. Ostium bursae with paired, pad-like, rounded, scobinate ventrolateral lobes; ductus bursae strongly dorsoventrally flattened, lateral margins subparallel and distinctly narrower than the width of posterior aspect of corpus bursae (Heinrich 1956, fig. 856) . . . *insinuatrix* Heinrich
- Ostium bursae with paired, densely sclerotized, ventrolateral convolute and/or scobinate plates; ductus bursae not strongly dorsoventrally flattened, lateral margins bulging and subequal in width to posterior aspect of corpus bursae (when the bursae is well inflated) 7

- 7. Ostium bursae with elongate, triangular, sclerotized, ventrolateral plates (Heinrich 1956, fig. 855 [as *aequivoca*]; Balogh and Wilterding 1998, figs. 11–13)
- *arenaeola* Balogh and Wilterding

- Ostium bursae with convolute, sclerotized, ventrolateral plates that are not distinctly triangular in shape 8

- 8. Ostium bursae paired sclerotized plates as long or longer than wide; ostium bursae a large rectangular chamber; ductus bursae membranous, with lateral walls bulging somewhat asymmetrically to the left (Fig. 4)
- *westerlandi* Wilterding and Balogh, n. sp.

- Ostium bursae paired sclerotized plates shorter than wide; ostium bursae not rectangular in shape; ductus bursae partially sclerotized laterally with walls symmetrically bulging laterally (Balogh and Wilterding 1998, figs. 14–16) *aequivoca* Heinrich

- 9. Ostium bursae membranous and weakly constricted at junction with ductus bursae; ductus and corpus bursae with extensively developed, convolute, sclerotized bands that extend onto anterior half of corpus bursae (Heinrich 1956, fig. 849) *fasciolalis* (Hulst)

- Ostium bursae with fine granulations or partially sclerotized folds and obviously constricted at junction with ductus bursae; ductus and corpus bursae sclerotization smooth or convoluted but not extending onto anterior half of corpus bursae 10

- 10. Ductus and corpus bursae elongate with smooth elongate bands of sclerotization and lacking diverticula (other than the lobe at insertion of ductus seminalis) (Heinrich 1956, fig. 852) *fusca* (Haworth)

- Ductus and corpus bursae globular in shape; an oblique, convolute band of sclerotization near ductus-corporis bursae junction and multiple adjacent diverticula (in addition to the lobe at insertion of ductus seminalis) (Figs. 5, 6) *criddlrella* Dyar

Pyla fasciolalis (Hulst)
(Fig. 7; Heinrich 1956, figs. 362, 363, 849)

Pinipestis fasciolalis Hulst 1886: 162. Holotype ♂, “Spencers Bridge” (Rindge 1955) [= Spence’s Bridge, NW of Nicola (J. D. Lafontaine, personal communication 1999)], British Columbia, Canada (AMNH). [In the original description the type locality is in error as Nevada, see Heinrich (1956) and Rindge (1955).] [Type examined.]

Pyla fasciolalis is known from scattered localities in western North America (Fig. 7), with most localities represented by single specimens. Recorded elevations in the northern portion of the distribution range from 2,100 feet (3 mi W Nelson, British Columbia) to 5,500 feet (Manning Park, Valley View, British Columbia) and the moth has been collected as high as 10,150 feet farther south (Crooked Creek Lab, Mono Co., California). In northeastern Utah (Sheep Creek and Highway 44) a small series was collected in mixed sage-juniper and riparian habitat (GJB). Flight dates range from 7 June to 13 August. The life history is unknown.

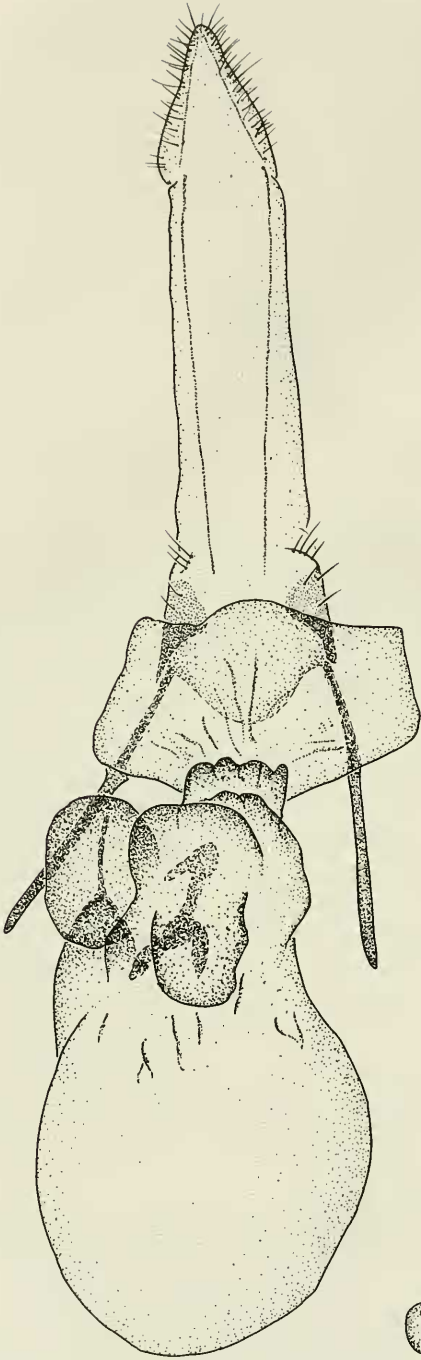
Heinrich (1956) noted variation in genital details perhaps worthy of additional study as additional material becomes available. However, the twisted asymmetric lateral processes of the male aedeagus (Heinrich 1956, fig. 362a) and configuration of the female corpus bursae (Heinrich 1956, fig. 849) distinguish *P. fasciolalis* from all other *Pyla* species.

Material examined: 13 ♂, 7 ♀ [AMNH, CNC, GJB, LACM, NMNH, UCB, UM].

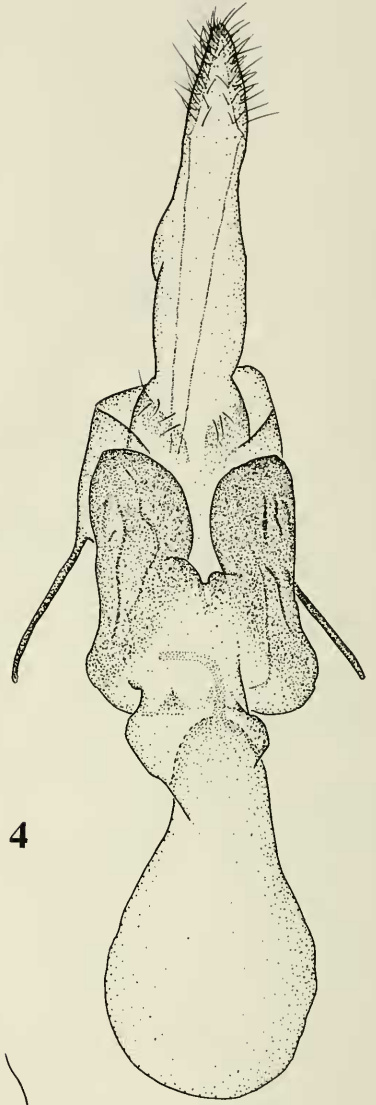
Pyla impostor Heinrich
(Fig. 9; Heinrich 1956, figs. 364, 850)

Pyla impostor Heinrich 1956: 143. Holotype ♂, Slate Peak, 6,500–7,000 ft, Whatcom County, Washington, United States (NMNH). [Type examined.]

