

A LIST OF THE SUGAR CANE INSECTS OF NEGROS OCCIDENTAL

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The writer spent the period from August, 1927, to March 1, 1930, in Occidental Negros, P. I., in the employ of the Victorias Milling Co., and the North Negros Sugar Co., in the study of sugar cane insects. The results of these studies include the collection of a considerable collection of sugar cane insects, with many notes upon them. A large number of these species have now been determined by specialists, and it is possible therefore to list the more important enemies of the sugar-cane, and many of the parasites. By listing these at this time sugar-cane entomologists will be able to use the information without having to wait upon full reports.

Through the interchange of planting stocks the sugar-cane pests of Negros have been largely derived from Java, India, and other parts of the Orient.

I have presented the list in the tabular form in order to bring together the species responsible for the various types of injury, and also the determined enemies of each.

SUGAR CANE INSECTS OF OCCIDENTAL NEGROS, P. I.

Nature of damage	Name of insect	Enemies
Root grubs "buc-an" Very destructive	<i>Leucopholis irrorata</i> Chevrolat <i>Anomala anoguttata</i> Burmeister <i>Anomala humeralis</i> Burmeister <i>Autoserica migranubra</i> Brancsik <i>Holotrichia mindanaona</i> Brancsik <i>Lepidiota pruinosa</i> Burmeister All of above	<i>Campsomeris reticulata</i> Cameron <i>Campsomeris aureicollis</i> Lepetier <i>Tyroglyphus</i> sp. <i>Rhizoglyphus</i> sp. <i>Isaria</i> sp. (fungus) <i>Cordyceps</i> sp. (fungus) Probably <i>Campsomeris annulata</i> Fabricius <i>Campsomeris annulata</i> Fabricius <i>Campsomeris marginella modesta</i> Smith
Large root destroyers		The crow, <i>Corone philippina</i> Bonaparte The lark, <i>Alauda wattersi</i> Swinhoe Probably the blind snake <i>Typhlops braminus</i> (Daudin) eats the eggs
Root corroders		A cicadid larva <i>Gryllotalpa africana</i> Pal. Beauv. <i>Thlibops</i> sp. (Cerambycid) ? Collembola undetermined Lepismids undetermined Molluscs undetermined
Root suckers: Bugs		<i>Macroscytus transversus</i> Burm.

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Root suckers, cont.		
Leaf hopper	<i>Stibaropus molgimus</i> Schiödte	
Aphid	<i>Oliarus impeditus</i> Muir	
Mealy bug	<i>Tetraneura lucifuga</i> Zehntner	
Scale	<i>Trionymus sacchari</i> (Cockerell)	
Nematodes	<i>Antonina indica</i> Green <i>Cacorema radicicola</i>	
Seed cane injuries	<i>Tylenchus similis</i>	<i>Odontoponera transversa</i> (F. Smith)
Termites	<i>Macrotermes gilvus</i> Hagen <i>Microcerotermes losbanensis</i>	Oshima
Beetles primary	<i>Coptotermes vastator</i> Light	
Perhaps secondary	<i>Alyssonotum pauper</i> Burmeister <i>Eutochia lateralis</i> Boheman	
Ants nesting in stools	<i>Gonocephalum depressum</i> Fabricius <i>Gonocephalum adpressum</i> Germar <i>Carpophilus dimidiatus</i> Fabricius <i>Odontoponera transversa</i> (F. Smith) <i>Polyrhachis dives</i> F. Smith	
Some good	<i>Camponotus maculatus taylori</i> Forel	Strepsipteron
Some bad	<i>Monomorium pharaonis</i> Linnaeus <i>Dolichoderus bituberculatus</i> (Mayr) <i>Odontomachus haematoxides</i> Linnaeus <i>Solenopsis geminata rufa</i> (Jerdon)	

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Nature of damage	Name of insect	Enemies
Miscellaneous stool inhabitants	<i>Oligomyrmex</i> n. sp. <i>Tapinoma melanoccephalum</i> Fabricius Large centipedes Spiders Slugs Dipterous leaf miner Flea beetle	
Seedling cane injury	<i>Aphis sachchari</i> Zehntner <i>Aphis maidis</i> Fitch <i>Oethreutes schistaceana</i> Snellen	<i>Trichogramma nana</i> Zehntner <i>Microbracon chilonis</i> (Viereck) <i>Chelonus albicinctus</i> Ashmead <i>Goniozus</i> sp.
Young shoot injury Dead heart moth borers	<i>Diatraea infuscata</i> Snellen	Tachinid species <i>Phanurus beneficens</i> Zehntner <i>Trichogramma nana</i> Zehntner <i>Trichogramma minutum</i> Riley <i>Microbracon chilonis</i> (Viereck) <i>Apanteles flavipes</i> Cameron <i>Goniozus</i> sp.
		Tachinid sp. <i>Anisobasis stali</i> Dohrn Egg parasite undetermined

