

Supplementary Material

Diversity of insects associated to the fruits of four tree Species of Lauraceae from Los Tuxtlas region, Mexico: An annotated and illustrated taxonomic list

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Table S1. Summary of principal reproductive and ecological characteristics of *Damburneya* and *Nectandra* species occurring at Los Tuxtlas region. The literature phenological reports specifically recorded at Los Tuxtlas are indicated in bold, and our own observations along four years of study in this area are in parenthesis.

Tree species	Height (m)	Fruit description	Ecological information	Distribution	Phenology reports	References
<i>Damburneya ambigens</i> (S.F Blake) Trofimov	up to 30	Spheroid, 14-22 mm long and 12-16 mm diameter. Bowl-shaped red cupule longitudinally ridged.	Frequently an emergent element of tropical rainforest canopy. Abundant in tropical rainforest of southern México	Southern Mexico to Honduras	<u>Flowers:</u> April-May. April – July (May). <u>Fruits:</u> September. August- November. (August - October)	Rohwer, 1993. Ibarra-Manríquez & Sinaca-Colín 1995
<i>Damburneya gentlei</i> (Lundell) Trofimov	up to 30	Ellipsoid, 18-24 mm long and 11-17 in diameter. Bowl-shaped red cupule	Frequently an emergent element of rainforest canopy. Mainly distributed in lower zones along the altitudinal gradient.	Southern Mexico to Honduras	<u>Flowers:</u> March-May. March-June. <u>Fruits:</u> May-June, September. September- November. (September)	Rohwer, 1993. Ibarra-Manríquez & Sinaca-Colín 1995
<i>Damburneya salicifolia</i> (Kunth) Trofimov & Rohwer	10 - 25	Globose, 9-14 mm long and 8-12 diameter. Funnel or cup-shaped red cupule	Occur along the entire altitudinal gradient, and frequently on disturbed areas. Common in tropical rainforests, other montane moist forests, deciduous and semideciduous forests. Grows in wide variety of soils, including calcareous soils	Widely distributed from Mexico to Panama	<u>Flowers:</u> January to May, but there are registers all over the year. April-May. <u>Fruits:</u> June-October. (August to October)	Lorea-Hernández, 2002; Rohwer, 1993. Ibarra-Manríquez & Sinaca-Colín 1995

and coastal
dunes.

<i>Nectandra turbacensis</i> Nees (Kunth)	10 - 35	Ellipsoid, 10- 20 mm long and 6-12 in diameter. Bowl-shaped red cupule	Grows in wide variety of soils, including coastal dunes. Common in montane forests up to 1300, secondary forests, along water courses, and semideciduous forests.	Widely distributed in South America, reaching central Bolivia and Brazil. Southeaster n México, Antilles.	<u>Flowers:</u> mainly April-May in Mexico, but there is wide variation all over the year in other zones of its distribution. <u>Fruits:</u> there is no certainty of the fruiting time along its distribution. (August)	Rohwer, 1993
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Table S2. Synthesis of insect data, considering its taxonomy, collection number, distribution, feeding types, and associated plants according to the detailed review compiled for the illustrated and commented taxonomic list. The representative specimens were collected by L. Giraldo-Kalil (LGK). The symbol † after collection number indicates the specimens deposited at Colección Nacional de Insectos (CNIN), and § indicates those deposited Colección Entomológica at Estación Biológica de Los Tuxtlas (CEEBT; IB-UNAM). Abbreviations and symbols: Na = Nearctic, Nt = Neotropical, St = subtropical, Tr = tropical, Wd = worldwide, ¢ = new record for Mexico; SG = stored grains, * = pest insects, ^ = new record for the family Lauraceae, ° = new record for the species. All the references can be found in the main text. Morphospecies that could not be determined to species or genera are noted as “sp”.

