

TWO NEW PINE-FEEDING SPECIES OF *COLEOTECHNITES*
(GELECHIIDAE)

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ABSTRACT. Two new species of moths, *Coleotechnites ponderosae* and *C. edulicola* (Gelechiidae), whose larvae mine needles of pinyon and ponderosa pine, are described. Each is a potential pest species in Colorado and New Mexico.

Two species of *Coleotechnites* Chambers, one on ponderosa pine and one on pinyon, are pests of these important tree species. Stevens has studied both in the field, has published on the ponderosa pine species, and has a paper on the pinyon species elsewhere in this issue. An attempt at determination showed that each species is new. The senior author plans a revision of the genus *Coleotechnites*, but this work will not be completed for some years. Descriptions are presented to provide names for these species.

Coleotechnites ponderosae Hodges & Stevens, n. sp.
(Figs. 1, 3, 4)

Upper surface as figured. **Head:** base of tongue mottled dark and medium gray; labial palpus with first and second segments dark gray, nearly black on lateral surface, second segment with a pale gray to white streak at $\frac{3}{5}$ length and one at apex, mesal surface white dorsally nearly to ventral margin, third segment white at base, middle and apex, dark brown to nearly black separating white areas; frons mainly white, some scales medium to dark-gray tipped; vertex and occiput with many dark-gray tipped scales above eye, bases of scales white, many with lustrous purple reflections; scape of antenna mottled white and very dark brown dorsally, white ventrally, shaft with alternating half segments of yellowish-gray and brown scales on distal three-fifths. **Foreleg:** mainly dark gray, some yellowish-white scales at apex of coxa, tibia with a few white scales at half length and at apex; base and apex of first tarsal segment white, apices of second and third tarsal segments white. **Midleg:** similar to foreleg, some white scales at base, middle and apex of tibia, base and apex of first tarsal segment and apices of second, third, and fourth tarsal segments white to off white. **Hindleg:** coxa shining white and yellowish white with lustrous blue and purple reflections and some gray scales; femur similar with gray scales on ventral margin; tibia with white scales at base, a streak of white scales at base of first pair of spurs, and another at apex, tibial spurs pale gray to off white, dorsal scale tuft yellowish white; tarsus with base and apex of first segment, apices of second, third, and fourth segments yellowish white, other scales medium to dark gray brown. **Wing length:** 3.9-4.8 mm. **Forewing:** upper surface mottled brown and white, scale bases white, fringe yellowish white in tornal area. **Hindwing:** upper surface yellowish gray, fringe slightly more intense yellowish gray; male with hair pencil of yellow to yellow-brown scales on posterior margin at base. Ventral surface of wings mainly yellowish gray. **Abdomen:** dorsal

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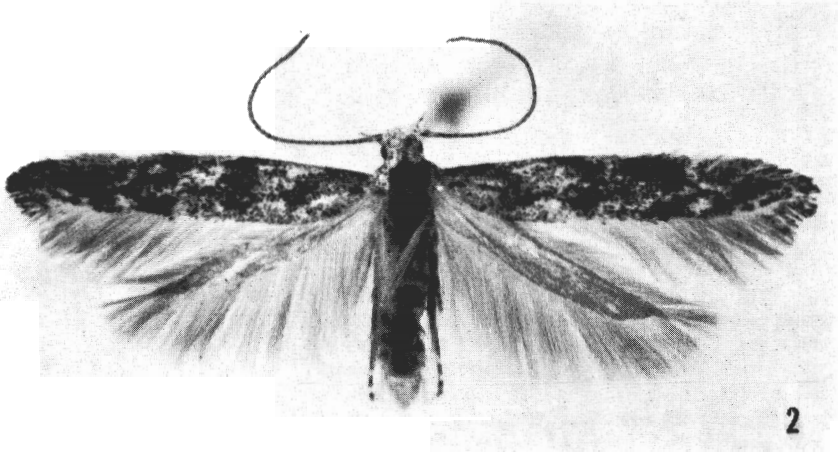
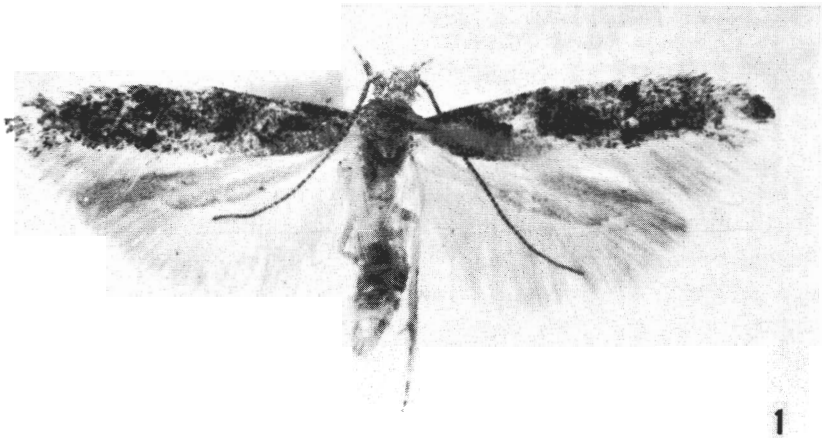