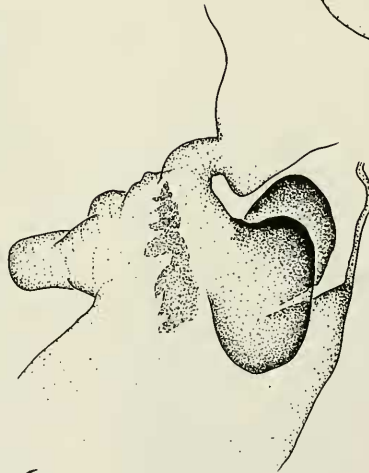
Pyla impostor is a widely distributed western species with most documented lo-



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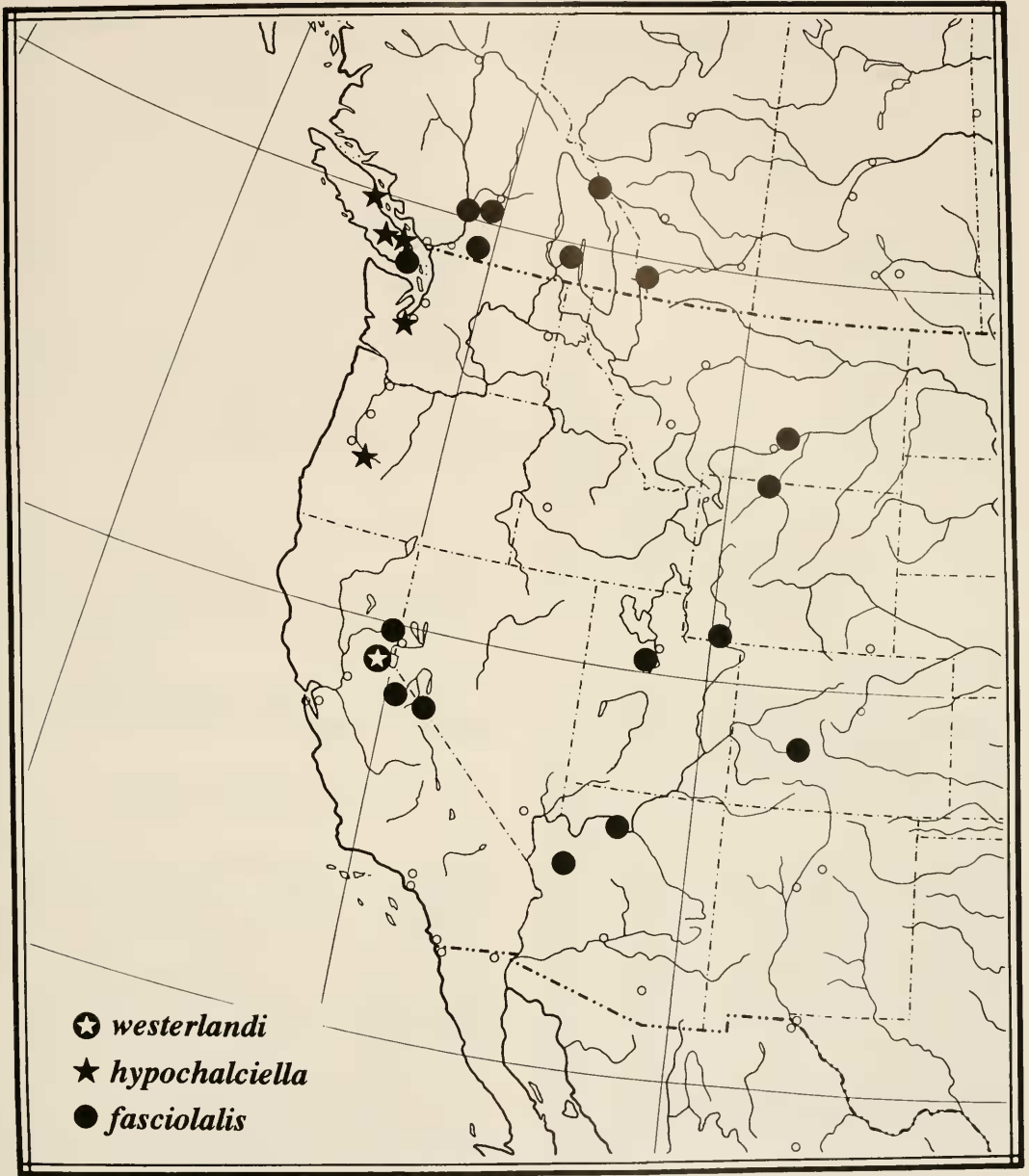


Fig. 7. Known distribution of *Pyla westerlandi*, *P. hypochalciella*, and *P. fasciolalis* in western North America.

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Figs. 4–6. *Pyla westerlandi* and *P. criddlella*, female genitalia. 4, *P. westerlandi*, genital capsule, ventral view. 5–6, *P. criddlella*. 5, Genital capsule, ventral view. 6, Right lateral aspect of ductus bursae and posterior portion of corpus bursae.

calities in the Rocky Mountains and northern Cascades (Fig. 9). Additional material was also examined from the southern Cascades, central Sierra Nevada region, and more isolated mountain ranges including the Willowa Mountains of northeastern Oregon, the Snake Range of eastern Nevada, and the San Francisco Mountains of northern Arizona. Seemingly disjunct localities include Chilkat Pass, British Columbia-Yukon Territory border (3,200 feet) and three localities in the eastern St. Lawrence region of Canada (Knob Lake and Laurentides Park, Quebec; Cartwright, Labrador). In the northern Rockies and Cascades recorded elevations range from 4,000 to 9,000 feet; recorded elevations in the southern Rockies, central Sierra Nevada, Snake Range, and San Francisco Mountains from 6,250 to 10,400 feet. Flight dates range from 1 July to 27 August. The life history is unknown.

The eastern specimens (5 males) are indistinguishable from western populations based on genitalia. Similar eastern disjunct distributions of otherwise western montane moths and plants have been documented where the eastern portion of the range includes the Great Lakes, eastern St. Lawrence, and Atlantic Coast or some combination of these regions. Examples in the Noctuidae include *Euxoa shasta* Lafontaine, *E. tristicula* (Morrison), *E. quebecensis* (Smith), and *E. macleani* McDunnough (Lafontaine 1982, 1987) and in the Geometridae *Eupithecia sharronata* Bolte (Bolte 1990). Marquis and Voss (1981) discuss this distribution pattern in detail for plants with particular attention to the Great Lakes region. Review of the distribution maps recently published for North American pteridophytes (Flora of North America Editorial Committee 1993) provides additional examples. However, true disjunctions are difficult to distinguish from artifactual distribution gaps in poorly sampled taxa such as in the phycitines.

Material examined: 75 ♂, 41 ♀ [AMNH,

CNC, GJB, LACM, MSU, NMNH, UCB, UZMH].

Pyla aequivoca Heinrich

(Balogh and Wilterding 1998, figs. 6–10, 14–16, 18, 23–28; Heinrich 1956, fig. 366)

Pyla aequivoca Heinrich 1956: 143. Holotype ♂, Banff, Alberta, Canada (CNC). [Type examined.]

Pyla gaspeensis McDunnough 1958: 5. Holotype ♂, Mile 49, Cascapedia Road, Gaspé, Québec, Canada (CNC). Allotype ♀, Cascapedia Road, near Mt. Albert, Gaspé, Québec, Canada (NMNH). [Types examined.]

Pyla aequivoca, a boreal and western montane species, was recently redescribed with notes on its distribution and habitat (Balogh and Wilterding 1998). The life history is unknown.

Material examined: 35 ♂ and 35 ♀ [AMNH, CNC, EGV, GJB, LACM, MSU, NMNH, UZMH].

Pyla insinuatric Heinrich

(Fig. 8; Heinrich 1956, figs. 365, 856)

Pyla insinuatric Heinrich 1956: 144. Holotype ♂, Aweme, Manitoba, Canada (CNC). [Type not examined.]