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Moth borers, cont.	<i>Sesamia uniformis</i> Dudgeon <i>Siboga falsella</i> Snellen <i>Diatraea venosata</i> Walker <i>Amata deflocca</i> Swinhoe An <i>Acronyctine</i> n. sp. An anthomyiid <i>Alyssonotum pauper</i> Burmeister <i>Eutochia lateralis</i> Boheman Aleocharinae <i>Europs</i> sp. <i>Hemipeplus</i> sp. Numerous flies as yet undetermined <i>Tyroglyphus</i> sp. <i>Histiosoma</i> sp. <i>Uropoda</i> sp. Parasitidae (mites) Collembola.	<i>Microbracon chilonis</i> (Viereck) <i>Apanteles flavipes</i> Cameron <i>Ipobracon</i> sp. perhaps <i>famulus</i> Bingham <i>Xanthopimpla enderleini</i> Krieger <i>Kriegeria heptazonata</i> Ashmead <i>Phanurus beneficium</i> Zehntner <i>Eripternomorpha javensis</i> Rohwer
Beetles, fly-borer	Dead heart scavengers, etc.	
Stalk injuries Moth borers		

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Stalk injuries, cont.	<i>Topentis</i> spp. cont.	<i>Elasmus zehntneri</i> Ferriere <i>Stenobracon trifasciatus</i> Szepligeti <i>Horniopterus schoenobii</i> Rohwer <i>Aspergillus flavus</i> (fungus) See above under dead heart
Moth borers, cont.	<i>Sesamia uniformis</i> Dudgeon <i>Sesamia inferens</i> Walker <i>Olethreutes schistaceana</i> Snellen <i>Diatraea venosata</i> Walker <i>Diatraea infuscatella</i> Snellen <i>Trochorhopalus strangulatus</i> Gyllenhal	See above under dead heart See above under dead heart Tachinid <i>Rattus concolor</i>
Weevil	<i>Xyleborus perforans</i> Wollaston <i>Xyleborus</i> near <i>luzonicus</i> Eggers <i>Coptotermes vastator</i> Light <i>Eutochia lateralis</i> Boheman <i>Opogona dimidiatella</i> Zeller <i>Erenitidis</i> sp.	
Shot hole borers	<i>Trionymus sacchari</i> (Cockerell) is attended by <i>Dolichoderus bituberculatus</i> (Mayr)	Chalcid parasite <i>Haptonchus luteolus</i> Er. and <i>Carpophilus</i> sp. are associated <i>Aspergillus flavus</i> (fungus disease)
Termite	<i>Pseudococcus</i> sp.	
Node girdlers and bud worms	<i>Aulacaspis tegalensis</i> (Zehntner)	Chalcid parasite
Suckers		
Mealy bug		
Scale		

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Leaf injury	<i>Aulacaspis</i> , cont. <i>Aphis sacchari</i> Zehntner attended by <i>Polyrhachis dives</i> F. Smith and <i>Solenopsis geminata rufa</i> (Jerdon) <i>Aphis maidis</i> Fitch	Coccinellid predators
Juice suckers	<i>Oregma lanigera</i> Zehntner attended by <i>Polyrhachis dives</i> F. Smith <i>Dolichoderus bituberculatus</i> (Mayr) Juices attacked by <i>Capnodium</i> fungus	Chalcid parasite <i>Micromus pusillus</i> Gerst. <i>Cryptoblabes</i> sp. <i>Synonycha grandis</i> Thunberg Syrphids
Aphids	<i>Chionaspis depressa</i> Zehntner <i>Icerya</i> n. sp.	Braconid parasite, several Coccinellids
Scales	<i>Icerya seychellarum</i> Westwood (oe- casional visitor) <i>Neomaskellia bergii</i> Signoret attend- ed by <i>Dolichoderus bituberculatus</i> (Mayr)	Chalcid parasite
White flies	<i>Polyrhachis dives</i> F. Smith <i>Aleurolobus barodensis</i> Maskell <i>Aleyrodes lactea</i> Zehntner Several species undetermined	Chalcid parasite
Thrips	<i>Paratetranychus exsiccator</i> Zehntner	
Mite	<i>Perkinsiella vastatrix</i> Breddin per-	
Leaf hoppers		Three species of egg parasites