Insect species	Collection number	Distribution	Associated plants
COLEOPTERA			
Curculionidae			
<i>Anthonus</i> sp.	277-LGK †	Na, Nt	Many plants. In Lauraceae [^] : <i>Damburneya ambigens</i> [°]
<i>Coccotrypes cyperi</i>	320-LGK †	Tr	Many plant families. In Lauraceae: <i>Damburneya ambigens</i> [°] , <i>Persea americana</i>
<i>Conotrachelus serpentinus</i>	85-LGK †	Florida to Colombia	In Lauraceae: <i>Persea</i> spp., <i>Nectandra turbacensis</i> [°]
<i>Heilipus albomaculatus</i>	372-LGK † 373-LGK † 374-LGK † 375-LGK § 376-LGK §	Mexico, Belize, Guatemala	In Lauraceae: <i>Damburneya ambigens</i> , <i>D. gentlei</i> [°]
<i>Heilipus draco</i>	259-LGK † 264-LGK †	Mexico, to Paraguay	In Lauraceae: <i>Beilschmiedia</i> , <i>Damburneya</i> , <i>Ocotea</i> , <i>Nectandra</i>
<i>Heilipus guttiger</i>	86-LGK § 203-LGK † 245-LGK † 256-LGK § 263-LGK § 265-LGK †	Mexico, Guatemala, Panama, Colombia	In Lauraceae [^] : <i>Damburneya salicifolia</i> [°] , <i>Nectandra turbacensis</i> [°]
<i>Hypothenemus interstitialis</i>	287-LGK †	Tr	Many plant families. In Lauraceae: <i>Damburneya</i> [°] , <i>Nectandra</i> , <i>Ocotea</i> , <i>Persea</i> , <i>Sassafras</i>
<i>Pagiocerus frontalis</i>	46-LGK † 51-LGK † 51-LGK § 63-LGK † 63-LGK § 377-LGK † 377-LGK § 378-LGK † 378-LGK §	Na, Nt	Annonaceae, Boraginaceae, Poaceae, Rubiaceae, especially in Lauraceae: <i>Beilschmiedia</i> , <i>Damburneya</i> , <i>Ocotea</i> , <i>Nectandra</i> , <i>Persea</i>
Laemophloeidae			
<i>Cryptolestes</i> sp.	242-LGK †	Wd	SG*. In Lauraceae [^] : <i>Nectandra turbacensis</i> [°]

Nitidulidae			
<i>Carpophilus</i> sp. 1	82-LGK † 261-LGK †	Wd	SG*. In Lauraceae: <i>Damburneya salicifolia</i> [°] , <i>Nectandra megapotamica</i> , <i>N. turbacensis</i> [°]
<i>Carpophilus</i> sp. 2	391-LGK †		
<i>Carpophilus maculatus</i>	80-LGK † 81-LGK † 83-LGK † 84-LGK †	Na, Nt, ♀	Many plant families, SG*. In Lauraceae [^] : <i>Damburneya salicifolia</i> [°] , <i>Nectandra turbacensis</i> [°]
<i>Stelidota</i> sp. 1	380-LGK †	Wd	Many plant families. In Lauraceae [^] : <i>Damburneya ambigens</i> [°]
<i>Stelidota</i> sp. 2	286-LGK †	(except Africa)	
<i>Stelidota</i> sp. 3	308-LGK †		
<i>Stelidota</i> sp. 4	293-LGK †		
<i>Stelidota</i> sp. 5	274-LGK †		
<i>Stelidota</i> sp. 6	381-LGK †		
<i>Stelidota</i> sp. 7	382-LGK †		
<i>Stelidota</i> sp. 8	317-LGK § 326-LGK § 326-LGK † 383-LGK † 378-LGK §		
Staphylinidae			
Aleocharinae sp.	87-LGK †	Wd	<i>Ficus</i> spp. In Lauraceae [^] : <i>Nectandra turbacensis</i> [°]
DIPTERA			
Chloropidae			
<i>Apallates</i> sp.	379-LGK †	Na, Nt	In Lauraceae [^] : <i>Nectandra turbacensis</i> [°]
<i>Chaetochlorops inquilinus</i>	105-LGK †	U.S.A., Mexico	Many plant families. In Lauraceae [^] : <i>Nectandra turbacensis</i> [°]
<i>Conioscinella</i> sp.	96-LGK † 97-LGK † 98-LGK † 98-LGK § 99-LGK § 104-LGK § 227-LGK †	Wd	In Lauraceae [^] : <i>Damburneya ambigens</i> [°] , <i>Nectandra turbacensis</i> [°]
Drosophilidae			
sp. 1	-	Wd	Many plant families. In Lauraceae: <i>Cinnamomum</i> , <i>Cryptocarya</i> , <i>Damburneya</i> [°] , <i>Endiandra</i> , <i>Lindera</i> , <i>Litsea</i> , <i>Nectandra</i> , <i>Persea</i> , <i>Ocotea</i>
Lauxaniidae			
sp. 1	102-LGK †	Wd	Rutaceae, Violaceae, In Lauraceae: <i>Lindera erythrocarpa</i> , <i>Nectandra turbacensis</i> , <i>Ocotea catharinensis</i>
Lonchaeidae			
<i>Neosilba</i> sp.	88-LGK † 89-LGK § 91-LGK †	Na, Nt	