Pyla insinuatric is distributed along a narrow region extending across southern Canada and the northern United States from Nova Scotia to western Alberta (Fig. 8). This moth is associated with wet calcareous habitats in the Great Lakes region including northern fens, interdunal wetlands, alvar, and swampy stream sides and it is also known from coastal bogs in Nova Scotia (D. C. Ferguson, personal communication 1995). On Manitoulin Island and the nearby smaller islands of Georgian Bay, Ontario, it has been recorded from a dozen localities and often associated with alvar (John K. Morton, personal communication 1999). In northern Michigan *P. insinuatric* is common on Drummond Island at the southern edge of the Maxton Plain where moist alvar

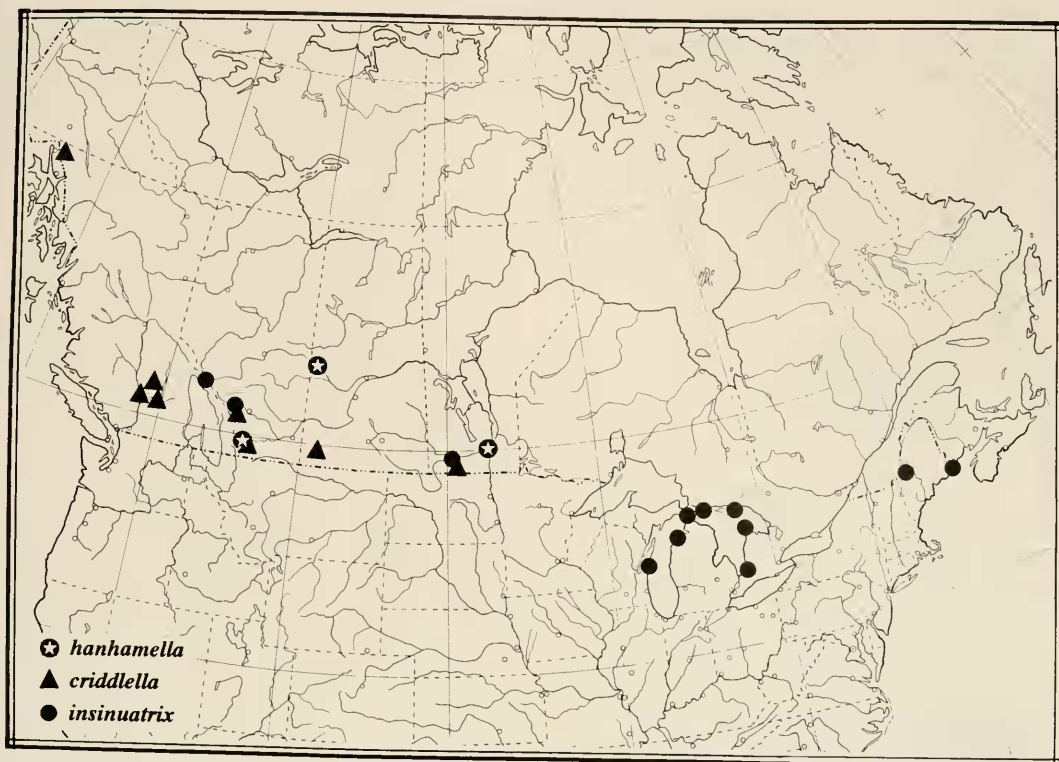


Fig. 8. Known distribution of *Pyla hanhamella*, *P. criddlella*, and *P. insinuatix* in North America.

grades into a large sedgy wetland. Flight dates range from 11 June to 24 August with most records during July and August. The life history is unknown.

Material examined: 55 ♂, 9 ♀ [CNC, GJB, JKM, KS, LAF, MSU, NMNH, UZMH].

Pyla aenigmatica Heinrich

(Fig. 9; Heinrich 1956, figs. 367, 853)

Pyla aenigmatica Heinrich 1956: 144. Holotype ♂, Wellington, British Columbia, Canada (NMNH). [Type not examined.]

Pyla aenigmatica is transcontinentally distributed but infrequently encountered, recorded from scattered localities extending from the Gaspé region of Québec west to Vancouver Island, British Columbia and as far south as Sevier Co., Utah (Fish Lake) (Fig. 9). This moth is unevenly distributed along the major mountain ranges of the

west but is not associated with high montane habitat. In the Great Lakes region, specimens of *P. aenigmatica* have been collected in sandy and rocky habitats but rarely on moving dunes. Flight dates range from 4 June to 3 September. The life history is unknown.

Material examined: 25 ♂, 14 ♀ [AMNH, CNC, GJB, JKM, MSU, NMNH, UCB, UM].

Pyla criddlella Dyar

(Figs. 5, 6, 8, 11, 12; Heinrich 1956, fig. 368)

Pyla criddlella Dyar 1907: 110. Holotype ♂, Aweme, Manitoba, Canada (NMNH). [Type examined.]

Diagnosis.—*Pyla criddlella* is the smallest of the gray *Pyla* with brownish gray wings and indistinct maculation (Figs. 11, 12). The genitalia are diagnostic in both

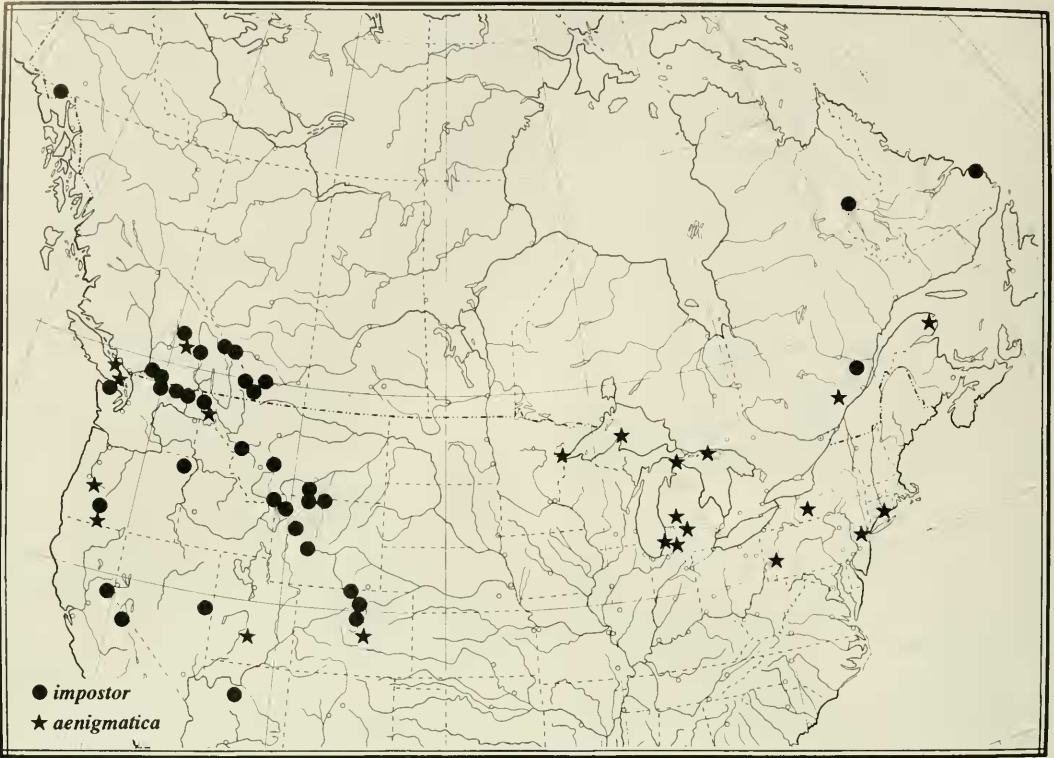


Fig. 9. Known distribution of *Pyla impostor* and *P. aenigmatica* in North America.

sexes. The male aedeagus is asymmetric with the lateral divisions separated by a membranous gap, and the right division developed distally into a posterolaterally directed pointed spine (Heinrich 1956, fig. 368a). The female ostium bursae is semi-membranous without heavily sclerotized plates or processes; the posterior portion of the corpus bursae has a short convolute band of sclerotization with three adjacent diverticula (Figs. 5, 6).