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Juice suckers, cont.	hops inoculates red rot <i>Colletotrichum falcatum</i>	Dryinid <i>Paederus fuscipes</i> Curtis Predatory bug
	<i>Prontista moesta</i> Westwood inoculates <i>Cercospora</i> leaf spot	Egg parasites
	<i>Lophops carinatus</i> Kirby	
	<i>Ricania tenuata</i> Stål	
	<i>Ricania proxima</i> Melsheimer	Strepsipteron
	<i>Tettigoniella spectra</i> Distant	Parasite
Leaf eaters: miners in blade	<i>Cosmopteryx pallifasciella</i> Sn.	
	<i>Monochirus callicanthus</i> Bates	
	<i>Cosmopteryx dulcivora</i> Meyrick	Parasite
	<i>Attractomorpha psittacina</i> Haan	
	<i>Euconocephalus nasutus</i> Thunb.	
	<i>Aeolopus tamulus</i> Fabricius	
	<i>Mecopoda elongata</i> Linnaeus	
	<i>Locusta migratoria</i> Linnaeus	
	<i>Phaneroptera furcifera</i>	
	<i>Liogryllus bimaculata</i> DeGeer	
	<i>Rhaphidophora deusta</i> Brunner	Tachinid
	<i>Laelia suffusa</i> Walker	
	<i>Parnara nondoa</i> Plotz	
	<i>Parnara mathias</i> Fabricius	Tachinid

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Leaf eaters, cont.	<i>Panmara</i> , cont. <i>Padraona nitida</i> Mab. <i>Melanitis leda</i> Linnaeus <i>Mycadesis mineus</i> Linnaeus <i>Marasmia trapezalis</i> Guenée <i>Spodoptera mauritia</i> Boisduval <i>Laphygma exempta</i> Walker Undetermined leaf feeder <i>Utetheisa pulchella</i> Linnaeus lays eggs on cane but feeds on <i>Heliotropium indicum</i> <i>Pyrausta nubilalis</i> Hübner twice taken ovipositing on cane <i>Zinckenia fascialis</i> Cr. <i>Craspedia actuaria</i> Walker <i>Dinara combusta</i> Moore <i>Crambus malacellus</i> Dup. <i>Nymphula fluctuosalis</i> Zeller <i>Pyrausta nubilalis</i> Hübner twice <i>Eretmocera pernophanes</i> Meyrick	<i>Bracon alguei</i> Ashmead Chalcid <i>Apanteles</i> sp. with hyperparasite <i>Diaglypta prodeniae</i> Ashmead <i>Apanteles antipoda</i> Ashmead <i>Micropithecus manilae</i> Ashmead <i>Apanteles taraganae</i> Viereck

Miscellaneous Lepidoptera
caught on cane

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Cane flower insects	<i>Balclutha</i> sp. <i>Macrosiphum</i> near <i>granarium</i> Kirby <i>Europs</i> sp.	
Miscellaneous cane insects		
Predators	<i>Proreus simulans</i> Stål	
Roaches	<i>Anisolabus stähl</i> Dohrn	Egg parasites
	<i>Mareta humbertiana</i> Saussure	Egg parasites
	<i>Blattella</i> near <i>germanica</i>	Egg parasites
Mantids	<i>Hierodula patellifera</i> Serv.	Egg parasites
	<i>Statilia maculata</i> Thunberg	
Wasps	<i>Ropalidia</i> sp.	Egg parasites
Fungus feeder	<i>Cecidomyiid</i> larva feeding on spores of <i>Uromyces kuhni</i> Krueg. cause of cane rust	
Spiders	<i>Cyclosa melanura</i> Simon <i>Cyclosa insulana</i> Costa <i>Thomisus laglaizii</i> Simon <i>Heratemis chryssozona</i> Simon <i>Tetragnatha hasselti</i> Thor <i>Argiope aemula</i> Walck <i>Ischnocolus insularis</i> Simon <i>Plexippus paykulli</i> A. & S.	



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