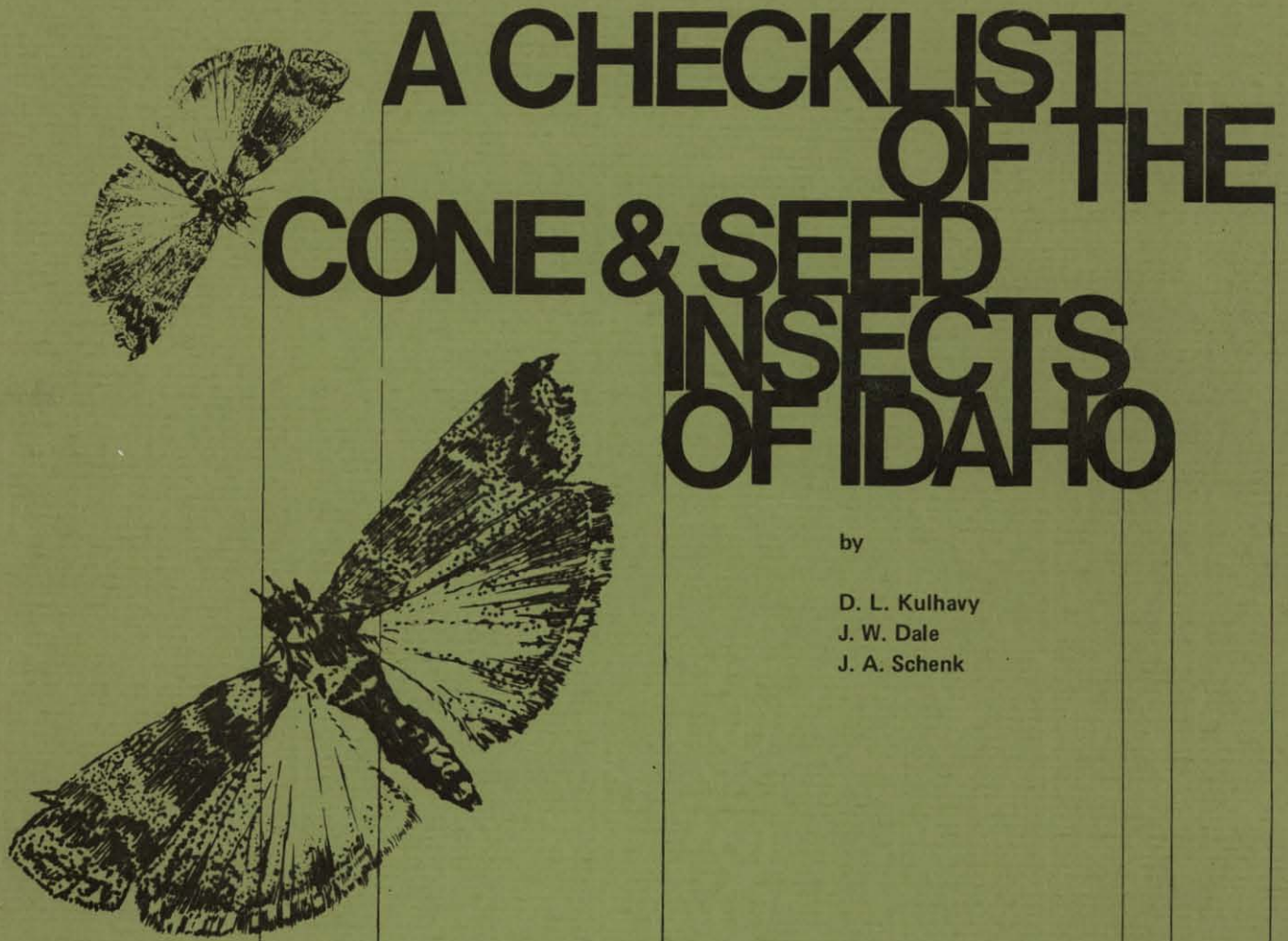




January 1975

Information Series  
Number 6

College of Forestry, Wildlife and Range Sciences



# A CHECKLIST OF THE CONE & SEED INSECTS OF IDAHO

by

D. L. Kulhavy  
J. W. Dale  
J. A. Schenk



University  
of Idaho

FOREST, WILDLIFE AND RANGE  
EXPERIMENT STATION

John H. Ehrenreich  
Director

H. Loewenstein  
Acting Associate Director

University of Idaho Library



0 0206 00686023 6



SD  
12  
Ia  
u4  
no.6

A Checklist of the  
Cone and Seed Insects of Idaho

D. L. Kulhavy, J. W. Dale<sup>1</sup> and J. A. Schenk<sup>2,3</sup>

Cone and seed insect research (C & S), conducted at the University of Idaho since 1957, has been supported by both State and Federal funds administered through the College of Forestry, Wildlife and Range Sciences. From 1957 to 1966 C & S research was supported by SR #55 (Special Research); from 1966 to 1967, by STAR funds (Short Term Applied Research); and from 1968 to the present by McIntire-Stennis funds. A special McIntire-Stennis Project (M.S. #5) was funded in 1966 and 1967.

General objectives of this research were to: (1) inventory the insect species attacking cones and seeds of Idaho conifers; (2) identify, describe and determine the extent of damage caused by both immature and adult insects; and (3) determine ecological life histories and intra- and interspecific relationships of the various cone and seed insects, and the more important entomophagous species.

More specific objectives of particular projects were to: (1) evaluate factors influencing cone and seed losses in relation to establishment and management of seed orchards and seed-production areas; (2)(a) correlate fluctuations of insect populations to fluctuations of cone crops and major

---

<sup>1</sup>Present address: Federal Department of Forestry Research, PMB 5054, Ibadan, Western State, NIGERIA.

<sup>2</sup>Graduate assistant, former graduate assistant, and Professor, respectively, College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho 83843.

<sup>3</sup>Published with approval of the Director, Forest, Wildlife and Range Experiment Station, University of Idaho, Moscow, Idaho 83843.



environmental factors, and (b) obtain a quantitative description of the influence of fluctuations of cone crop to insect populations; (3) relate damage and population levels to the major site factors and develop a rating system by which individual stands can be described and compared on the basis of potential production of undamaged seed; (4) develop direct or indirect methods of control which will cause the least disruption of the ecosystem; and (5) evaluate the effectiveness of the systemic insecticide Meta-Systox-R for the control of cone and seed insects.