Redescription.—*Alar expanse*: 18.1 to 22.4 mm (mean = 20.8 mm, $n = 7$) *Vestiture*: A mixture of semilustrous light and dark brownish gray scales, many scales white tipped, darker and browner than most other gray *Pyla* species. *Head*: Frons convex, scaled brownish gray; male vertex shallowly concave with appressed central lustrous brownish scaling, female vertex flat with loose central pale-tipped scaling, ocelli and chaetosemata well developed; la-

bial palpus thick, porrect, length $2\frac{1}{2}$ – $3\times$ width of eye, 2nd segment longest and broadest, scaled with brownish gray and pale-tipped scales, base and mesial aspect paler; maxillary palpus with tufts of narrow scales extending to $\frac{1}{2}$ length labial palpus; tongue well developed, covered proximally with brownish gray scales; antenna laminate, basal segments of male flagellum modified forming a mesial sinus, each modified segment with a distal spine, spines progressively larger distally, sinus bordered medially and laterally by rows of gray scales, inner row of scales forming medial border of sinus modified, thick, dark, each with curved central spine-like tooth, base of female flagellum unmodified, unmodified segments of flagellum in both sexes scaled pale brown, scape nearly uniform brownish gray. *Thorax*: Dorsum, tegula, and collar and ventral aspect of thorax gray or brownish gray, scales sometimes faintly pale-

tipped; legs similar in color, mesial aspect paler, tarsal segments white-tipped distally, protibia with spine-tipped epiphysis from middle extending just distal to first tarsal joint, mesotibia with one and metatibia with two pair of spurs. *Wings* (Figs. 11–12): Forewing dark semilustrous brownish gray sprinkled with white-tipped scales; markings faintly contrasting, antemedial and postmedial lines indicated by slightly greater concentration of white-tipped scales, bordered with slightly darker shade, antemedial oblique, postmedial indented opposite cell and in lower third, discal mark and terminal line absent; fringe paler brownish gray white-tipped scales; underside brownish gray, paler along inner margin, vague indication of postmedial line, fringe nearly unicolorous, paler at base. Hindwing brownish gray, lighter than forewing, veins slightly darker; fringe paler, a thin pale line at base; underside concolorous with upper side of hindwing and underside of forewing, fringe paler. *Abdomen*: Brownish gray, slightly paler than thorax.

Male genitalia (Heinrich 1956: fig. 368): Uncus subtriangular and hood-like; gnathos with a stout central hook; valva narrow, tapered in distal third, slightly greater degree of sclerotization along proximal $\frac{3}{4}$ of costa and proximal $\frac{1}{2}$ of sacculus; clasper (*sensu* Heinrich) at costal aspect of valva base, a slightly irregular sclerotized ridge developed into a short medial triangular or tooth-like process; tegumen unmodified; juxta developed into a rounded pocket anteriorly, weakly sclerotized lateral to the aedeagus, without posterior processes; aedeagus (Heinrich 1956, fig. 368a) divided distally, divisions asymmetric, sclerotized, the right longer, thicker, semi-cylindrical, developed into a lateral sclerotized spine distally, vesica with fine scobinate patch, cornuti absent; anellar membrane with small pouches dorsal to basal process of valva; eighth abdominal sternite with a pair of hair pencils.

Female genitalia (Figs. 5–6): Ostium bursae finely scobinate, semimembranous, funnel-shaped, lamella antevaginalis with

weakly sclerotized folds radiating to junction of ostium bursae and ductus bursae; junction of ostium bursae and ductus bursae weakly convoluted, membranous and slightly fleshy; ductus bursae short, curved, arising ventrally from ostium bursae; corpus bursae largely membranous, posterior half coarsely wrinkled with an oblique convoluted band of sclerotization, three small membranous diverticula from posterior half of corpus bursae, two dorsal, one ventral; ductus seminalis arising from a sclerotized dorsal outpouching on the left; ovipositor telescoped, less than half length of genital capsule, ovipositor lobes slightly concave laterally.

Holotype.—♂ “Criddle, Aweme, Man., 10.VI.04”; “Type”; “Genitalia Slide, By 101,103. USNM” [green label]; “Type, No. 10344, U.S.N.M.” [red label]; “[male symbol] genitalia on, slide 30 Jan 1942, C.H. 2780” (NMNH).

Material examined.—(6 ♂, 12 ♀) CANADA. Alberta: 1 ♀, 28 Jun 1923, Waterton Lakes (CNC); 1 ♂, 1 Jul 1923, Waterton Lakes (CNC); 1 ♂, 1 ♀, 2 Jul 1922, Banff (CNC). British Columbia: 1 ♀, 11 Jul 1937, Jesmond (CNC); 2 ♀, 11 Jul 1937, Jesmond, 1,500' (CNC); 1 ♀, 9 Jul 1923, Jesmond, 3,500' (CNC); 1 ♀, 13 Jul 1937, Jesmond (CNC); 1 ♂, 22 July 1937, Jesmond (CNC); 1 ♀, 22 Jul 1937, Jesmond, 7,500' (CNC); 1 ♂, 23 Jun 1938, Canim Lake (CNC); 1 ♀, 28 Jun 1937, Kamloops (CNC); 1 ♂, 30 Jun 1955, Atlin, 2,200' (CNC). Manitoba: 1 ♂, 1 ♀, 16 Jun 1904, Aweme (CNC); 1 ♀, 10 Jun 1926, Aweme (CNC). Saskatchewan: 1 ♀, 3 June 1926, Cypress Hills, nr Maple Creek (CNC).

Discussion.—*Pyla criddlella* was previously described from a single male (Dyar 1907, Heinrich 1956). The female is described here for the first time. Unlike other gray *Pyla*, *P. criddlella*, *P. hanhamella* Dyar, and *P. hypochalciella* (Ragonot) are brown or brownish gray moths but not distinctly lustrous bronzy-brown. *Pyla criddlella* is the smallest of the gray *Pyla* and its distribution is poorly known (Fig. 8).

The documented distribution includes southwestern Manitoba (Aweme), southern Saskatchewan (Cypress Hills), southwestern Alberta (Waterton Lakes, Banff) and south central British Columbia (Jesmond, Kamloops, Canim Lake); specimens examined from these localities were collected between 1904 and 1938. A single male was collected at Atlin in northwestern British Columbia in 1955. Flight dates range from 3 June to 22 July and the life history and habits are unknown. Perhaps the small number of records and lack of recent collections reflects narrow habitat requirements.

History and etymology.—*Pyla criddlrella* is named for the Canadian entomologist Norman Criddle (1875–1933), a well known illustrator and agricultural entomologist who avidly studied and collected insects in southwestern Manitoba. The Criddle homestead and farm, southeast of Brandon, Manitoba, is in a region of mixed sandy prairie, forest (primarily white spruce, *Picea glauca* (Moench) A. Voss; and poplar, *Populus tremuloides* Michaux), and wetland supporting tamarack (*Larix laricina* (DuRoi) K. Koch) and black spruce (*Picea mariana* (Miller) BSP.). A fossil sand dune system, the Carberry Desert or Bald Head Hills, is evident as actively moving open sand deposits to the east of the homestead. Norman Criddle frequently made day collecting trips into these sand hills. Despite the local diversity of habitats, all Criddle material is labeled Aweme, a name given to his entomological lab and the local post office (Criddle 1973). Bird (1927) and Criddle (1915) described the habitats in the vicinity of Aweme.

