

LIST OF OREGON SCOLYTIDAE (COLEOPTERA)  
AND NOTES ON NEW RECORDS

Malcolm M. Furniss<sup>1</sup>, James B. Johnson<sup>1</sup>, Richard L. Westcott<sup>2</sup>, and Torolf R. Torgersen<sup>3</sup>

ABSTRACT.—Listed are 121 species of Scolytidae from Oregon. Ten species are reported from Oregon for the first time: *Hylastes tenuis* Eichhoff, *Phloeosinus scopulorum scopulorum* Swaine, *Phloeosinus hoferi* Blackman, *Trypodendron betulae* Swaine, *Xyleborus xylographus* (Say), *Trypophloeus striatulus* (Mannerheim), *T. thatcheri* Wood, *Procryphalus mucronatus* (LeConte), *Pityophthorus scalptor* Blackman, and *Monarthrum dentigerum* (LeConte). The second Oregon specimen of an exotic species, *Xyleborus californicus* Wood, is reported also.

*Key words:* Scolytidae, faunal list, Oregon.

Oregon is a large state with diverse vegetation that occurs there due largely to the wide range of physical and climatic environments. The climate results in part from the interplay between maritime and continental air masses and the intervening Cascade Mountain Range that divides the state into distinct western (maritime) and eastern (continental) regions (Franklin and Dyness 1973). For example, average annual precipitation varies from approximately 60–300 cm west of the Cascades to 20–100 cm eastward.

The exceptionally diverse forests of southwestern Oregon have an affinity with California, whereas those of northeastern Oregon are related to Rocky Mountain forest types. Because Scolytidae are host-specific to some degree, their distribution in Oregon is linked closely to the distribution of species of trees and shrubs.

Oregon scolytids were listed by Chamberlin (1917), but that list is greatly out of date. We herein update the list to include records and synonymies published by Wood (1982). Similar lists have been published recently for Idaho (Furniss and Johnson 1987) and Montana (Gast et al. 1989).

Six species not previously reported from Oregon were collected by us on field trips in 1990, and four species were found among museum specimens. More species will surely be

found by further collecting. They likely will include more *Pityophthorus*, a genus that is relatively rich in species in western forests and elsewhere; and species of other genera from the diverse California fauna (Bright and Stark 1973) that infest trees endemic to both states.

Other new scolytids are likely to be introduced accidentally by commerce. For example, the exotic *Xyleborus affinis* Eichhoff was intercepted in 1961 at Portland in *Dracaena massangeana* from Puerto Rico. Of the 121 species listed here, 8 are clearly exotics that have become established at unknown times: *Hylastinus obscurus* (Marsham), *Scolytus rugulosus* (Müller), *S. multistriatus* (Marsham), *Xyleborus dispar* (Fabricius), *X. xylographus* (Say), *X. californicus* Wood, *Xyleborinus saxeseni* (Ratzeburg), and *Monarthrum dentigerum* (LeConte). Of these, *X. californicus* was known heretofore in Oregon from only one specimen (Wood 1982); a second specimen was caught (by JBJ) in flight after sunset, 6-VIII-1990, Champoeg State Park, Marion Co. It probably was introduced by commerce at Portland, although its native range is still unknown. We speculate that it may infest distressed deciduous trees along the Willamette River.

By their habits, Oregon Scolytidae are characterized as true bark beetles, living in cambium (105 species); ambrosia beetles, living in xylem although they may feed entirely or partly on

<sup>1</sup>Division of Entomology, University of Idaho, Moscow, Idaho 83843-4196.

<sup>2</sup>Oregon Department of Agriculture, Salem, Oregon 97310-0110.

<sup>3</sup>USDA Forest Service, LaGrande, Oregon 97890.

fungi that they transmit (14 species), living in pine cones (*Conophthorus ponderosae* Hopkins), or living in roots of clover (*H. obscurus*). Conifers are hosts of 98 species, while the other 23 species occur in angiosperms.