This checklist presents an inventory of the cone and seed insect species collected in Idaho from 1957 to 1974 and includes 191 species from 121 genera, 56 families, and 9 orders. Species collected by U. S. Forest Service personnel from Ogden, Utah, are marked by an asterisk (\*); cone and seed insects collected from the University of Idaho are not marked. Insects collected by both groups are marked with a double asterisk (\*\*). Records of the Forest Service collections were published in 1973.<sup>4</sup>

The checklist is divided into two parts; the first part lists the cone and seed insects by host tree species, the life stage of the insect collected (N = nymph, L = larva, P = pupa, A = adult) and the specialist who provided the determination. The second part presents a composite list of all the cone and seed insects along with a code (Table I) for the host tree(s). Major publications, theses and dissertations on C & S research at the University of Idaho are presented in Appendix A.

---

<sup>4</sup>Parker, D. L., and Maxine W. Minnoch. 1973. A revised list of seed and cone insects collected from native conifers in the Intermountain Region. Branch of Forest Insect and Disease Prevention and Control, U. S. Forest Service, Ogden, Utah. 15 p.

Part I. Cone and Seed Insects of Idaho by Host Tree Species.

---

(1) HOST: <u>Abies grandis</u> (Douglas) Lindley	GRAND FIR
Order PSOCOPTERA	<u>Determiner</u>
Family Lachisillidae	
<u>Lachesilla pacifica</u> Chapman (N,A)	E. L. Mockford
Order THYSANOPTERA	
Family Phloeothripidae	
<u>Leptothrips</u> sp. (L)	K. O'Neill
<u>Leptothrips</u> sp. (prob. <u>oribates</u> ) (L)	K. O'Neill
Family Thripidae	
<u>Franklinella occidentalis</u> (Pergande) (A)	K. O'Neill
Order HEMIPTERA	
Family Coreidae	
<u>Leptoglossus occidentalis</u> Heidemann (A)	J. L. Herring
Family Miridae	
<u>Deraecoris brevis</u> (Uhler) (A)	J. L. Herring
Order HOMOPTERA	
Family Aphididae	
<u>Cinara</u> sp. (N)	L. M. Russell
Family Cicadellidae	
<u>Aceratagallia californica</u> (Baker) (A)	J. P. Kramer
<u>Aceratagallia</u> sp. (N)	J. P. Kramer
<u>Psallus</u> sp. (N)	J. P. Kramer
Family Psyllidae	
<u>Livia caricis</u> Crawford (A)	J. P. Kramer
Order COLEOPTERA	
Family Cleridae	
<u>Enoclerus</u> sp. (L)	D. E. Foster



	Family Cryptophagidae	
<u>Cryptophagus lapponicus</u>	Gyllenhal (A)	J. M. Kingsolver
* <u>Cryptophagus tuberculosus</u>	Malkin (A)	J. M. Kingsolver
* <u>Salebius minax</u>	Casey (A)	J. M. Kingsolver
	Family Lathridiidae	
* <u>Lathridius minutus</u>	(L)	J. M. Kingsolver
	Family Ostomidae	
<u>Temnochila chlorodia</u>	(Westwood) (L,A)	J. M. Kingsolver
	Order NEUOPTERA	
	Family Raphidiidae	
<u>Agulla occidentalis</u>	Carp. (A)	O. S. Flint
	Family Olethreutidae	
<u>Barbara colfaxiana</u>	(Kearfott) (A)	J. A. Powell
<u>Grapholitha conversana</u>	Wishman (A)	D. M. Weisman
<u>Laspeyresia bracteatana</u>	(Fernald) (L,P,A)	D. M. Weisman
* <u>Laspeyresia</u>	sp.	D. M. Weisman
	Family Pyralidae	
<u>Dioryctria abietella</u>	(Denis and Schifenueller) (L,P,A)	D. M. Weisman
	Family Tortricidae	
<u>Eucosma recissoriana</u>	Heinrich (P,A)	D. M. Weisman
<u>Eucosma</u>	sp. (L)	
	Order DIPTERA	
	Family Anthomyiidae	
<u>Hylemya abietis</u>	Huckett (L,P,A)	G. Steyskal
<u>Hylemya</u>	sp. nr. <u>abietis</u> nr. Huckett (A)	G. Steyskal
	Family Cecidomyridae	
** <u>Asynapta keeni</u>	(Foote) (L,P,A)	R. J. Gagne
* <u>Brachineura</u>	n. sp. (A)	R. J. Gagne
<u>Dasineura</u>	sp. A (L,P)	R. J. Gagne
<u>Dasineura</u>	sp. B (L,P)	R. J. Gagne
<u>Lestodiplosis taxiconis</u>	Foote (L,A)	R. J. Gagne
<u>Lestodiplosis</u>	sp. (L,A)	R. J. Gagne
* <u>Mycodiplosis conicola</u>	(Foote)	R. J. Gagne
	Family Drosophilidae	
<u>Scaptomyza</u>	sp. (A)	W. W. Wirth

<u>Earomyia</u> sp. (L,P)	Family Lonchaeidae	G. Steyskal
<u>Piophilila casei</u> (L.) (A)	Family Piophilidae	G. Steyskal
* <u>Bradysia</u> sp. (A)	Family Sciaridae	R. J. Gagne
<u>Lixophaga</u> n. sp.? (A)	Family Tachinidae	C. W. Sabrosky
<u>Lixophaga</u> sp. (A)		C. W. Sabrosky
<u>Xanthophyto</u> sp. A (A)		C. W. Sabrosky
<u>Xanthophyto</u> sp. B (A)		C. W. Sabrosky
Order HYMENOPTERA		
Family Braconidae		
<u>Apanteles starki</u> Mason (A)		P. M. Marsh
<u>Bracon rhyacioniae</u> (Muesebeck) (A)		P. M. Marsh
<u>Bracon xanthonotus</u> Ashm. (A)		P. M. Marsh
<u>Bracon</u> sp. (A)		P. M. Marsh
<u>Chelonus (microchelonus)</u> sp. (A)		P. M. Marsh
Family Ceraphronidae		
<u>Ceraphron</u> sp. (A)		P. M. Marsh
Family Eulophidae		
<u>Hyssopus</u> sp. (A)		B. D. Burks
<u>Tetrastichus</u> sp. (A)		B. D. Burks
Family Formicidae		
<u>Camponotus herculeanus modoc</u> Wheeler (A)		D. R. Smith
Family Ichneumonidae		
<u>Campoplex conocola</u> (Rohwer) (A)		R. W. Carlson
<u>Exeristes comstockii</u> (Cresson) (A)		R. W. Carlson
<u>Exochus turgidus</u> Holm. (A)		R. W. Carlson
<u>Itoptectis evetriae</u> Viereck (A)		R. W. Carlson
<u>Lissonota</u> sp. (A)		
Family Pteromalidae		
<u>Habrocytus</u> sp. (A)		B. D. Burks
<u>Mesopolobus</u> sp. (A)		B. D. Burks
Family Torymidae		
<u>Megastigmus pinus</u> Parfitt (L,P,A)		B. D. Burks