Norman's father Percy Criddle (1844–1918) and other members of the family had diverse interests in natural history. Percy was unquestionably proud of Norman's accomplishments and his ego bolstered, if he was not somewhat amused, as insects took on the Criddle namesake:

"I expect to find myself elected correspond-

ing member of at least six learned societies in Ontario and elsewhere immediately, on account of my butterfly collection—buffalo bones—and chunks of old stones. While my new friends anticipate a brilliant future and immortality owing to my possible discovery of some new insect or other in this unexplored district which will be of course called 'Criddle-de-diddle-ensis' or some other fancy family name." [Entry from Percy Criddle's diary, one year after immigrating to Manitoba from England, following his visit with Ernest Thompson Seton and 'Mr. Christie' in 1883 (Criddle 1973: 94).]

Pyla fusca (Haworth)

(Fig. 10; Heinrich 1956, figs. 369, 852)

Phycis fusca Haworth 1811: 493. England. [Location of type unknown.]

Phycis spadicella Zincken 1818: 168. ♂ and ♀ syntypes indicated in original description, Augsburg, Germany. [Types not examined.]

Phycis janthinella carbonariella Duponchel 1836: 292; plate 281, fig. 2. Syntypes not itemized in original description, Domo d'Ossola, Italy. [Types not examined.]

Phycis posticella Zetterstedt [1839]: 996. Syntypes 1 ♂, 1 ♀, Lapland (Riksmuseum, Stockholm, Sweden). [*Phycis posticella* Zetterstedt is treated as a synonym of *Salebria fusca* Haworth by Benander (1940).] [Types not examined.]

Phycis annulatella Zetterstedt [1839]: 997. Syntypes 1 ♂, 2 ♀, Lapland (Riksmuseum, Stockholm, Sweden). [*Phycis annulatella* Zetterstedt is treated as a synonym of *Salebria fusca* (Haworth) by Benander (1940), and is noted to be a junior synonym of *Pyla fusca* (Haworth) by Speidel (1996). Speidel (1996) further notes that *P. annulatella* sensu Ragonot is the misidentified type species of *Polopeustis* Ragonot.] [Types not examined.]

Phycitia bilineata Curtis 1850: 114. 1 ♂ is indicated in the original description, Norfolk, England (syntypes in Melbourne Museum, Australia). [This was an unpublished **new synonymy**, M. Schaffer per-

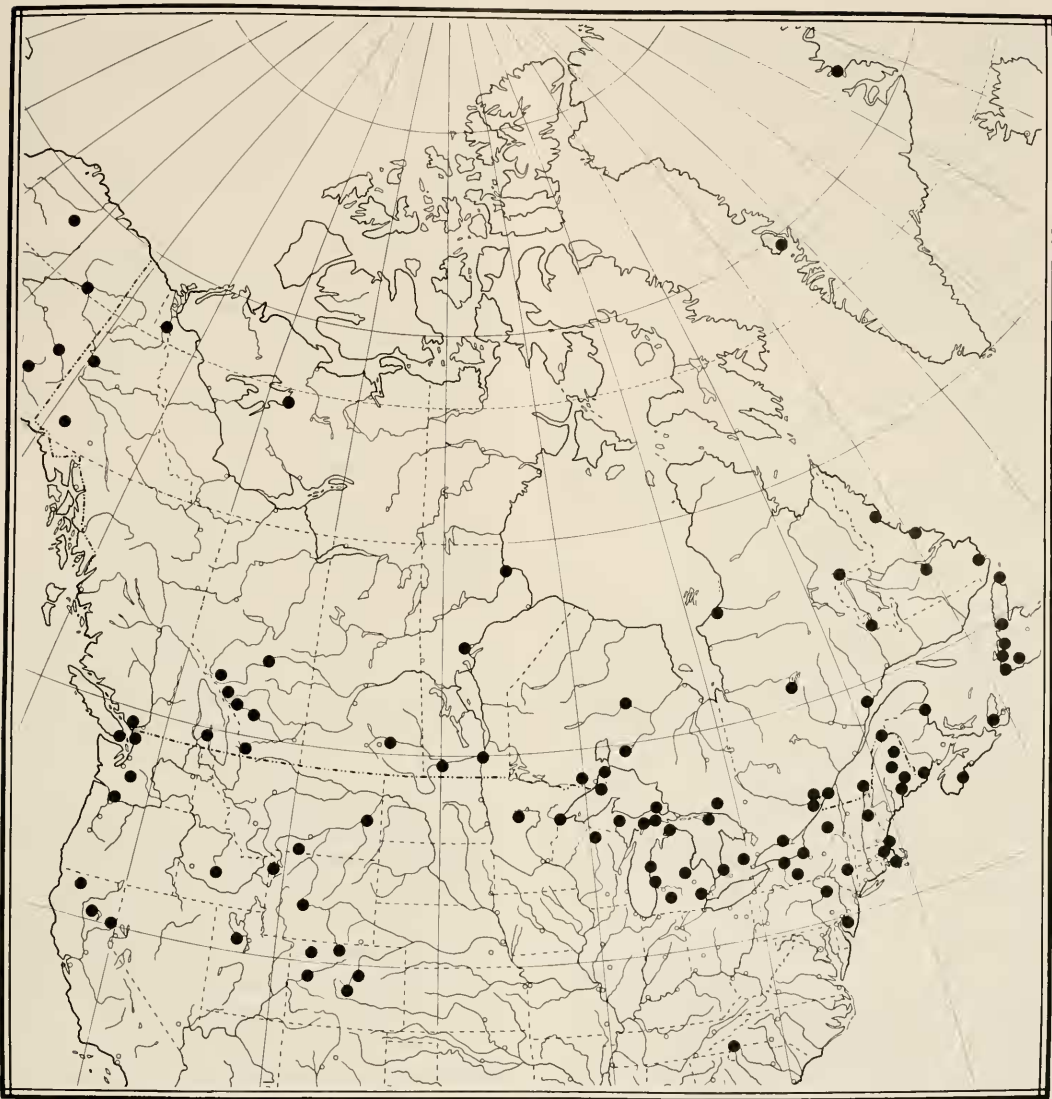


Fig. 10. Known distribution of *Pyla fusca* in North America, including Greenland.

sonal communication 1999.] [Types not examined.]

Nephoteryx moestella Walker 1863: 53. Extant syntypes include 1 ♀ from Nova Scotia, 4 ♀ from St. Martin's Falls, Ontario, and possibly 1 ♀ with no data that carries Walker's name label; no lectotype designated (BMNH). [Note: Walker's description clearly indicates that both sexes were represented in the type series and he itemized three specimens from the

United States, five from St. Martin's Falls, and one from Nova Scotia.] [Types not examined.]

Paedisca procellariana Walker 1863: 379. Holotype ♀, Arctic America (BMNH). [Type not examined.]

Eudorea "?" *frigidella* Packard 1867: 53. Syntype ♂ [abdomen missing], Caribou Island [= Great Caribou Island], Labrador, Canada (MCZ). [Note: Packard did not indicate the number or sex of the

specimens in his type series. The date of publication follows Miller and Hodges (1990). The MCZ syntype is labeled "Labrador" and likely is one of a series of specimens from which Packard described *frigidella*. Subsequently Packard (1873) recognized that his *frigidella* was a synonym of *Pempelia fusca* (Haworth) and the syntype is so labeled by Packard. This specimen also bears a label "*Eudorea borealis* n. sp.," a combination not published by Packard but likely a mislabeling as the name *Pyrausta borealis* Packard was published on the same page as *Eudorea ? frigidella*. *Pyrausta borealis* Packard is now treated as a subspecies of *Pyrausta subsequialis* (Gn.) (Hodges et al. 1983). [Type examined.]