Abbreviations of repositories listed for specimens new to Oregon are: ODAC = Oregon Department of Agriculture collection, Salem; PNW = Pacific Northwest Forest and Range Experiment Station collection, Forest Service, USDA, Corvallis, Oregon; WFBM = W. F. Barr Entomological Museum, University of Idaho, Moscow, Idaho; and SLW = Stephen L. Wood collection, Brigham Young University, Provo, Utah.

#### SPECIES NEW TO OREGON

##### Subfamily Hylesiniinae

###### *Hylastes tenuis* Eichhoff

**BIOLOGY.**—Monogynous. Infests *Pinus* spp., presumably the roots.

**DISTRIBUTION AND NOTES.**—MEXICO: Hildago and Mexico (state); USA: Mass. to Fla., all southern states westward to Calif., and Ida. OREGON: Eugene, Lane Co., 22-IX-1971, black light trap, K. J. Goeden (1 ODAC). Prineville, Crook Co., 25-VII-1934 (1 PNW), VIII-1935 (1 PNW), *Pinus ponderosa*, Hopk. 18960-83, W. J. Buckhorn (paratypes of the synonym, *H. minutus* Blackman).

###### *Phloeosinus scopulorum scopulorum* Swaine

**BIOLOGY.**—Monogynous. Infests stems of *Juniperus scopulorum*. Galleries parallel to grain with a nuptial chamber just above the entrance, appearing as though the chamber were halved and one side shifted forward half its diameter (Bright 1976, Fig. 182).

**DISTRIBUTION AND NOTES.**—CANADA: Alta., B.C.; USA: Wash. OREGON: Sisters, Deschutes Co., 8-V-1978, *Juniperus* sp., R. L. Penrose (4 ♀, 3 ♂ ODAC). Canby, Klackamas Co., April 15, 1965, K. J. Goeden (1 ♂ ODA). North Plains, Washington Co., 20-IV-1969, *Thuja plicata*, K. J. Goeden (2 ♂, 1 ♀ ODA, 2 ♂ SLW). Portland, Multnomah Co., 22-X-1971, *Chamaecyparis lawsoniana*, R. L. Westcott (1 ♀, 1 ♂ ODA, 1 ♀ SLW). Northbend, Coos Co., 9-VI-1974, on cypress, J. McLaughlin. (3 ♀ ODA).

###### *Phloeosinus hoferi* Blackman

**BIOLOGY.**—Monogynous. Infests branches of *Juniperus deppeana*, *J. osteosperma*, and *J. scopulorum*.

**DISTRIBUTION AND NOTES.**—CANADA: B.C.; USA: all western states except Wash. OREGON: about 9 km W Enterprise, Wallowa Co., 9-XI-1990, *Juniperus scopulorum*, M. M. Furniss and A. Equihua (12 ♀, 5 ♂ WFBM). Infesting branches, 0.5–3.0-cm diameter, of a small standing tree. Larvae parasitized by an abundant braconid wasp, *Ecphyllus* sp., probably *californicus* Rohwer. Host is restricted in Oregon to the vicinity of the Wallowa River, for a distance of approximately 30 km downstream from Enterprise.

##### Subfamily Scolytinae

###### *Trypodendron betulae* Swaine

**BIOLOGY.**—Monogynous. Infests *Betula* spp., rare in *Alnus* spp. Tunnels are constructed by females radially into sapwood. Other females construct branches from the radially aligned tunnel at close intervals, left or right, in the horizontal plane. Eggs are laid in niches oriented above and below the gallery. Larvae excavate short cradles in which they develop and feed on ambrosia fungus. Males are active in keeping the tunnels clean and aerated.