Family Trichogrammatidae

Trichogramma sp. (A) B. D. Burks

(2) HOST: Abies lasiocarpa (Hook.) Nutt. SUBALPINE FIR

Order HEMIPTERA

Family Anthocoridae

\*Xylororis sp. (N?)

Order LEPIDOPTERA

Family Olethreutidae

Laspeyresia sp. (prob. bracteata) (L,P) D. M. Weisman

Family Pyralidae

Dioryctria abietella (D. & S.) (L,P,A) D. M. Weisman

Family Tortricidae

Eucosma recissoriana Heinrich (P,A) D. M. Weisman

Order DIPTERA

Family Anthomyiidae

Hylemya abietis Hockett (L,P,A) G. Steyskal

Family Cecidomyiidae

Asynapta keeni (Foote) (L,P,A) R. J. Gagne'

Dasineura sp. (L,P) R. J. Gagne'

\*Dasineura sp. possibly abiesemia Foote (A) R. J. Gagne'

Family Lonchaeidae

Earomyia sp. (L,P) G. Steyskal

Family Tachinidae

Lixophaga n. sp.? (A) C. W. Sabrosky

Xanthophyto sp. (A) C. W. Sabrosky

Order HYMENOPTERA

Family Braconidae

Apanteles starki Mason (A) B. D. Burks



Family Eulophidae

Hyssopus evertiae (Girault) (A) B. D. Burks  
Tetrastichus sp. (A) B. D. Burks

Family Pteronalidae

Anogmus sp. (A) B. D. Burks  
Mesopolobus sp. (A) B. D. Burks

Family Torymidae

Megastigmus lasiocarpae (L,P,A) B. D. Burks

(3) HOST: Juniperus occidentalis Hook. SIERRA JUNIPER

Order HYMENOPTERA

Family Eulophidae

Tetrastichus juniperi (Crawford) (A) B. D. Burks  
Tetrastichus marcovitchi (Crawford) (A) B. D. Burks

Family Eurytomidae

Eurytoma juniperina Marcovitch B. D. Burks

Family Pteromalidae

Pachyneuron sp. (A) B. D. Burks  
Rhopalicus sp. (A) B. D. Burks  
Spintherus sp. (A) B. D. Burks

(4) HOST: Juniperus osteosperma (Torr.) Little UTAH JUNIPER

Order HYMENOPTERA

Family Eurytomidae

Eurytoma juniperina Marcovitch (A) B. D. Burks

Family Pteromalidae

Habrocytus sp. (A) B. D. Burks

Family Torymidae

Microdontomerus sp. (A) B. D. Burks  
Torymus sp. (A) B. D. Burks

(5) HOST: Larix occidentalis Nutt. WESTERN LARCH

Order HEMIPTERA

Family Anthocoridae  
\*Tetraphleps latipennis Van Duzee (A) J. L. Herring

Order DIPTERA

Family Cecidomyiidae  
Asynapta keeni (Foote) R. J. Gagne'  
\*Rosseliella sp. (L) R. J. Gagne'

(6) HOST: Picea abies (L.) Karst NORWAY SPRUCE

Order HYMENOPTERA

Family Scelionidae  
Telenomus utahensis Ashm. (A) C. F. W. Muesebeck

(7) HOST: Picea englemanni Parry ENGLEMANN SPRUCE

Order HEMIPTERA

Family Anthocoridae  
\*Tetraphleps latipennis Van Duzee (A) J. L. Herring

Order COLEOPTERA

Family Cryptophagidae  
\*Cryptophagus tuberculosus Malkin (A) J. M. Kingsolver

Family Lathridiidae  
\*Cortacaria sp. (A) J. M. Kingsolver  
Phytophaga sp. nr. carpophage Tripp (A)

Order LEPIDOPTERA

Family Olethreutidae  
Laspeyresia miscitata Heinrich (A) H. Ruckles, Jr.  
Laspeyresia ?youngana (L) E. C. Clark  
\*Laspeyresia youngana Kearfott (A) D. M. Weisman  
Laspeyresia sp. (A) E. C. Clark

Family Pyralidae  
\*Dioryctria abietella (D. & S.) (L,P,A) D. M. Weisman  
\*Dioryctria sp. (L) D. M. Weisman



Order DIPTERA

	Family Chamaemyiidae	
* <u>Leucopis</u> sp. (A)		G. C. Steyskal
	Family Sciaridae	
* <u>Bradysia</u> sp. (A)		R. J. Gagne'
	Family Syrphidae	
* <u>Parapenium simile</u> (Curran) (A)		L. V. Knutson
	Family Tachinidae	
<u>Elfia</u> sp. (A)		C. W. Sabrosky

Order HYMENOPTERA

	Family Braconidae	
* <u>Bracon rhyacioniae</u> Muesebeck (A)		P. M. Marsh
* <u>Bracon</u> sp. (A)		P. M. Marsh
	Family Eulophidae	
* <u>Aprostocetus</u> sp. (A)		B. D. Burks
* <u>Hyssopus evetriae</u> (Girault) (A)		B. D. Burks
* <u>Hyssopus</u> sp. (A)		B. D. Burks
<u>Tetrastichus coerulescens</u> Ashm. (A)		B. D. Burks
<u>Tetrastichus</u> . sp. (A)		B. D. Burks
	Family Ichneumonidae	
* <u>Campoplex conocola</u> Rohwer (A)		L. M. Walkley
<u>Exeristes comstockii</u> (Cress) (A)		L. M. Walkley
	Family Platygasteridae	
* <u>Platygaster</u> sp. (A)		P. M. Marsh
	Family Pteromalidae	
<u>Amblymerus</u> sp. (A)		B. D. Burks
<u>Habrocytus phycidis</u> Ashm. (A)		B. D. Burks
	Family Torymidae	
* <u>Torymus</u> sp. (A)		B. D. Burks

(8) HOST: Pinus flexilis James LIMBER PINE

Order COLEOPTERA

	Family Scolytidae	
* <u>Conophthorus flexilis</u> Hopkins (A)		S. L. Wood

Order HYMENOPTERA

Family Braconidae

\*Apanteles sp. (A)  
Bracon sp. (A)

P. M. Marsh  
P. M. Marsh

Family Ichneumonidae

\*Campoplex sp. (A)

R. W. Carlson

(9) HOST: Pinus monticola Douglas WESTERN WHITE PINE

Order HEMIPTERA

Family Anthocoridae

Lycocoris prob. campestris (F.) (A)  
Tetraphelps sp.