	93-LGK § 94-LGK § 95-LGK † 260-LGK † 271-LGK † 272-LGK † 272-LGK § 311-LGK † 329-LGK † 330-LGK §		Many plant families*. In Lauraceae: <i>Cinnamomum</i> , <i>Damburneya</i> °, <i>Nectandra</i> °, <i>Persea</i>
Muscidae			
<i>Atherigona orientalis</i>	100-LGK † 101-LGK †	St, Tr	Many plant families*. In Lauraceae: <i>Nectandra turbacensis</i> °, <i>Persea americana</i>
Phoridae			
sp. 1	103-LGK †	Wd	In Lauraceae: <i>Damburneya</i> °, <i>Lindera</i> , <i>Nectandra</i> °, <i>Persea</i>
sp. 2	226-LGK †		
Stratiomyidae			
<i>Ptecticus sackenii</i>	229-LGK † 229-LGK §	Canada, United States, Mexico, Nicaragua, Costa Rica	In Lauraceae^: <i>Damburneya ambigens</i> °
Tachinidae			
sp. 1	228-LGK § 299-LGK † 340-LGK †	Wd	Many plant families. In Lauraceae: <i>Cinnamomum</i> , <i>Damburneya</i> °, <i>Laurus</i> , <i>Nectandra</i> , <i>Ocotea</i> , <i>Persea</i> . <i>Sassafras</i>
HYMENOPTERA			
Braconidae			
<i>Apanteles</i> sp. 1	15-LGK † 17-LGK §	Wd	Many plant families. In Lauraceae: <i>Beilchemiedia</i> , <i>Cinnamomum</i> , <i>Damburneya</i> , <i>Nectandra</i> °, <i>Ocotea</i> , <i>Persea</i>
<i>Apanteles</i> sp. 2	13-LGK † 390-LGK §		
<i>Apanteles</i> sp. 3	16-LGK †		
<i>Apanteles</i> sp. 4	244-LGK †		
<i>Aridelus</i> sp.	24-LGK †	Wd	In Lauraceae^: <i>Nectandra turbacensis</i> °
<i>Bracon</i> sp. 1	1-LGK † 2-LGK † 3-LGK † 6-LGK † 7-LGK † 8-LGK † 9-LGK † 10-LGK † 11-LGK † 223-LGK † 224-LGK † 283-LGK † 384-LGK † 385-LGK †	Wd	Burseraceae. In Lauraceae: <i>Damburneya</i> °, <i>Nectandra</i> °, <i>Persea</i>

	386-LGK †		
	387-LGK †		
	388-LGK †		
	389-LGK †		
<i>Bracon</i> sp. 2	5-LGK †		
<i>Bracon</i> sp. 3	225-LGK †		
<i>Bracon</i> sp. 4	22-LGK †		
Eulophidae			
<i>Galeopsomyia fausta</i>	18-LGK §	Mexico to Argentina	Rutaceae. In Lauraceae [^] : <i>Nectandra turbacensis</i> [°] ,
	19-LGK †		
	20-LGK †		
	238-LGK †		
	239-LGK §		
Eurytomidae			
<i>Eurytoma</i> sp.	23-LGK †	Nt	Apiaceae, Fabaceae, Rosaceae. In Lauraceae [^] : <i>Nectandra turbacensis</i> [°]
	23-LGK §		
	231-LGK §		
<i>Sycophila</i> sp.	25-LGK †	Wd	Many plant families. In Lauraceae [^] : <i>Nectandra turbacensis</i> [°]
Figitidae			
<i>Aganaspis pelleranoi</i>	232-LGK †	Nt	Myrtaceae, Rutaceae. In Lauraceae: <i>Nectandra turbacensis</i>
Formicidae			
<i>Mycocepurus goeldii</i>	290-LGK †	Guyana, Paraguay, Brazil, Argentina, ¢	<i>Baccharis dracunculifolia</i> , <i>Bidens pilosa</i> , <i>Schinus terebinthifolia</i> . In Lauraceae [^] : <i>Damburneya ambigens</i> [°]
<i>Pheidole</i> sp.	278-LGK †	Wd	. In Lauraceae: <i>Damburneya ambigens</i> [°] , <i>Ocotea pulchella</i> , <i>O. spectabilis</i> , <i>Persea americana</i>
Ichneumonidae			
sp. 1	297-LGK †	Wd	. In Lauraceae [^] : <i>Damburneya ambigens</i> [°]
LEPIDOPTERA			
sp. 1	346-LGK †	-	-
	347-LGK †		
	348-LGK †		
sp. 2	349-LGK †		
sp. 3	350-LGK †		
sp. 4	351-LGK †		
	361-LGK †		
Oecophoridae			
<i>Stenoma catenifer</i>	27-LGK †	Mexico to Argentina	In Lauraceae: <i>Beilschmiedia</i> , <i>Chlorocardium</i> , <i>Cinnamomum</i> , <i>Damburneya</i> [°] , <i>Nectandra</i> , <i>Persea</i> *
	29-LGK †		
	125-LGK †		
	128-LGK †		
	131-LGK †		
	212-LGK †		
	213-LGK †		
	214-LGK †		

	353-LGK †		
THYSANOPTERA			
Phlaeothripidae			
sp. 1	288-LGK †	Wd	Many plant families*. In Lauraceae: <i>Damburneya ambigens</i> ^o , <i>Nectandra</i> <i>cuspidata</i> , <i>Persea americana</i>

Table S3. Search terms for bibliographic review of geographic, taxonomic, and ecological information of reared insect species.