**DISTRIBUTION AND NOTES.**—CANADA: Alta., B.C., Man., N.B., N.S., N.W.T., Ont., Que.; USA: Ida., Me., Mass., Minn., Mont., N.H., N.J., N.Y., S.D., Wisc. OREGON: Mill Creek, Umatilla Co., 8-XI-1990, *Betula papyrifera*, M. M. Furniss and A. Equihua (1 ♀, 3 ♂ WFBM, 1 ♀, 1 ♂ ODAC). Infesting lower stem of a 23-cm-diameter wind-felled tree. Also present were *Xyleborus dispar* (Fabricius) and *Xyleborinus saxeseni* (Ratzeburg).

###### *Xyleborus xylographus* (Say)

**BIOLOGY.**—Unstudied. In species of this genus that are studied, haploid males are produced parthenogenetically. They are dwarfed and flightless. Diploid females are produced by mating between siblings or between a female parent and a male offspring. Infests *Quercus* spp., rare in other hardwoods. The galleries are made obliquely into sapwood in a horizontal plane to a depth of an inch or more, after which they branch, the arms following the annual rings (Beal and Massey 1945).

DISTRIBUTION AND NOTES.—CANADA: Ont., Que.; USA: twenty-two states (and D.C.) east of 100th meridian; Calif. (1 specimen), Tex. OREGON: 5 km NW Newberg, Yamhill Co., 20-VI-1970, black light trap, K. J. Goeden (1 ODAC).

*Trypophloeus striatulus* (Mannerheim)

BIOLOGY.—Monogynous. Infests outer bark of *Salix* spp., most commonly *S. scouleriana*; also recorded from *Alnus* spp. May reinfest stem progressively downward for several generations. Cave type egg gallery; larvae mine shallowly under bark.

DISTRIBUTION AND NOTES.—CANADA: Newf., N.S., Que., Yukon; USA: Alas., Colo., Ida., Minn., Ut. OREGON: Hot Springs Campground, Hart Mtn. Natl. Antelope Refuge, Lake Co., 14-VIII-1990, *Salix scouleriana*, M. M. Furniss and J. B. Johnson (34 WFBM, 5 ODAC). Infesting necrotic bark lesions in a live stem having a deep frost crack. Diameter of infested part: 5-10 cm. Mature larvae present.

*Trypophloeus thatcheri* Wood

BIOLOGY.—Monogynous. Infests outer bark of standing, unhealthy or dying *Populus tremuloides*. Cave type egg gallery; larval mines confined to outer bark.

DISTRIBUTION AND NOTES.—CANADA: B.C.; USA: Calif., Ida. OREGON: Hot Springs Campground, Hart Mtn. Natl. Antelope Refuge, Lake Co., 14-VIII-1990, *Populus tremuloides*, M. M. Furniss and J. B. Johnson (27 WFBM, 5 ODAC). Adults attacking and walking on bark of a dying, 15-cm-diameter tree.

*Procryphalus mucronatus* (LeConte)

BIOLOGY.—Monogynous. Infests *Populus tremuloides*. Prefers soft, fermenting, dead bark; usually follows primary invasion by *Trypophloeus populi* Hopkins (Petty 1977). The gallery is narrower and the bark overlying the gallery is thicker than that of *T. populi* Hopkins (and presumably *T. thatcheri*). One and one-half to two annual generations (Utah), overwintering as larvae and adults. Eggs appear first in late May.

DISTRIBUTION AND NOTES.—CANADA: Alta., B.C.; USA: Alas., Colo., Ida., Mont., Nev., N.M., Ut. OREGON: Hot Springs Campground, Hart Mtn. Natl. Antelope Refuge, Lake Co., 14-VIII-1990, *Populus tremuloides*, M. M. Fur-

niss and J. B. Johnson (9 WFBM). Infesting stem of a 26-cm-diameter tree. Jackman Park, Steens Mtn., Harney Co., 14-VIII-1990, *Populus tremuloides*, M. M. Furniss and J. B. Johnson (14 WFBM, 10 ODAC). Attacking lower stem of a 25-cm-diameter dead tree (foliage shed, bark moist).