J. L. Herring  
J. L. Herring

Order COLEOPTERA

Family Lathridiidae

Lathridius minutus (L.) (A)

J. M. Kingsolver

Family Scolytidae

Conophthorus monticola Hopkins (A)

Order LEPIDOPTERA

Family Pyralidae

Dioryctria abietella (D & S) (L,P,A)

D. M. Weisman

Family Tortricidae

Eucosma recissoriana Heinrich (A)

D. M. Weisman

Order DIPTERA

Family Cecidomyiidae

Asynapta keeni (Foote) (L,P,A)

R. H. Foote

Family Tachinidae

Blondeliini, nr. Lixophaga (A)  
Psalidopteryx dorsalis (Coq.) (L,A)  
Psalidopteryx psilocorsiphaga Brooks (L,A)  
Xanthophyto (?n. sp.) (A)

C. W. Sabrosky  
C. W. Sabrosky  
?C. W. Sabrosky  
C. W. Sabrosky

Order HYMENOPTERA

Family Braconidae

Apanteles starki Mason (A)

C. F. W. Muesebeck



<u>Bracon rhyacioniae</u> (Muesebeck) (A)	P. M. Marsh
<u>Bracon</u> sp. (A)	P. M. Marsh
<u>Chelonus</u> ( <u>Microchelonus</u> ) n. sp. (A)	C. W. McComb
	P. M. Marsh
<u>Chelonus petrovae</u> McComb (A)	C. F. W. Muesebeck
<u>Eubadizon</u> n. sp. (A)	C. F. W. Muesebeck

Family Eulophidae

<u>Elachertus proteoteratis</u> How. (A)	B. D. Burks
<u>Elachertus</u> sp. (A)	B. D. Burks
<u>Tetrastichus coerulescens</u> Ashm. (A)	B. D. Burks
<u>Tetrastichus</u> sp. (A)	B. D. Burks

Family Eurytomidae

<u>Eurytoma conica</u> Prov. (A)	B. D. Burks
<u>Eurytoma</u> sp. (A)	B. D. Burks

Family Ichneumonidae

<u>Campoplex</u> sp. (A)	L. M. Walkley
<u>Campoplex</u> sensu lato (A)	L. M. Walkley
<u>Pimplopterus</u> n. sp. (L,A)	L. M. Walkley
<u>Pimplopterus</u> sp. (A)	L. M. Walkley
<u>Sinophorus</u> sp. nr. <u>mutabilis</u> (Holmgren) (A)	L. M. Walkley

Family Pteromalidae

<u>Habrocytus phycidis</u> Ashm. (A)	C. F. W. Muesebeck
<u>Habrocytus</u> sp. (A)	B. D. Burks
<u>Rhopalichus pulchripennis</u> (Cwfd.) (A)	B. D. Burks
<u>Zacalochlora milleri</u> Crawford (A)	B. D. Burks

(10) HOST: Pinus ponderosa Laws. PONDEROSA PINE

Order THYSANOPTERA

Family Phloeothripidae

<u>Leptothrips oregonensis</u> Hood (A)	K. O'Neill
<u>Leptothrips oribates</u> Hood (A)	K. O'Neill

Family Thripidae

<u>Oxythrips pinicola</u> Hood (A)	K. O'Neill
------------------------------------	------------

Order HEMIPTERA

Family Coreidae

<u>Leptoglossus occidentalis</u> Heidemann (A)	J. L. Herring
--	---------------

Order HOMOPTERA

Family Aphididae

\*Cinara sp. (N,A) L. M. Russell

Family Margorodidae

Matsucoccus sp. nr. bisetosus Morrison (A) J. W. Beardsley

Order COLEOPTERA

Family Cleridae

Enoclerus schaefferi Barr (A) W. F. Barr

Phyllobaenus sp. (A) W. F. Barr

Family Curculionidae

Apion porsicole (A) D. G. Kissinger

Cimberis sp. (male flowers) (A) D. M. Anderson

Family Lathridiidae

\*Cortacaria sp. (A) J. M. Kingsolver

Family Ptinidae

Ptinus fur (L) T. J. Spilman

Family Scolytidae

Conophthorus ponderosae Hopkins (L,P,A) D. M. Anderson

Order NEUROPTERA

Family Hemerobiidae

Hemerobius neadalphus Gurney (A) O. S. Flint

Hemerobius pacificus Bks. (A) O. S. Flint

Hemerobius sp. (A) O. S. Flint

Order LEPIDOPTERA

Family Gelechiidae

Recurvaria sp. (A) D. M. Weisman

Family Olethreutidae

\*prob. Hedulia injectiva Heinrich (A) D. M. Weisman

\*\*Laspeyresia miscitata Heinrich (L,P,A) D. R. Davis

\*Laspeyresia piperana Kearfott (L,P,A) D. R. Davis

Family Pyralidae

Dioryctria abietella (D. & S.) (L,P,A) D. R. Davis

Dioryctria auranticella (Grote) (L,P,A) A. Matuura

Family Tortricidae

Eucosma ponderosae Powell (L,P,A) J. A. Powell



Order DIPTERA

Family Cecidomyiidae

** <u>Asynapta keeni</u> (Foote) (L,P,A)	R. J. Gagne
<u>Cecidomyia</u> sp. (A)	R. J. Gagne
* <u>Cecidomyia</u> n. sp. (A)	R. J. Gagne
<u>Contarinia</u> sp. (A)	R. J. Gagne
<u>Cordylomyia</u> sp. (A)	R. J. Gagne
<u>Lestremia</u> sp. (A)	R. J. Gagne
<u>Pararete elongata</u> (Felt) (A)	R. J. Gagne
* <u>Profeltiella</u> sp. senso lato, n. sp. (A)	R. J. Gagne
<u>Rosseliella</u> sp. (A)	R. J. Gagne
* <u>Thomasiniana</u> sp. (A)	R. J. Gagne