Serch profile	Search base	Date
Biología Stenoma catenifer	Scholar Google	23/01/2018
Pagiocerus frontalis	Scholar Google	25/04/2018
Pagiocerus frontalis Lauraceae	Scholar Google	25/04/2018
Colopterus truncatus biology	Scholar Google	30/04/2018
Colopterus truncatus seeds	Scholar Google	30/04/2018
Colopterus truncatus Mexico	Scholar Google	02/05/2018
Bracon Lauraceae	Scholar Google	16/05/2018
Eurytoma	Scholar Google	24/05/2018
Conotrachelus serpentinus	Scholar Google	28/05/2018
Sycophila Mexico	Scholar Google	28/05/2018
Sycophila	Scholar Google	28/05/2018
Sycphila seeds	Scholar Google	30/05/2018
Aridelus	Scholar Google	30/05/2018
Aridelus México	Scholar Google	30/05/2018
Galeopsomyia fausta	Scholar Google	31/05/2018
Apanteles	Scholar Google	31/05/2018
Apanteles México	Scholar Google	31/05/2018
Apanteles Lauraceae	Scholar Google	31/05/2018
Neosilba	Scholar Google	04/06/2018
lauraceae AND insect* AND (seed AND predator* OR herbivor*)	SCOPUS	06/06/2018
Chloropidae ecology	Scholar Google	11/06/2018
Chloropidae Lauraceae	Scholar Google	11/06/2018
Muscidae Lauraceae	Scholar Google	11/06/2018
Drosophilidae Lauraceae	Scholar Google	11/06/2018
Nectandra AND (Curculionid OR Pagiocerus OR Heilipus)	Scholar Google	05/08/2018
Heilipus draco	Scholar Google	23/10/2019
Lauraceae *lepidoptera Fruits -avocado -Persea -americana	Scholar Google	29/10/2019
(persea americana OR avocado) AND (Fruit OR seed OR predat*) AND Lepidoptera	Scholar Google	29/10/2019
Conotrachelus	Scholar Google	13/11/2019
Anchonus	Scholar Google	13/11/2019
Carpophilus	Scholar Google	25/11/2019
Carpophilus Lauraceae	Scholar Google	26/11/2019
Carpophilus maculatus	Scholar Google	26/11/2019

Stelidota	Scholar Google	29/11/2019
Stelidota Mexico	Scholar Google	30/11/2019
Stelidota Lauraceae	Scholar Google	02/12/2019
Aleocharinae Lauraceae	Scholar Google	02/12/2019
Staphylinidae Lauraceae	Scholar Google	03/12/2019
Lauxaniidae	Scholar Google	11/12/2019
Lauxaniidae Lauraceae	Scholar Google	11/12/2019
Neosilba Lauraceae	Scholar Google	08/01/2020
Athrigona orientalis	Scholar Google	21/01/2020
Aganaspis pelleranoi	Scholar Google	24/01/2020
Ichenumonidae México	Scholar Google	24/01/2020
Cryptolestes Mexico	Scholar Google	17/07/2020
Coccotrypes cyperi Mexico	Scholar Google	28/07/2020
Coccotrypes cyperi AND Lauraceae	Scholar Google	28/07/2020
Hypothenemus interstitialis AND Lauraceae	Scholar Google	03/08/2020
Hypothenemus interstitialis AND Mexico	Scholar Google	03/08/2020
Chloropidae AND Lauraceae AND Mexico	Scholar Google	06/10/2020
Apallates	Scholar Google	07/10/2020
Chaetochlorops	Scholar Google	06/10/2020
Conioscinella	Scholar Google	06/10/2020
Drosophilidae and Nectandra	Scholar Google	06/10/2020
Drosophilidae aand Lauraceae	Scholar Google	06/10/2020
Phoridae and Lauraceae	Scholar Google	06/10/2020
Tachinidae and Lauraceae	Scholar Google	06/10/2020
Tachinidae and Nectandra	Scholar Google	06/10/2020
Mycocephurus and Lauraceae	Scholar Google	07/10/2020
Mycocephurus mexico	Scholar Google	07/10/2020
Phlaeotripidae AND Lauraceae	Scholar Google	07/10/2020
Ptecticus sackenii	Scholar Google	07/10/2020
Ptecticus AND fruits	Scholar Google	07/10/2020
Pheidole	Scholar Google	26/07/2021
Pheidole Mexico	Scholar Google	26/07/2021
Pheidole Lauraceae	Scholar Google	27/06/2021

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