Fig. 1, 2. Adult *Coleotechnites*. 1, *C. ponderosae* ♂, holotype; 2, *C. edulicola* ♂, holotype.

surface shining yellow and yellowish gray with lustrous yellow and purple reflections, male with yellowish-orange sex scales on segments 1-3; ventral surface mainly shining gray, male with some white to off-white scales at apexes of segments 4-8, female mainly darker gray. **Male genitalia:** as in Fig. 3; valvae asymmetrical, right valva curved apically, left valva nearly straight, apex strongly curved; aedeagus ankylosed with vinculum, apex reaching level of apexes of lobes of sicae; lobes of sicae directed to left from middle to near apex, apex of right lobe turned posteriad; tegumen with asymmetrical posterolateral lobes, right lobe slightly smaller than left lobe; gnathos slender, hooked apically; uncus with posterior margin smoothly indented medially. **Female genitalia:** as in Fig. 4; anterior margin of eighth segment heavily sclerotized; base of *ductus bursae* slightly more heavily sclerotized than rest of *ductus bursae*; *ductus seminalis* arising two-fifths length from base; *corpus bursae* gradually expanded from *ductus bursae*; single signum with two, inwardly directed projections nearly parallel sided for distal third, margins with small serrations.

Foodplant: *Pinus ponderosa* Lawson. The larvae are needle miners. The life history has been published by Stevens (1973).

Types: Holotype: ♂. Boulder, Colorado; July 1971; Hopkins No. US 36711; *Pinus ponderosa*, J. Staley; USNM type number 75471. **Paratypes:** 6♂♂, 8♀♀. Same data as for holotype; USNM genitalia slides 10136, 37, 39–41, USNM.