Family Chamaemyiidae

* <u>Leucopsis</u> sp. (A)	G. C. Steyskal
----------------------------	----------------

Family Chloropidae

<u>Hapleginella conicola</u> (Greene) (A)	C. W. Sabrosky
---	----------------

Family Lonchaeidae

<u>Lonchea</u> sp. (A)	G. Steyskal
------------------------	-------------

Family Phoridae

<u>Megaselia</u> sp. (A)	W. W. Wirth
--------------------------	-------------

Family Syrphidae

<u>Metasyrphus</u> sp. (A)	L. V. Knutson
----------------------------	---------------

Order HYMENOPTERA

Family Bethylidae

<u>Cephalonomia</u> sp. (A)	A. Menke
-----------------------------	----------

Family Braconidae

* <u>Apanteles aristotelliae</u> (Viereck) (A)	P. M. Marsh
<u>Apanteles laspeyresiae</u> Viereck (A)	P. M. Marsh
* <u>Bracon rhyacioniae</u> (Muesebeck) (A)	P. M. Marsh
<u>Bracon</u> sp. (A)	P. M. Marsh
* <u>Chelonus (microchelonus)</u> sp. (A)	P. M. Marsh
* <u>Pauesia</u> sp. (A)	P. M. Marsh
<u>Phanerotoma laspeyresiae</u> Rohwer (A)	P. M. Marsh
<u>Rogas autographae</u> Viereck (A)	P. M. Marsh

Family Colletidae

<u>Hylaeus stevensi</u> (Crawford) (A)	P. D. Hurd, Jr.
--	-----------------

Family Encyrtidae

* <u>Cheiloneurus</u> sp. (A)	B. D. Burks
-------------------------------	-------------

	Family Eulophidae	
<u>Hyssopus</u> <u>evetriae</u> Girault (A)		B. D. Burks
* <u>Hyssopus</u> <u>novus</u> Girault (A)		B. D. Burks
<u>Hyssopus</u> <u>thymus</u> Girault (A)		B. D. Burks
<u>Tetrastichus</u> <u>strobilus</u> Burks (A)		B. D. Burks
<u>Tetrastichus</u> sp. (A)		
	Family Eupelmidae	
<u>Eupelmella</u> <u>vescicularis</u> (Tetz.) (A)		B. D. Burks
	Family Eurytomidae	
<u>Eurytoma</u> sp. (A)		B. D. Burks
	Family Figitidae	
<u>Aegilips</u> sp. (A)		B. D. Burks
* <u>Melanips</u> sp. (A)		B. D. Burks
	Family Gasteruptiidae	
<u>Gasteruption</u> <u>assectator</u> <u>assectator</u> (L.) (A)		R. W. Carlson
	Family Ichneumonidae	
<u>Campoplex</u> <u>conocola</u> (Rohwer) (A)		R. W. Carlson
<u>Campoplex</u> <u>laspeyresiae</u> (Rohwer) (A)		R. W. Carlson
* <u>Exeristes</u> <u>comstockii</u> (Cresson) (A)		R. W. Carlson
<u>Ichneumon</u> <u>bruneri</u> Rohwer (A)		R. W. Carlson
<u>Nemerites</u> n. sp. (A)		R. W. Carlson
	Family Platygasteridae	
<u>Plastergaster</u> sp. (A)		P. M. Parsh
	Family Pteromalidae	
<u>Cheiopachus</u> <u>colon</u> (L.) (A)		B. D. Burks
* <u>Mesopolobus</u> sp. (A)		B. D. Burks
<u>Zacalochlora</u> <u>milleri</u> Crawford (A)		B. D. Burks
	Family Siricidae	
<u>Urocerus</u> <u>albicornis</u> (F.) (A)		D. R. Smith
 (11) HOST: <u>Pseudotsuga</u> <u>menziesii</u> (Mirb.) Franco		DOUGLAS-FIR
	Order PSOCOPTERA	
	Family Lachesillidae	
<u>Lachesilla</u> sp. (A)		A. B. Gurney
	Order HEMIPTERA	
	Family Anthocoridae	
<u>Tetrupleps</u> <u>canadensis</u> Prov. (A)		J. L. Herring



Order COLEOPTERA

Family Cryptophagidae

- \*Cryptophagus tuberculosus Malkin (A) J. M. Kingsolver  
\*Salebius minax Casey (A) J. M. Kingsolver

Family Latridiidae

- \*Cortacaria sp. (A) L. M. Walkley  
\*Lathridius minutus (L.) (A) L. M. Walkley

Order LEPIDOPTERA

Family Geometridae

- Eupithecia spermaphaga (Dyar) (A)

Family Olethreutidae

- \*\*Barbara colfaxiana Kearfott (L,P,A) D. M. Weisman  
\*Barbara colfaxiana taxifoliella (Busck) (L) D. M. Weisman

Family Phaloniidae

- \*Henricus fuscodorsana (Kearfott) (A) D. R. Davis

Family Pyralidae

- \*\*Dioryctria abietella (D. & S.) (L,P,A) D. M. Weisman  
\*Dioryctria sp. (L) D. M. Weisman

Family Tortricidae

- Choristoneura fumiferana (Clem.) (L,P,A) D. M. Weisman

Order DIPTERA

Family Acroceridae

- Acrocera sp. C. W. Sabrosky

Family Cecidomyiidae

- \*\*Asynapta keeni (Foote) (L,P,A) R. J. Gagne'  
\*Brachineura n. sp. (A) R. J. Gagne'  
Cecidomyia sp. (A) R. J. Gagne'  
\*\*Contarinia washingtonensis Johnson (L,P,A) R. J. Gagne'  
Contarinia sp. R. J. Gagne'  
Lestodiplosis nr. taxiconis Foote N. Marston  
Lestodiplosis sp. R. J. Gagne'  
Mycodiplosis coryloides Foote R. J. Gagne'

Family Lonchaeidae

- Earomyia sp. (A) G. Steyskal

Family Sciaridae

- \*Bradysia sp. (A) R. J. Gagne'  
A. Stone

Family Tachinidae

<u>Psilodopteryx psilocorsiphaga</u> Brooks (A)	C. W. Sabrosky
<u>Urophyllopsis retiniae</u> (Coq.) (A)	C. W. Sabrosky