*Pityophthorus scalptor* Blackman

BIOLOGY.—Presumably polygynous. Infests small branches of living pines.

DISTRIBUTION AND NOTES.—CANADA: B.C.; USA: Calif., Ida. OREGON: 15 km N Palmer-Junction, Union Co., 16-VIII-1990, *Pinus ponderosa*, M. M. Furniss and J. B. Johnson (2 ♀, 2 ♂ WFBM). Infesting 1-cm-diameter freshly faded lower branch on a live, merchantable tree. Each gallery contained only one female and one male, no eggs or larvae; they appeared destined to overwinter before reproducing.

*Monarthrum dentigerum* (LeConte)

BIOLOGY.—Not studied. Infests *Quercus* spp. Most species of *Monarthrum* are polygynous and their galleries branch from a radially oriented entrance tunnel in the xylem. Larvae of this genus develop in niches, apparently feeding on a mixture of ambrosial fungus that grows on gallery walls and xylem of the host tree.

DISTRIBUTION AND NOTES.—MEXICO: Baja California; USA: Ariz., Calif., Tex. OREGON: Medford, Jackson Co., 18-VIII-1968, black light trap (1 ODAC).

OREGON SCOLYTIDAE

HYLESININAE

Hylastini

- Scierus annectens* LeConte
- Hylurgops porosus* (LeConte)
- Hylurgops reticulatus* Wood
- Hylurgops rugipennis rugipennis* (Mannerheim)
- Hylurgops subcostulatus subcostulatus* (Mannerheim)
- Hylastes gracilis* LeConte
- Hylastes longicollis* Swaine
- Hylastes macer* LeConte
- Hylastes nigrinus* (Mannerheim)
- Hylastes ruber* Swaine
- Hylastes tenuis* Eichhoff

Hylesinini

- Hylastinus obscurus* (Marshall)
- Hylesinus californicus* (Swaine)
- Hylesinus oregonus* (Blackman)
- Alniphagus aspericollis* (LeConte)
- Alniphagus hirsutus* Schedl

**Tomicini**

- Xylechinus montanus* Blackman  
*Pseudohylesinus dispar dispar* Blackman  
*Pseudohylesinus dispar pullatus* Blackman  
*Pseudohylesinus granulatus* (LeConte)  
*Pseudohylesinus nebulosus nebulosus* (LeConte)  
*Pseudohylesinus nobilis* Swaine  
*Pseudohylesinus pini* Wood  
*Pseudohylesinus sericeus* (Mannerheim)  
*Pseudohylesinus sitchensis* Swaine  
*Pseudohylesinus tsugae* Swaine  
*Dendroctonus brevicornis* LeConte  
*Dendroctonus jeffreyi* Hopkins  
*Dendroctonus ponderosae* Hopkins  
*Dendroctonus pseudotsugae* Hopkins  
*Dendroctonus rufipennis* (Kirby)  
*Dendroctonus valens* LeConte

**Phloeotribini**

- Phloeotribus lecontei* Schedl

**Phloeosinini**

- Phloeosinus antennatus* Swaine  
*Phloeosinus cupressi* Hopkins  
*Phloeosinus fulgens* Swaine  
*Phloeosinus hoferi* Blackman  
*Phloeosinus punctatus* LeConte  
*Phloeosinus scopulorum scopulorum* Swaine  
*Phloeosinus sequoiae* Hopkins  
*Phloeosinus serratus* (LeConte)  
*Phloeosinus vandykei* Swaine

**Hypoborini**

- Chaetophloeus heterodoxus* (Casey)

**Polygraphini**

- Carphoborus intermedius* Wood  
*Carphoborus piceae* Wood  
*Carphoborus pinicolens* Wood  
*Carphoborus ponderosae* Swaine  
*Carphoborus sansoni* Swaine  
*Carphoborus vandykei* Bruck  
*Polygraphus rufipennis* (Kirby)