Pinipestis cacabella Hulst 1887: 133. Holotype ♂. New York, United States (AMNH). [Note: New York is given as the type locality in the original description but the type lacks a locality label as noted by Heinrich (1956) and Rindge (1955).] [Type examined.]

Salebria triplagiella Dyar 1904: 109. Holotype ♂, Winnipeg, Manitoba, Canada (NMNH). [Type examined.]

Pyla fusca is the most commonly encountered and widely distributed *Pyla* in North America and ranges from the arctic south to New Jersey, North Carolina, and the Great Lakes region in the east and to Colorado and northern California in the west (Fig. 10). As the only holarctic *Pyla*, it is also widespread in northern and central Europe and Asia, and recorded from Greenland and Iceland (Speidel 1996, Sinev 1997, Wolff 1971). Based on European records the larvae primarily feed on the shoots and leaves of Ericaceae (Goater 1986, Palm 1986). Darlington (1952) cites a rearing from "blueberry" at Anglesea, New Jersey. Flight dates range from 25 May to 23 September.

Although *P. fusca* deviates from other *Pyla* species based on the presence of a cornutus on the male vesica, the aedeagus is

divided as in other *Pyla* species but with one division very fine and closely appressed to the opposite, distally curved, and more heavily sclerotized division. The presence of two divisions is not apparent in published figures of Heinrich (1956, fig. 369a).

We are indebted to Michael Shaffer (The Natural History Museum, London) for permitting us to publish the above synonymy for *Pyla fusca*.

Material examined: 107 ♂, and 128 ♀ [AMNH, CNC, CUI, GJB, JKM, KS, LACM, MCZ, MSU, NMNH, UM, UMMZ, UZMH].

Pyla hypochalciella (Ragonot)

(Fig. 7; Heinrich 1956, figs. 370, 854)

Nephteryx ovalis hypochalciella Ragonot 1887: 7. Type a single specimen of indeterminate sex and in poor condition [E. Cudel, personal communication 1998], Washington Territory (Paris Museum). [Type not examined.]

Pyla blackmorella Dyar 1921: 68. Holotype ♂, Mt. Tzouhalem, Duncan, British Columbia, Canada (NMNH). [Type examined.]

Pyla hypochalciella is an infrequently collected species from the Pacific Northwest (Fig. 7), most specimens are known from central and southern Vancouver Island, British Columbia, with single specimens examined from Tenino, Washington and Baker, Oregon, all collected between 1913 and 1947. Flight dates range from 1 June to 4 July. Life history and habits are unknown.

Specimens of *P. hypochalciella* are found mixed in collections with a superficially similar phycitine, a brown species of *Catastia* Hübner that occurs to the east in the Cascade Mountains. *Pyla* and *Catastia* are readily distinguished by genitalia in both sexes (Heinrich 1956). Males can also be separated by examination of the modified basal segments of the antenna, which are developed into a sinus in both genera.

In *P. hypochalciella* the spines within the sinus are short and exceeded and partially covered by a tuft of long curved scales along the mesial aspect of the sinus; in the *Catastia* species the spines are long, the distal spines exceeding the shorter mesial scale tuft. The row of scales along the inner border of the sinus are modified distally into spine-like processes in *P. hypochalciella* (as in other gray *Pyla*) whereas these scales are rounded distally with multiple fine teeth in the *Catastia* species.

Material examined: 7 ♂ and 5 ♀ [CNC, NMNH].

Pyla hanhamella Dyar

(Fig. 8; Heinrich 1956, figs. 371, 860)

Pyla hanhamella Dyar 1904: 109. Holotype ♂, Winnipeg, Manitoba, Canada (NMNH). [Type examined.]

Pyla hanhamella is recorded from relatively few localities in west central North America (Fig. 8) including central and southern Manitoba (Aweme; 2 miles west of Stockton; Onah; Winnipeg; “C[entral] Manitoba”), western North Dakota (Columnar Juniper Area, Slope county; not mapped), western Saskatchewan (Harlan), and southwestern Alberta (Hillcrest; Waterton Lakes). A single male was flushed from short-grass prairie in the badlands of Slope Co., North Dakota near midday, June 12, 1991 (GJB) (see photograph of habitat in McCabe and Post 1977, fig. 24). Flight dates range from 20 May to 25 July. The life history is unknown.

Material examined: 13 ♂, 12 ♀ [AMNH, CNC, GJB, NMNH].

Pyla arenaeola Balogh and Wilterding
(Balogh and Wilterding 1998, figs. 1–5,
11–13, 17, 19–22)

Pyla arenaeola Balogh and Wilterding 1998: 705. Holotype ♂, Saugatuck Dunes State Park, Allegan County, Michigan, USA (42.39°18'N, 86.12°07'W) (NMNH).

Pyla arenaeola is known only from the dunes of the Great Lakes and southwestern

Manitoba (Balogh and Wilterding 1998, fig. 17); the larvae live hidden in sand tubes and feed on Bearberry (*Arctostaphylos uva-ursi*). Details of the life history, habits, and biogeography of *P. arenaeola* can be found in Balogh and Wilterding (1998). Additional specimens collected on the southern shore of Lake Huron were examined since publication of the original description (CANADA: Ontario, Lambton County, Port Franks, 1 ♂, 30 Jul 1997 and 1 ♀, 7 Aug 1998 [KS]).

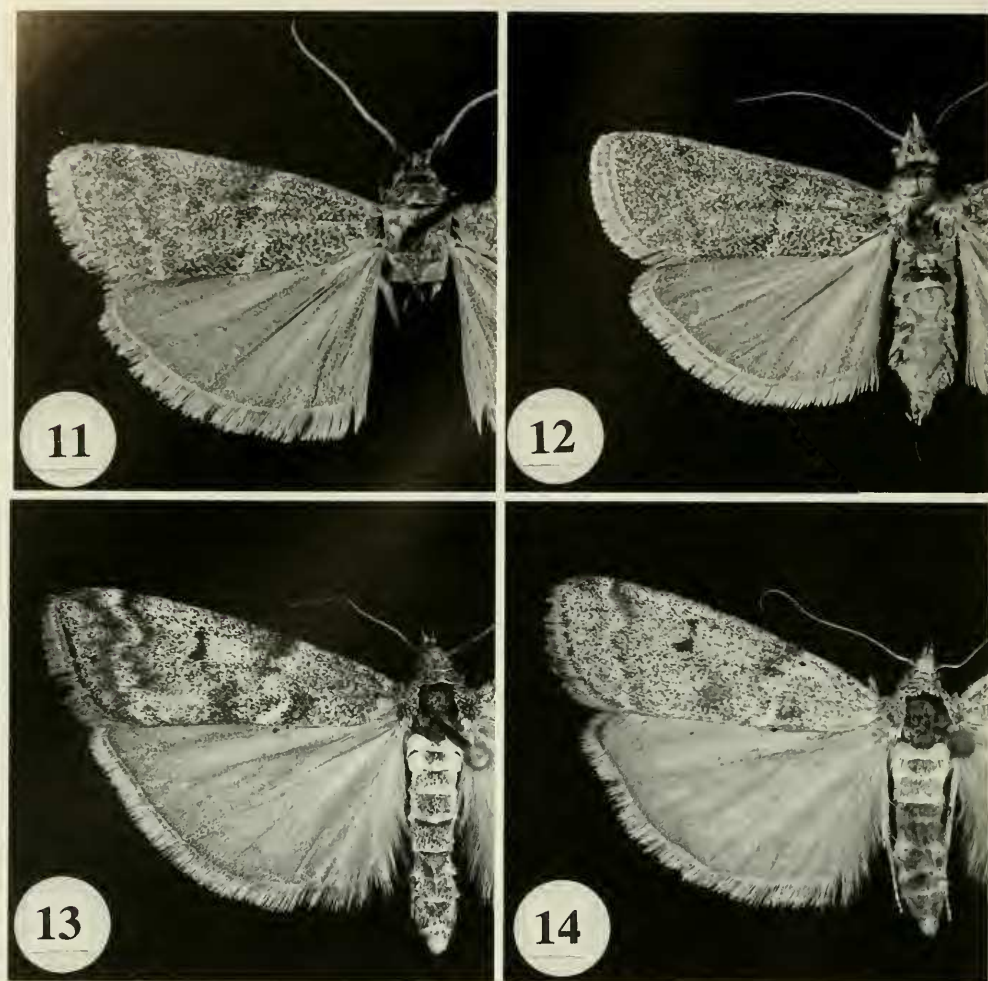
Material examined: 162 ♂, 95 ♀ [BGS, CNC, GJB, JAB, JHW, JKM, KS, LAF, MSU, NMNH, UMMZ].