Order HYMENOPTERA

Family Braconidae

<u>Apanteles absonus</u> Muesebeck (A)	C. F. W. Muesebeck
* <u>Apanteles petrovae</u> Walley (A)	C. F. W. Muesebeck
<u>Apanteles</u> sp. (A)	C. F. W. Muesebeck
<u>Bracon rhyacioniae</u> Mues. (A)	C. F. W. Muesebeck
<u>Bracon</u> sp. n. sp. nr. <u>curtus</u> (Prov.) (A)	P. M. Marsh
<u>Bracon</u> sp. nr. <u>curtus</u> (Prov.) (A)	P. M. Marsh
<u>Bracon</u> sp. nr. <u>gelechiae</u> Ashm. (A)	P. M. Marsh
<u>Eubadizon</u> n. sp. (A)	C. F. W. Muesebeck

Family Elasmidae

<u>Elasmus atratus</u> How. (A)	B. D. Burks
---------------------------------	-------------

Family Encyritidae

<u>Homalotylus terminalis</u> (Say) (A)	B. D. Burks
---	-------------

Family Eulophidae

<u>Elachertus pini</u> Gahan (A)	B. D. Burks
<u>Hyssopus evertriae</u> (Girault) (A)	B. D. Burks
<u>Hyssopus thymus</u> Girault (A)	B. D. Burks
<u>Hyssopus</u> sp. (A)	B. D. Burks
<u>Tetrastichus coeruleus</u> Ashm. (A)	B. D. Burks
* <u>Tetrastichus strobilus</u> Burks (A)	B. D. Burks
<u>Tetrastichus</u> sp. (A)	B. D. Burks

Family Ichneumonidae

* <u>Campoplex conocola</u> (Rohwer) (A)	R. W. Carlson
* <u>Calliephialtes comstockii</u> (Cresson) (A)	L. M. Walkley
<u>Exeristes comstockii</u> (Cresson) (A)	L. M. Walkley
<u>Exochus evetriae</u> (A)	R. W. Carlson
* <u>Glypta evetriae</u> Cushman (A)	L. M. Walkley
<u>Itoplectis evetriae</u> Vier. (A)	R. W. Carlson
<u>Itoplectis quadricingulatus</u> (Prov.) (A)	L. M. Walkley
	L. M. Walkley

Family Platygasteridae

<u>Piestopleura</u> n. sp. (A)	C. F. W. Muesebeck
--------------------------------	--------------------

Family Pteromalidae

<u>Dibrachys cavus</u> (Walker) (A)	B. D. Burks
<u>Dibrachys</u> sp. (A)	B. D. Burks
* <u>Habrocytus</u> sp. (A)	B. D. Burks
<u>Zacalochlora milleri</u> Crawford (A)	B. D. Burks



Family Torymidae

<u>Megastigmus spermotrophus</u> Wachtl. (L,P,A)	B. D. Burks
* <u>Torymus</u> sp. nr. <u>capitis</u> (Huber) (A)	B. D. Burks
<u>Torymus</u> sp. nr. <u>coloradensis</u> (Huber) (A)	B. D. Burks
<u>Torymus</u> sp. (A)	B. D. Burks

(12) HOST: Thuja plicata Donn      WESTERN RED CEDAR

Order HYMENOPTERA

Family Eulophidae

<u>Tetrastichus</u> sp. (A)	B. D. Burks
-----------------------------	-------------

Table I. Reference list for codes to the Idaho conifers for cone collections from 1957 through 1974.

<u>TREE SPECIES</u>	<u>CODE</u>
<u>Abies grandis</u> (Douglas) Lindley (Grand fir)	(1)
<u>Abies lasiocarpa</u> (Hook.) Nutt. (Subalpine fir)	(2)
<u>Juniperus occidentalis</u> Hook. (Western juniper)	(3)
<u>Juniperus osteosperma</u> (Torr.) Little (Utah juniper)	(4)
<u>Larix occidentalis</u> Nutt. (Western larch)	(5)
<u>Picea abies</u> (L.) Karst <sup>5</sup> (Norway spruce)	(6)
<u>Picea englemannii</u> Parry (Englemann spruce)	(7)
<u>Pinus flexilis</u> James (Limber pine)	(8)
<u>Pinus monticola</u> Douglas (Western white pine)	(9)
<u>Pinus ponderosa</u> Laws (Ponderosa pine)	(10)
<u>Pseudotsuga menziesii</u> (Mirb.) Franco (Douglas-fir)	(11)
<u>Thuja plicata</u> Donn (Western red cedar)	(12)

---

<sup>5</sup>Ornamental tree



Part II. Cone and Seed Insects of Idaho. The numbers in parentheses refer to the host tree code in Table I.

---

Order PSOCOPTERA

Family Lachisillidae

Lachesilla pacifica Chapman (1)  
Lachesilla sp. (11)

Order THYSANOPTERA

Family Phloeothripidae

Leptothrips oregonensis Hood (10)  
Leptothrips oribates Hood (1,10)  
Leptothrips sp. (1)

Family Thripidae

Franklinella occidentalis (Pergande) (1)  
Oxythrips pinicola Hood (10)

Order HEMIPTERA

Family Anthocoridae

Lyctocoris prob. campestris (F.) (9)  
Tetraphleps canadensis Prov. (11)  
Tetraphleps latipennis Van Duzee (5,7)  
Tetraphleps sp. (9)  
Xylocoris sp. (2)

Family Coreidae

Leptoglossus occidentalis Heidemann (1,10)

Family Miridae

Deraecoris brevis (Uhler) (1)

Order HOMOPTERA

Family Aphididae

Cinara sp. (1,10)

Family Cicadellidae

Aceratagallia californica (Baker) (1)  
Aceratagallia sp. (1)  
Psallus sp. (1)

Family Margorodidae

Matsucoccus sp. nr. bisetosus Morrison (10)

Family Psyllidae

Livia caricis Crawford (1)

Order COLEOPTERA

Family Cleridae

Enoclerus schaefferi Barr (10)

Enoclerus sp. (1)

Phyllobaenus sp. (10)

Family Cryptophagidae

Cryptophagus lapponicus Gyllenhal (1)

Cryptophagus tuberculosus Malkin (1,7,11)