## SCOLYTINAE

**Scolytini**

- Scolytus laricis* Blackman  
*Scolytus monticolae* Swaine  
*Scolytus multistriatus* (Marshall)  
*Scolytus opacus* Blackman  
*Scolytus oregoni* Blackman  
*Scolytus piceae* (Swaine)  
*Scolytus praeceps* LeConte  
*Scolytus rugulosus* (Müller)  
*Scolytus subscaber* LeConte  
*Scolytus tsugae* (Swaine)  
*Scolytus unispinosus* LeConte  
*Scolytus ventralis* LeConte

**Micracini**

- Hyllocurus hirtellus* (LeConte)

**Crypturgini**

- Doburgus pumilis* (Mannerheim)  
*Crypturgus borealis* Swaine

**Dryocoetini**

- Dryocoetes affaber* (Mannerheim)  
*Dryocoetes autographus* (Ratzeburg)  
*Dryocoetes confusus* Swaine  
*Dryocoetes sechelti* Swaine

**Ipini**

- Pityogenes carinulatus* (LeConte)  
*Pityogenes fossifrons* (LeConte)  
*Pityogenes knechteli* Swaine  
*Pityokteines elegans* Swaine  
*Pityokteines lasiocarpi* (Swaine)  
*Pityokteines minutus* (Swaine)  
*Pityokteines ornatus* (Swaine)  
*Orthotomicus caelatus* (Eichhoff)  
*Ips concinnus* (Mannerheim)  
*Ips emarginatus* (LeConte)  
*Ips integer* (Eichhoff)  
*Ips latidens* (LeConte)  
*Ips mexicanus* (Hopkins)  
*Ips montanus* (Eichhoff)  
*Ips paraconfusus* Lanier  
*Ips pini* (Say)  
*Ips plastographus maritimus* Lanier  
*Ips plastographus plastographus* (LeConte)  
*Ips tridens engelmanni* Swaine  
*Ips tridens tridens* (Mannerheim)

**Xyloterini**

- Trypodendron betulae* Swaine  
*Trypodendron lineatum* (Olivier)  
*Trypodendron retusum* (LeConte)  
*Trypodendron rufitarsis* (Kirby)

**Xyleborini**

- Xyleborus californicus* Wood  
*Xyleborus dispar* (Fabricius)  
*Xyleborus intrusus* Blandford  
*Xyleborus xylographus* (Say)  
*Xyleborinus saxeseni* (Ratzeburg)

**Cryphalini**

- Trypophloeus salicis* Hopkins  
*Trypophloeus striatulus* (Mannerheim)  
*Trypophloeus thatcheri* Wood  
*Procryphalus mucronatus* (LeConte)  
*Procryphalus utahensis* Hopkins  
*Cryphalus pubescens* Hopkins  
*Cryphalus ruficollis ruficollis* Hopkins

**Corthylini**

- Pseudopityophthorus pubipennis* (LeConte)  
*Conophthorus ponderosae* Hopkins  
*Pityophthorus boycei* Swaine  
*Pityophthorus confertus* Swaine  
*Pityophthorus confinis* LeConte  
*Pityophthorus digestus* (LeConte)  
*Pityophthorus electus* Blackman  
*Pityophthorus jeffreyi* Blackman  
*Pityophthorus murrayanae* Blackman  
*Pityophthorus nitidulus* (Mannerheim)  
*Pityophthorus nitidus* Swaine  
*Pityophthorus pseudotsugae* Swaine  
*Pityophthorus sculptor* Blackman  
*Pityophthorus toralis* Wood  
*Pityophthorus tuberculatus* Eichhoff  
*Gnathotrichus retusus* (LeConte)  
*Gnathotrichus sulcatus* (LeConte)  
*Monarthrum dentigerum* (LeConte)  
*Monarthrum scutellare* (LeConte)

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