Pyla westerlandi Wilterding and Balogh,
new species

(Figs. 1–4, 7, 13, 14)

Diagnosis.—This species is on average the largest gray *Pyla* species, but like other species of the group, is best recognized by features of the male and female genitalia. Males have an unusually long and stout clasper (*sensu* Heinrich) near the base of the valva and the aedeagus has symmetric laterally directed thorn like spines distally (Fig. 3). Females have an unusually large rectangular ostium bursae with a pair of rounded heavily sclerotized ventrolateral plates (Fig. 4).

Description.—*Alar expanse*: 29.7 to 36.2 mm (mean = 33.2 mm, n = 22). *Vestiture*: A mixture of gray, pale gray, whitish, and pale tipped gray scales. *Head*: Frons convex, a broad tuft of pale-tipped gray scales superiorly, paler scaling ventrally; male vertex concave with appressed central scaling and an anterior row of thicker and narrower brownish scales, female vertex nearly flat with loose central scaling, in both sexes most scales gray, often pale tipped, a tuft of elongate pale-tipped gray scales posteriorly; ocelli and chaetosemata well developed; labial palpus ascending to level of vertex, 2nd segment longest and broadest and in male with medial groove for maxillary palpi, 3rd segment thin, 1/3 length of 2nd, scaled with gray and whitish



Figs. 11–14. *Pyla criddlrella* and *P. westerlandi* adults. 11–12, *P. criddlrella*. 11, male, Waterton Lakes, Alberta. 12, female, Cypress Hills, Saskatchewan. 13–14, *P. westerlandi*. 13, Holotype male, Ward Creek, 2 mi S. Tahoe City, California. 14, Paratype female, same locality.

scales, pale scales predominate on base and mesial aspect, 3rd segment darker and often pale at tip; male maxillary palpus extends nearly to $\frac{1}{2}$ length 2nd segment labial palpus, 1st segment thin and elongate, 2nd bulbous distally, pale tufts of elongate thin scales from 2nd and 3rd segments extend to distal aspect 2nd segment labial palpus, female maxillary palpus short, 3rd segment reduced, scale tufts shorter; tongue well developed, covered proximally with gray and pale scales; antenna laminate, basal 5–6 segments of male flagellum modified forming a mesial sinus, first several segments of

sinus may be fused or partially fused, each modified segment with a distal spine, spines progressively larger distally, sinus bordered medially and laterally by rows of gray and pale-tipped gray scales, inner row of scales forming medial border of sinus modified, thick, dark, each with curved central spine-like tooth, base female flagellum unmodified, unmodified segments of flagellum in both sexes scaled with fine bands of gray and pale scales, scape with broad posterior band of pale scales. *Thorax*: Dorsum, tegula, and collar scaled with pale-tipped gray scales, whitish scaling predominates

on ventral thorax; legs scaled with mixture of gray and whitish scales, white predominates on mesial aspect, mesotibia with dark band at $\frac{2}{3}$ rds, metatibia sometimes with vague darker banding, tarsi contrastingly dark, each segment white-tipped distally, protibia with spine-tipped epiphysis from middle extending just distal to first tarsal joint, mesotibia with one and metatibia with two pair of spurs. *Wings* (Figs. 13–14): Forewing pale gray with little variation, pale scales nearly uniformly distributed in basal, medial, and subterminal spaces, often a vague darker patch at anal margin of median space; antemedial line slightly paler than rest of wing, oblique, variably dentate, indented and most contrasting in lower third, margined proximally by dark gray patch along lower third, and distally by a darker line which is widest at costal half; postmedial line pale, dentate, indented opposite cell and in lower third, margined proximally and distally by dark line, the proximal dark line usually better defined; terminal line a thin row of dark gray spots; discal spot dark gray, bilobed; fringe pale gray white-tipped scales; underside pale gray, paler along inner margin, weakly developed dark subterminal mark at costa, terminal line faint. Hindwing pale brownish gray, slightly translucent, darker at outer margin, veins slightly darkened; fringe contrasting, pale, a brownish gray band proximal third; underside light gray, slightly darker at costal and outer margins. *Abdomen*: Scaled with gray and whitish scales forming lighter bands at posterior margin of segments.

Male genitalia (Figs. 1–3): Uncus subtriangular, hood-like; gnathos with a stout central hook; valva with base broad and concave mesially, flattened and tapering distally, proximal $\frac{3}{4}$ costa slightly thickened and with small smooth bulge at base, sacular margin thickened in proximal $\frac{1}{2}$ and forming a bulbous rounded basal protuberance; clasper (*sensu* Heinrich) large, arising from base of valve as a thick heavily sclerotized hollow spine, midportion slightly in-

curved, pointed distally, $\frac{1}{3}$ – $\frac{1}{2}$ length of valve, basal portion finely spiculate; tegumen unmodified; juxta U-shaped, forming a pocket anteriorly, posterolateral paired processes slightly incurved, often with a short spine at tip of each process; aedeagus (Fig. 3) slightly keeled ventrally, divided distally, divisions symmetric, sclerotized, each division with a single short ventrolateral rose thorn-like process proximal to posterior end, cornuti absent; anellar membrane developed into wrinkled membranous folds mesial to valve base; eighth abdominal sternite sclerotized as in Fig. 2 with prominent hair pencils.

Female genitalia (Fig. 4): Ostium bursae large, rectangular, nearly equal in length to corpus bursae, lamella postvaginalis largely membranous with weakly developed bands of sclerotization, lamella antevaginalis developed into paired, convoluted, heavily sclerotized plates with broadly rounded posteromedial margins, anterior aspect of ostium bursae produced into a squared-off pocket which protrudes dorsal to ductus bursae; junction of ostium bursae and ductus bursae membranous, flanked internally by fleshy folds; ductus bursae short, membranous, about $\frac{2}{3}$ width of corpus bursae, a slightly asymmetric bulge on left; corpus bursae membranous, broadest in anterior half, nearly symmetric; ductus seminalis dorsal, from posterior margin of corpus bursae; ovipositor telescoped, less than half length of genital capsule, ovipositor lobes slightly rounded laterally.

Holotype.—♂ (Fig. 13), California, Placer Co., Ward Creek, 2 mi S. Tahoe City, 6,050', 28 July 1980, N. Westerland (LACM). [This locality is actually at 6,250' elevation per J. D. Donahue, personal communication 1999.]