Salebium minax Casey (1,11)

Family Curculionidae

Apion porsicole (10)

Cimberis sp. (male flowers) (10)

Family Lathridiidae

Cortacaria sp. (7,10,11)

Lathridius minutus (L.) (1,9,11)

Phytophaga sp. nr. carpophaga Tripp (7)

Family Ostomidae

Temnochila chlorodia (Westwood) (1)

Family Ptinidae

Ptinus fur (L.) (10)

Family Scolytidae

Conophthorus flexilis Hopkins (8)

Conophthorus monticola Hopkins (9)

Conophthorus ponderosae Hopkins (10)

Order NEUROPTERA

Family Hemerobiidae

Hemerobius neadalphus Gurney (10)

Hemerobius pacificus Bks. (10)

Hemerobius sp. (10)

Family Raphidiidae

Agulla occidentalis Carp. (1)



Order LEPIDOPTERA

Family Gelechiidae

Recurvaria sp. (10)

Family Geometridae

Eupithecia spermaphaga (Dyar) (11)

Family Olethreutidae

Barbara colfaxiana (Kearfott) (1,11)

Barbara colfaxiana taxifoliella (Bursk) (11)

Grapholitha conversana Wishman (1)

prob. Hedulia injectiva Heinrich (10)

Laspeyresia bracteatana (Fernald) (1,2)

Laspeyresia miscitata Heinrich (7,10)

Laspeyresia piperana Kearfott (10)

Laspeyresia youngana Kearfott (7)

Laspeyresia ?youngana (7)

Laspeyresia sp. (1,7)

Family Phaloniidae

Henricus fuscodorsana (Kearfott) (11)

Family Pyralidae

Dioryctria abietella (D. and S.) (1,2,7,9,10,11)

Dioryctria auranticella (Grote) (10)

Dioryctria sp. (7,11)

Family Tortricidae

Choristoneura fumiferana (Clem.) (11)

Eucosma ponderosae Powell (10)

Eucosma recissoriana Heinrich (1,2,9)

Eucosma sp. (1)

Order DIPTERA

Family Acroceridae

Acrocera sp. (11)

Family Anthomyiidae

Hylemya abietis Hockett (1,2)

Hylemya abietis sp. nr. abietis Hockett (1)

Family Cecidomyiidae

Asynapta Keeni (Foote) (1,2,5,9,10,11)

Brachineura n. sp. (1,11)

Cecidomyia sp. (10,11)

Cecidomyia n. sp. (10)

Contarinia washingtonensis Johnson (11)

Contarinia sp. (10,11)

Family Cecidomyiidae (cont'd)

Cordylomyia sp. (10)  
Dasineura sp. prob. abiesemia Foote (2)  
Dasineura spp. (1,2)  
Lestodiplosis taxiconis Foote (1)  
Lestodiplosis sp. nr. taxiconis (11)  
Lestodiplosis sp. (1,11)  
Lestremia sp. (10)  
Mycodiplosis conicola (Foote) (1)  
Mycodiplosis coryloides Foote (11)  
Pararete elongata (Felt) (10)  
Profeltiella sp. sensu lato n. sp. (10)  
Rosseliella sp. (5,10)  
Thomasiniana sp. (10)

Family Chamaemyiidae

Leucopis sp. (7,10)

Family Chloropidae

Hapleginella conicola (Greene) (10)

Family Drosophilidae

Scaptomyza sp. (1)

Family Lonchaeidae

Earomyia sp. (1,2,11)  
Lonchea sp. (10)

Family Phoridae

Magaselia sp. (10)

Family Piophilidae

Piophila casei (L.) (1)

Family Sciaridae

Bradysia sp. (1,7,11)

Family Syrphidae

Metasyrphus sp. (10)  
Parapenium simile (Curran) (7)

Family Tachinidae

Elfia sp. (7)  
Blondeliini, nr. Lixophaga sp. (9)  
Lixophaga n. sp.? (1,2)  
Lixophaga sp. (1)  
Psalidopteryx dorsalis (Coq.) (9)  
Psalidopteryx psilicorsiphaga Brooks (9,11)



Family Tachinidae (cont'd)

Urophyllopsis retiniae (Coq.) (11)  
Xanthophyto spp. (1,2)  
Xanthophyto n. sp.? (9)

Order HYMENOPTERA

Family Bethyridae

Cephalonomia sp. (10)

Family Braconidae

Apanteles absonus Muesebeck (11)  
Apanteles aristotelliae (Viereck) (10)  
Apanteles laspeyresiae Viereck (10)  
Apanteles petrovae Walley (11)  
Apanteles starki Mason (1,2,9)  
Apanteles sp. (8,11)  
Bracon rhyacioniae (Muesebeck) (1,7,9,10,11)  
Bracon xanthonotus Ashm. (1)  
Bracon n. sp. nr. curtus (Prov.) (11)  
Bracon sp. nr. curtus (Prov.) (11)  
Bracon sp. nr. gelechia Ashm. (11)  
Bracon sp. (1,7,8,9,10)  
Chelonus petrovae McComb (9)  
Chelonus (Microchelonus) sp. (1,10)  
Chelonus (Microchelonus) n. sp. (9)  
Eubadizon n. sp. (9,11)  
Pauesia sp. (10)  
Phanerotoma laspeyresiae Rohwer (10)  
Rogas autographae (10)

Family Ceraphronidae

Ceraphron sp. (1)

Family Colletidae

Hylaeus stevensi (Crawford) (10)

Family Elasmidae

Elasmus atratus How. (11)

Family Encyrtidae

Cheiloneurus sp. (10)  
Homalotylus terminalis (Say) (11)

Family Eulophidae

Aprostacetus sp. (7)  
Elachertus pini Gahan (11)  
Elachertus proteoteratis How. (9)

Family Eulophidae (cont'd)

- Elachertus sp. (9)  
Hyssopus evetriae Girault (2,7,10,11)  
Hyssopus novus Girault (10)  
Hyssopus thymus Girault (10,11)  
Hyssopus sp. (1,7,11)  
Tetrastichus coerulescens Ashm. (7,9,11)  
Tetrastichus juniperi (Crawford) (3)  
Tetrastichus marcovitchi (Crawford) (3)  
Tetrastichus strobilus Burks (10,11)  
Tetrastichus sp. (1,2,7,9,10,11,12)

Family Eupelmidae

- Eupelmella vescicularis (Tetz.) (10)