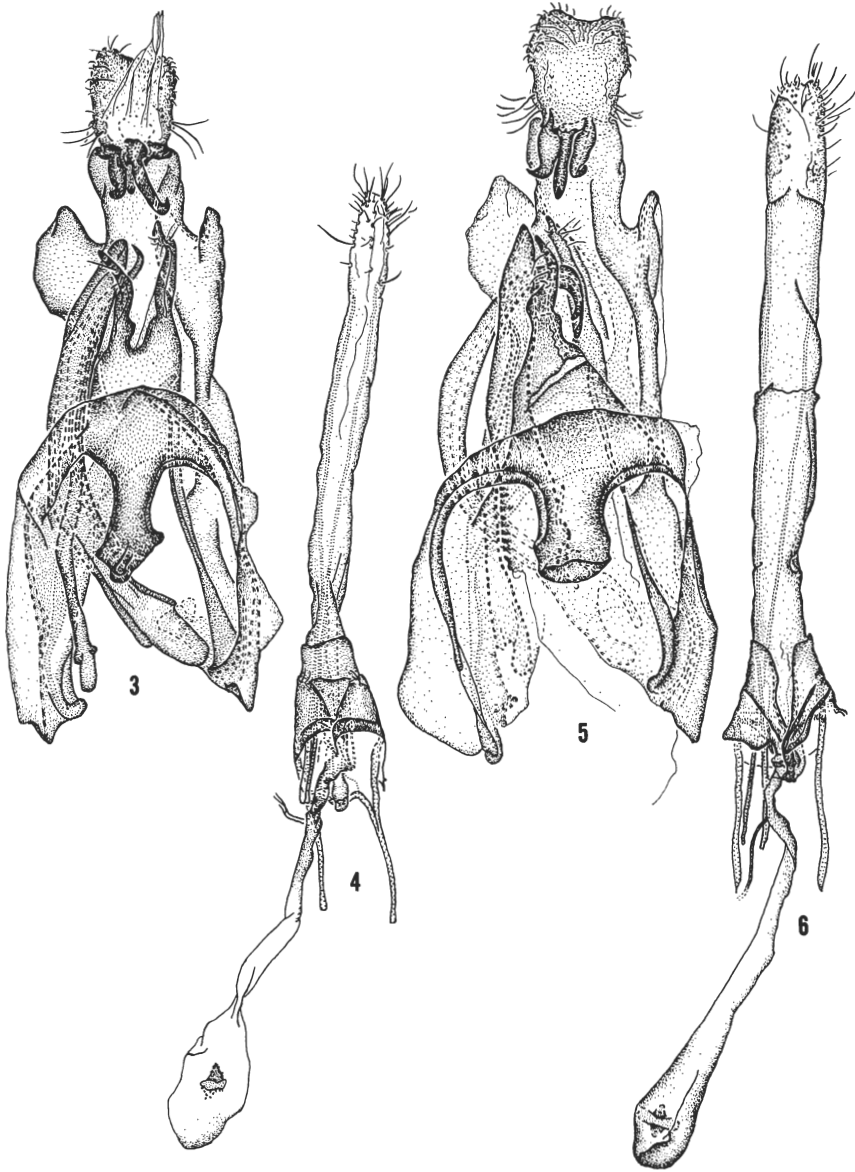
Superficially, *ponderosae* is similar to the type specimen *moreonella* (Heinrich); however, the wing length of *moreonella* is 6.2 mm, and the basal segments of the antenna of *moreonella* are wider than long; those of *ponderosae* are longer than wide. In the male genitalia the left valva of *ponderosae* is very slender apically, and the apex is at a right angle with the long axis; that of *moreonella* is stouter, and the distal third is slightly curved. *Coleotechnites ponderosae* males have sex scales on terga 1–3; *moreonella* males have them on segments 1–4.

Specimens in the type series vary in the number of dark-brown tipped scales but generally all are dark brown as seen with the naked eye. Worn specimens are paler brown.

Coleotechnites edulicola Hodges & Stevens, n. sp.

(Figs. 2, 5, 6)