Paratypes [LACM, UCB NMNH].—96 ♂, 52 ♀. CALIFORNIA: Placer Co., Ward Creek, 2 mi S. Tahoe City, 6,050', N. Westerland (LACM) [This locality is actually at 6,250' elevation per J. D. Donahue, personal communication 1999.]: 1 ♂, 21 Jun 1974; 2 ♂, 29 Jun 1974; 1 ♂, 14 Jul 1974;

1 ♂, 21 Jul 1974; 1 ♀, 22 Jul 1974; 1 ♂, 2 Aug 1974; 1 ♂, 8 Jul 1975; 1 ♂, 17 Jul 1975; 1 ♂, 22 Jun 1979; 1 ♂, 25 Jul 1979; 1 ♂, 29 Jul 1979; 2 ♀, 7 Aug 1979. Placer Co., Ward Creek, 2 mi S. Tahoe City, 6,250', N. Westerland (LACM): 1 ♂, 15 Jun 1966; 1 ♀, 9 Jul 1976; 1 ♂, 10 Jul 1976; 1 ♂, 12 Jul 1976; 2 ♀, 21 Jul 1976; 1 ♂, 28 Jun 1977; 1 ♀, 15 Jul 1977; 1 ♂, 17 Jul 1977; 1 ♀, 19 Jul 1977; 1 ♀, 22 Jun 1978; 1 ♂, 9 Jul 1978; 2 ♀, 15 Jul 1978; 1 ♂, 17 Jul 1978; 1 ♂, 19 Jul 1978; 1 ♂, 26 Jul 1978; 1 ♀, 3 Aug 1978; 1 ♂, 18 Jul 1979; 1 ♂, 24 Jul 1979; 1 ♂, 5 Jul 1980; 1 ♂, 16 Jul 1980; 1 ♂, 24 Jul 1980; 1 ♂, 25 Jul 1980; 1 ♂, 27 Jul 1980; 1 ♂, 1 ♀, 29 Jul 1980; 1 ♂, 1 ♀, 30 Jul 1980; 1 ♂, 1 ♀, 4 Aug 1980; 1 ♀, 8 Aug 1980; 2 ♂, 24 Aug 1980; 1 ♂, 22 Jun 1981; 2 ♂, 25 Jun 1981; 1 ♀, 26 Jun 1981; 1 ♀, 29 Jun 1981; 1 ♀, 3 Jul 1981; 1 ♂, 5 Jul 1981; 1 ♀, 20 Jul 1981; 1 ♂, 26 Jul 1981; 1 ♂, 28 Jul 1981; 1 ♂, 3 Jul 1982; 1 ♂, 8 Jul 1982; 1 ♂, 10 Jul 1982; 1 ♂, 1 ♀, 14 Jul 1982; 1 ♂, 20 Jul 1982; 1 ♀, 23 Jul 1982; 1 ♂, 24 Jul 1982; 1 ♂, 25 Jul 1982; 1 ♂, 26 Jul 1982; 1 ♂, 1 ♀, 27 Jul 1982; 2 ♂, 28 Jul 1982; 1 ♀, 1 Aug 1982; 1 ♂, 7 Aug 1982; 1 ♂, 10 Aug 1982; 1 ♀, 8 Aug 1982; 2 ♀, 16 Aug 1982; 1 ♀, 22 Aug 1982; 1 ♂, 30 Jul 1983; 1 ♂, 4 Aug 1983; 1 ♂, 8 Aug 1983; 1 ♂, 5 Jul 1984; 1 ♂, 12 Jun 1985; 1 ♀, 28 Jun 1985; 1 ♂, 30 Jun 1985; 1 ♂, 2 Jul 1985; 2 ♂, 3 Jul 1985; 1 ♂, 6 Jul 1985; 1 ♂, 9 Jul 1985; 1 ♀, 14 Jul 1985; 1 ♀, 17 Jul 1985; 1 ♂, 26 Jul 1985; 1 ♂, 6 Jul 1986; 1 ♂, 7 Jul 1986; 1 ♀, 12 Jul 1986; 1 ♂, 1 ♀, 13 Jul 1986; 1 ♂, 14 Jul 1986; 1 ♂, 1 ♀, 15 Jul 1986; 1 ♀, 4 Aug 1986; 2 ♂, 1 ♀, 13 Aug 1986; 1 ♀, 20 Aug 1986; 1 ♂, 17 Jun 1987; 1 ♂, 29 Jun 1987; 1 ♀, 30 Jun 1987; 2 ♀, 9 Jul 1987; 1 ♀, 11 Jul 1987; 1 ♂, 16 Jun 1988; 1 ♀, 3 Jul 1988; 1 ♂, 5 Jul 1988; 1 ♂, 9 Jul 1988; 1 ♂, 11 Jul 1988; 1 ♀, 12 Jul 1988; 1 ♂, 16 Jul 1988; 1 ♀, 17 Jul 1988; 1 ♀, 20 Jul 1988; 2 ♀, 22 Jul 1988; 2 ♂, 26 Jul 1988; 1 ♂, 24 Jun 1989; 1 ♂, 4 Jul 1989; 2 ♂, 5 Jul 1989; 1 ♂, 13 Jul 1989; 1 ♂, 16 Jul 1989; 1 ♀, 22 Jul 1989; 1 ♀, 23 Jul 1989; 1 ♀, 27 Jul 1989; 2 ♂, 26 Jul 1990; 1 ♀, 11 Jul 1991; 4 ♂, 1 ♀, 16 Jul 1991; 1 ♂, 19 Jul 1991; 1 ♂, 21 Jul 1991; 1 ♂, 23 Jul 1991; 1 ♂, 5 Aug 1991; 1 ♂, 11 Aug 1991. Placer Co., Ward Creek, 4 km S of Tahoe City, 1 ♂, 12-VII (UCB). OREGON: Crook Co., Ochoco N. [ore]st, 1 ♂, July 3, 1967, J. H. Baker (NMNH).

Discussion.—Remarkably, all specimens examined, with the exception of one specimen from central Oregon (not mapped), were collected at the type locality. The type locality, the previous retirement home of the late Nils Westerland, is 2–3 blocks from the northwest shore of Lake Tahoe and within the mixed conifer forest of the eastern Sierra Nevada. Common conifers include *Abies concolor* (Gordon & Glend.) Lindley, *Pinus jeffreyi* Grev. & Balf., and *Pinus contorta* Loudon. Shrubs noted in the vicinity of the Westerland home include *Ceanothus cordulatus* Kellogg, *Symphoricarpos* sp., *Cornus* sp., *Epilobium* sp., *Amelanchier* sp., *Lonicera* spp., and *Ribes* spp. (Julian P. Donahue, personal communication 1996). Nils Westerland collected insect specimens intensively at the type locality from 1973 to 1991 with most moths collected at a blacklight sheet operated on his back porch. He collected representative samples for the LACM each night and that may account for the wide range of dates for which only one or two specimens of *P. westerlandi* are recorded. An alternative explanation is that *P. westerlandi* was infrequently encountered at the Westerland residence. Flight dates range from 12 June to 24 August with most specimens collected in July. The life history and habits of *P. westerlandi* are unknown.

Several specimens of *P. impostor* were found from the type locality of *P. westerlandi*. The drier region south of Lake Tahoe yielded several more specimens of *P. impostor* and appears to represent the more typical habitat of this species. We caution, however, that the large size of Sierra Nevada *P. impostor*, combined with its estab-

lished sympatry with *P. westerlandi*, necessitates genitalic dissection as the only reliable means to identify the new species.

Etymology.—We take great pleasure in naming this special phycitine for Nils August Westerland IV (1906–1995) to honor his persistence in securing the type series. Nils Westerland shared a long association with southern California lepidopterists and the LACM (Donahue 1988, 1996). We are further indebted to Julian Donahue for bringing this new *Pyla* species to our attention and permitting us the opportunity to describe it.

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Note.—Lerant (2001. *Revue Française d'Entomologie* 23(2): 129) recently described a new genus, *Mitillella*, for *Pyla fusca*. In both the description and illustration (Lerant: fig. 1), the heavily sclerotized closed division of the aedeagus is misinterpreted as a thick cornutus. Pending further phylogenetic analysis of *Pyla*, we are inclined to retain *P. fusca* in the genus *Pyla*.