

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	<p><i>Leucopholis irrorata</i> Chevrolat</p> <p><i>Anomala anoguttata</i> Burmeister <i>Anomala humeralis</i> Burmeister</p> <p><i>Autoserica nigrarubra</i> Brancsik <i>Holotrichia mindanaona</i> Brancsik <i>Lepidiota pruinosa</i> Burmeister All of above</p>	<p><i>Campsomers reticulata</i> Cameron <i>Campsomers aureicollis</i> Lepeletier <i>Tyroglyphus</i> sp. <i>Rhizoglyphus</i> sp. <i>Isaria</i> sp. (fungus) <i>Cordyceps</i> sp. (fungus) Probably <i>Campsomers annulata</i> Fabricius <i>Campsomers annulata</i> Fabricius <i>Campsomers marginella modesta</i> Smith</p>
Large root destroyers	<p>A cicadid larva <i>Gryllotalpa africana</i> Pal. Beauv. <i>Thibops</i> sp. (Cerambycid) ? Collembola undetermined Lepismids undetermined Molluscs undetermined <i>Macroscytus transversus</i> Burm.</p>	<p>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</p>
Root corrodors		
Root suckers: Bugs		

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Nature of damage	Name of insect	Enemies
Root suckers, cont. Leaf hopper Aphid Mealy bug Scale Nematodes	<i>Stibaropus moliginus</i> Schiödt <i>Oliarus impediens</i> Muir <i>Tetraneura lucifuga</i> Zehntner <i>Trionymus sacchari</i> (Cockerell) <i>Antonina indica</i> Green <i>Cacorema radialis</i> <i>Tylenchus similis</i> <i>Macrotermes gilvus</i> Hagen <i>Microcerotermes losbanosensis</i> Oshima	<i>Odontoponera transversa</i> (F. Smith)
Seed cane injuries Termites	<i>Coptotermes vastator</i> Light <i>Alyssonotum pauper</i> Burmeister <i>Eutochia lateralis</i> Boheman <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	Strepsipteron
Beetles primary Perhaps secondary	<i>Camponotus maculatus taylori</i> Forel <i>Monomorium pharaonis</i> Linnaeus <i>Dolichoderus bituberculatus</i> (Mayr) <i>Odontomachus haematodes</i> Linnaeus <i>Solenopsis geminata rufa</i> (Jerdon)	Strepsipteron
Ants nesting in stools Some good Some bad		

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Miscellaneous stool inhabitants	<p><i>Oligomyrma</i> n. sp. <i>Tapinoma melanocephalum</i> Fabricius Large centipedes Spiders Slugs Dipterous leaf miner Flea beetle <i>Aphis sacchari</i> Zehntner <i>Aphis maidis</i> Fitch <i>Olethreutes schistaceana</i> Snellen</p>	<p><i>Trichogramma nana</i> Zehntner <i>Microbracon chilonis</i> (Viereck) <i>Chelonus albicinctus</i> Ashmead <i>Goniozus</i> sp. Tachinid species <i>Phanurus beneficiens</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>Anisolabis stali</i> Dohrn Egg parasite undetermined</p>
Seedling cane injury	<p><i>Diatraea infuscatella</i> Snellen</p>	
Young shoot injury Dead heart moth borers	<p>Both of above probably <i>Sesamia inferens</i> Walker and</p>	

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

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Stalk injuries, cont.	<i>Topeutis</i> spp. cont.	<i>Elasmus zehntneri</i> Ferriere <i>Stenobraccon trifasciatus</i> Szepligetii <i>Hormiopterus 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>Trochrorhopalus strangulatus</i> Gyllenhal	See above under dead heart
Weevil	<i>Xyleborus perforans</i> Wollaston	See above under dead heart
Shot hole borers	<i>Xyleborus</i> near <i>tuzonicus</i> Eggers	See above under dead heart
Termite	<i>Coptotermes vastator</i> Light	Tachinid
Node girdlers and bud worms	<i>Eutochia lateralis</i> Boheman <i>Opogona dimidiatella</i> Zeller <i>Ereumitis</i> sp.	<i>Rattus concolor</i>
Suckers	<i>Trionymus sacchari</i> (Cockerell) is	Chalcid parasite
Mealy bug	attended by <i>Dolichoderus bituber-</i> <i>culatus</i> (Mayr)	<i>Haptonchus luteolus</i> Er. and <i>Carpophilus</i> sp. are associated <i>Aspergillus flavus</i> (fungus disease)
Scale	<i>Pseudococcus</i> sp. <i>Aulacaspis tegalensis</i> (Zehntner)	Chalcid parasite

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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)	Coccinellid predators
Juice suckers Aphids	<i>Aphis maidis</i> Fitch <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>Synonymyha grandis</i> Thunberg Syrphids Braconid parasite, several Coccinellids
Scales	<i>Chionaspis depressa</i> Zehntner <i>Icerya</i> n. sp.	
White flies	<i>Icerya seychellarum</i> Westwood (oc- casional visitor) <i>Neomaskellis bergii</i> Signoret attend- ed by <i>Dolichoderus bituberculatus</i> (Mayr)	Chalcid parasite
Thrips Mite Leaf hoppers	<i>Polyrhachis dives</i> F. Smith <i>Aleurolobus barodensis</i> Maskell <i>Aleyrodes lactea</i> Zehntner Several species undetermined <i>Paratetranychus exsiccator</i> Zehntner <i>Perkinsiella vastatrix</i> Breddin per-	Chalcid parasite Three species of egg parasites

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

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Leaf eaters, cont.	<p><i>Parnara</i>, cont. <i>Padraona nitida</i> Mab. <i>Melanitis leda</i> Linnaeus <i>Mycalis mineus</i> Linnaeus <i>Marasmia trapezalis</i> Guenee <i>Spodoptera mauritia</i> Boisduval <i>Laphygma exempta</i> Walker</p>	<p><i>Bracon alquei</i> Ashmead Chalcid <i>Apanteles</i> sp. with hyperparasite <i>Diaglypta prodeniae</i> Ashmead</p>
Miscellaneous Lepidoptera caught on cane	<p>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 actuaris</i> Walker <i>Catogramma festiva</i> Donov. <i>Dinara combusta</i> Moore <i>Crambus malacellus</i> Dup. <i>Nymphula fuctuosalis</i> Zeller <i>Pyrausta nubilalis</i> Hübner twice <i>Eretmocera percnophanes</i> Meyrick</p>	<p><i>Apanteles antipoda</i> Ashmead <i>Microplitis manilae</i> Ashmead <i>Apanteles taragamae</i> Viereck</p>

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Cane flower insects	<p><i>Balclutha</i> sp. <i>Macrosiphum</i> near <i>granarium</i> Kirby <i>Europs</i> sp. Collembola Geometrid</p>	
Miscellaneous cane insects	<i>Prorcus simulans</i> Stal	<i>Entomophthora forficulae</i>
Predators	<i>Anisolabus stâli</i> Dohrn	Egg parasites
Roaches	<i>Mareta humbertiana</i> Saussure	Egg parasites
Mantids	<i>Blattella</i> near <i>germanica</i>	Egg parasites
Wasps	<i>Hierodula patellifera</i> Serv.	Egg parasites
Fungus feeder	<i>Statilia maculata</i> Thunberg	
	<i>Ropalidia</i> sp.	Egg parasites
	<i>Cecidomyid</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 chrysozona</i> Simon	
	<i>Tetragnatha hasselti</i> Thor	
	<i>Argiope aemula</i> Walck	
	<i>Ischnocolus insularis</i> Simon	
	<i>Plerippus paykulli</i> A. & S.	