Upper surface as figured. **Head:** tongue mainly white with some gray scales at base; labial palpus white at extreme base, lateral surface of first segment dark gray beyond base to apex, mesal surface white, second segment mainly dark gray from base to half length and with some dark gray-brown tipped scales at three-fourths length laterally, a white band at half length and at apex, mesal surface mainly white with some dark gray-brown scales on ventral margin, third segment mainly white with a narrow brown band at half length; frons with dark-gray scales in front of eye and on ventral half, dorsal part shining white to yellowish white; vertex and occiput mainly white to yellowish white, many, scattered scales with gray apices, with some lustrous yellow and purple reflections; scape of antenna mainly white to yellowish white, some gray-brown scales on dorsal surface before apex, shaft alternating half segments of yellowish-gray and dark-gray scales. **Foreleg:** coxa mainly dark gray with some yellowish-gray scales, femur darker gray brown with some white-tipped scales at half length and on dorsal margin; tibia dark brown with white scales at one-fifth length, one-half length and at apex; tarsus dark brown, base and apex of first segment and apex of second segment with white scales, third and fourth segments with some pale-gray scales at apices. **Midleg:** coxa shining yellowish white with lustrous yellow and purple reflections; femur mainly dark gray, some yellowish-gray scales at base and one-half length and some yellowish-white scales at apex; tibia dark gray brown, white at base, one-fifth length, three-fifths length and at apex; tarsus dark brown, base and apex of first and apices of rest of segments white. **Hindleg:** coxa shining yellowish white and pale gray with lustrous yellow and purple reflections; femur white on dorsal margin, dark gray with lustrous yellow and purple reflections on rest; tibia with a broad white streak from base to nearly one-third length, a white streak at three-fifths length, apex white, rest of segment dark gray brown, dorsal scale tuft medium to dark gray, outer tibial spurs white, inner tibial spurs gray with white apices; tarsus mainly dark gray brown, base and apex of first segment and apices of rest of segments white. **Wing length:** 4.4–5.2 mm. **Forewing:** upper surface mottled dark brown and white, fringe shining yellowish gray. **Hindwing:** gray, fringe shining yellowish gray, a yellow to yellowish-brown hair pencil on posterior margin at base.



Figs. 3-6. Genitalia of *Coleotechnites* spp. 3, *C. ponderosae* ♂; 4, *C. ponderosae* ♀; 5, *C. edulicola* ♂; 6, *C. edulicola*.

Abdomen: ♂ with first three terga having yellow sex scales, other segments pale yellowish gray, posterior margin of each segment paler, nearly white; ventral surface mainly medium gray, posterior margin of most segments yellowish white to white; ♀ much as for ♂ except lacking yellow sex scales. **Male genitalia:** as in Fig. 5;

right valva curved at right angle at one-half length and again at four-fifths length, distal one-fifth in nearly same direction as basal half; left valva slender, tapering gradually to acute apex; aedeagus extending slightly beyond apex of sicae; tegumen with pair of asymmetrical lobes on posterolateral margins; uncus broad, posterior margin slightly indented medially. **Female genitalia:** as in Fig. 6; anterior margin of eighth abdominal segment heavily sclerotized, anterior margin of eighth sternum extending anteriorly to level of anterior margin of eighth tergum; *ductus bursae* slender with a sclerotized band on basal one-fifth; *ductus seminalis* arising at one-fourth to one-third length; *corpus bursae* expanded gradually from *ductus bursae*; signum with pair of inwardly directed lobes; margins of each lobe very slightly serrate.

Foodplant: *Pinus edulis* Engelmann. The larvae are needle miners.

Types: Holotype: ♂. 14 Km N Aztec, New Mexico; 6/73; *Pinus edulis*; coll. R. Stevens; Hopk. U.S. 36741; USNM type no. 75472. **Paratypes:** 12 ♂♂, 3 ♀♀. Same data as for holotype; USNM genitalia slides 3512-4, 10133-5, USNM.

Coleotechnites edulicola is very similar to *ponderosae*, but the forewings are much paler. To the naked eye *edulicola* is a pale species; *ponderosae* is a medium to dark gray-brown species. In *edulicola* the right valva has two right angles, that of *ponderosae* is broadly curved and the apex is at a right angle with the preceding part. Females of *edulicola* have the anterior margin of the eighth abdominal sternum extending anteriorly as far as that of the anterior margin of the eighth tergum; females of *ponderosae* have the anterior margin of the eighth abdominal sternum posterior of the anterior margin of the eighth tergum.

Specimens in the type series vary somewhat in the relative amounts of dark-brown and white scales. *Coleotechnites edulicola* has also been reared from *Pinus edulis* at Santa Fe, and Nageezi, San Juan County, New Mexico.

ACKNOWLEDGMENTS

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LITERATURE CITED

- STEVENS, R. E. 1973. A ponderosa pine needle miner in the Colorado Front Range. USDA For. Serv. Res. Note Rm-228: 1-3.