Family Eurytomidae

- Eurytoma conica Prov. (9)  
Eurytoma juniperina Marcovitch (3,4)  
Eurytoma sp. (9,10)

Family Figitidae

- Aegilips sp. (10)  
Melanips sp. (10)

Family Formicidae

- Camponotus herculeanus modoc Wheeler (1)

Family Gasteruptionidae

- Gasteruption assectator assectator (L.) (10)

Family Ichneumonidae

- Calliephialtes comstockii (Cresson) (11)  
Campoplex conocola Rohwer (1,7,10,11)  
Campoplex laspeyresiae (Rohwer) (10)  
Campoplex sp. (8,9)  
Campoplex sensu lato (9)  
Exeristes comstockii (Cresson) (1,7,10,11)  
Exochus evertriaae (11)  
Exochus turgidus Holm. (1)  
Glypta evertriaae Cushman (11)  
Ichneumon brueri Rohwer (10)  
Itoplectis evertriaae Viereck (1,11)  
Itoplectis quadricingulatus (Prov.) (11)  
Lissonota sp. (1)  
Nemorites n. sp. (10)  
Pimplopterus n. sp. (9)  
Pimplopterus sp. (9)  
Sinophorus sp. nr. mutabilis (Holmgren) (9)



Family Platygasteridae

Platygaster sp. (7,10)  
Piestopleura n. sp. (11)

Family Pteromalidae

Amblymerus sp. (7)  
Anogmus sp. (2)  
Cheiopachus colon (L.) (10)  
Dibrachys cavus (Walker) (11)  
Dibrachys sp. (11)  
Habrocytus phydidis Ashm. (7,9)  
Habrocytus sp. (1,4,9,10,11)  
Mesopolobus sp. (1,2,10)  
Pachyneuron sp. (3)  
Rhopalichus pulchripennis (Crawford) (9)  
Rhopalichus sp. (3)  
Spintherus sp. (3)  
Zacalochlora milleri Crawford (9,10,11)

Family Scelionidae

Telenomus utahensis Ashm. (6)

Family Siricidae

Urocerus albicornis (F.) (10)

Family Torymidae

Megastigmus lasiocarpae Crosby (2)  
Megastigmus pinus Parfitt (1)  
Megastigmus spermotrophus Wachtl. (11)  
Microdontomerus sp. (4)  
Torymus sp. (4,7,11)  
Torymus sp. nr. capitis (Huber) (11)  
Torymus sp. nr. coloradensis (Huber) (11)

Family Trichogrammatidae

Trichogramma sp. (1)

Appendix A. Publications, Theses and Dissertations on Cone and Seed  
Insect Research at the University of Idaho.

---

Publications

- Barnes, B. V., R. T. Bingham, and J. A. Schenk. 1962. Insect-caused loss to western white pine cones. Forest Serv., Intermtn. Forest and Range Exp. Sta. Res. Note 102. 7 p.
- Clark, E. C., J. A. Schenk, and D. L. Williamson. 1963. The cone-infesting moth, Barbara colfaxiana (Kearf.), as a pest of Douglas-fir in northern Idaho. Ann. Entomol. Soc. Amer. 56:246-250.
- Goyer, R. A., and J. A. Schenk. 1969. Parasitism of the cone moth Eucosma rescissoriana in northern Idaho. Can. Entomol. 101:1063-1069.
- Goyer, R. A., and J. A. Schenk. 1970. Notes on the biology and habits of insect parasites associated with Eucosma rescissoriana in northern Idaho. Can. Entomol. 102:1546-1553.
- Kulhavy, D. L., and J. A. Schenk. 1973. A damage appraisal of cone and seed insects of alpine fir in northern Idaho. Proc. Wash. State Entomol. Soc. 35:364.
- Ollieu, M. M., and J. A. Schenk. 1966. The biology of Eucosma rescissoriana Hein. in western white pine in Idaho. (Lepidoptera:Olethreutidae). Can. Entomol. 98:268-274.
- Schenk, J. A., and D. O. Everson. 1972. Sampling cone production in Douglas-fir stands for insect population studies. Univ. Idaho, Forest, Wildlife and Range Exp. Sta. Paper No. 10. 10 p.
- Schenk, J. A., and R. A. Goyer. 1967. Cone and seed insects of western white pine in northern Idaho: Distribution and seed losses in relation to stand density. J. Forest. 65:186-187.
- Schenk, J. A., R. H. Giles, and F. D. Johnson. 1967. Effect of trunk-injected oxydemetonmethyl on Douglas-fir cone and seed insects, seedling production, and mice. Univ. Idaho, Forest, Wildlife and Range Exp. Sta. Paper No. 2. 20 p.
- Williamson, D. L., J. A. Schenk, and W. F. Barr. 1966. The biology of Conophthorus monticolae Hopk. in northern Idaho (Coleoptera:Scolytidae). Forest Sci. 12:234-240.



### Theses

- Williamson, D. L. 1961. The biology of Conophthorus monticolae Hopkins in northern Idaho (Coleoptera:Scolytidae). 33 p.
- Ollieu. M. M. 1963. The biology of Eucosma rescissoriana Heinrich in western white pine of Idaho (Lepidoptera:Olethreutidae). 43 p.
- Goyer, R. A. 1966. The parasite complex associated with Eucosma rescissoriana Heinrich (Lepidoptera:Olethreutidae) in northern Idaho. 51 p.
- Kulhavy, D. L. 1974. Cone and seed insects of grand and subalpine firs in northern Idaho. 79 p.

### Dissertations

- Dale, J. W. 1974. Bionomics of the cone and seed insects of ponderosa pine in Idaho and adjacent Washington and Montana. 140 p.
- Clausen, R. W. (in progress). Bioenergetics of the cone and seed insects of Douglas-fir.

Copies of the publications may be obtained from the College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho 83843.

Theses and dissertations are on file in the University of Idaho Library.

ADDENDUM

Part I

(7) HOST: Picea englemanni Parry      ENGLEMANN SPRUCE

Order COLEOPTERA

Family Cucujidae

\*Cryptolestes sp.

T. J. Spilman

(11) HOST: Pseudotsuga menziesii (Mirb.) Franco      DOUGLAS-FIR

Order COLEOPTERA

Family Cucujidae

\*Cryptolestes sp.

T. J. Spilman

Part II

Order COLEOPTERA

Family Cucujidae

Cryptolestes sp. (7, 11)





