

CALIFORNIA PLANT PEST and DISEASE REPORT

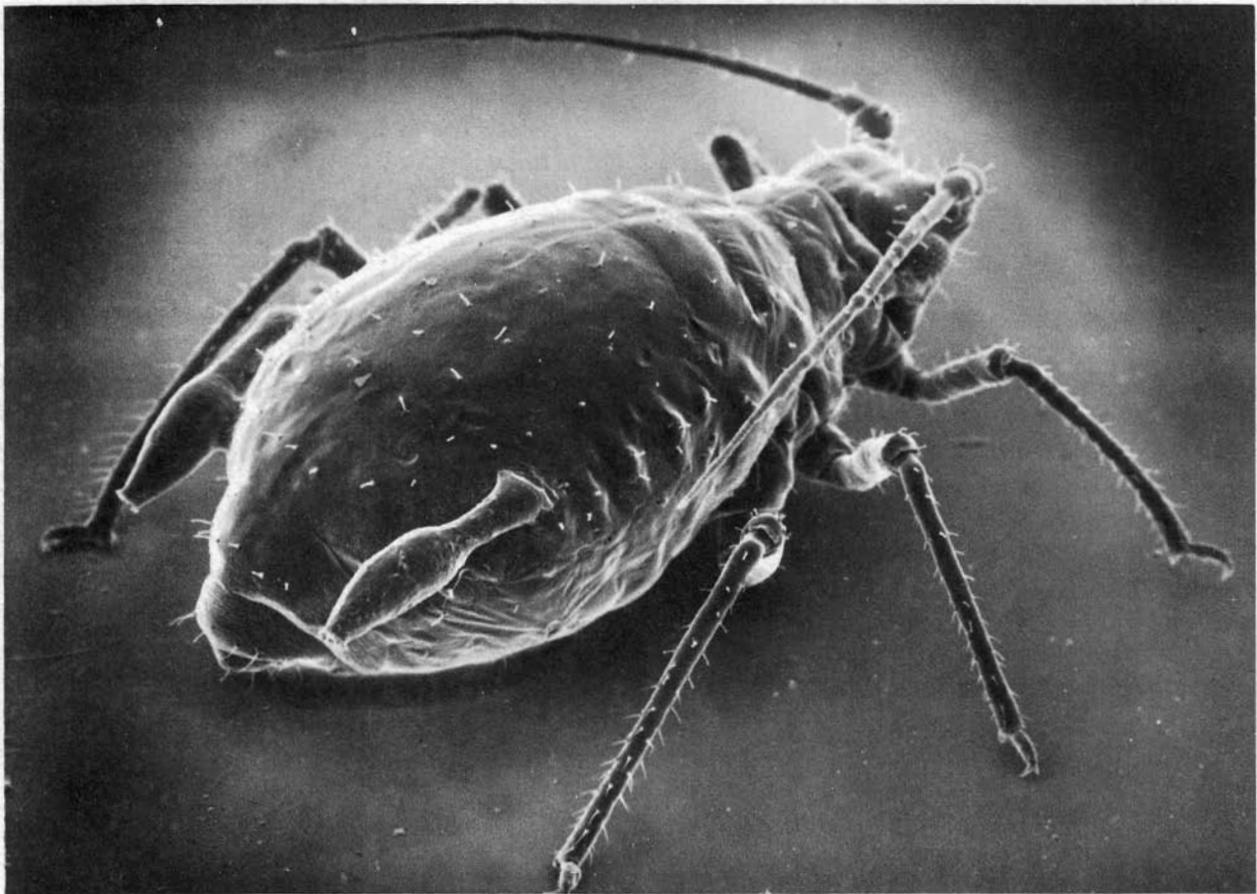
Volume 3

Number 3

May 1984

	Page
Karnal Bunt of Wheat.....	46
Cotton Seed Testing for Angular Leaf Spot.....	48
Computer Identification for Nematodes.....	49
Entomology Highlights.....	50
New State Record, <i>Eucarazzia elegans</i>	53
New County Records.....	55
Quarantine and Exclusion....	58

California Department of Food and Agriculture 1220 N Street Sacramento California 95814



A nymph of *Eucarazzia elegans*, an aphid, viewed under the scanning electron microscope at a magnification of 72X.

KARNAL BUNT OF WHEAT

T.T. Matsumoto, T.N. Boratynski, D.W. Showers, D. Higuera and D. Luscher

Karnal bunt of wheat is caused by a smut fungus Neovossia indica (= Tilletia indica). This disease was first described from Karnal in northwestern India (Mitra, 1931) and has recently been reported in Mexico. Karnal bunt has not been reported in California or in other wheat-growing regions of the United States. Wheat is apparently the only host of this fungus.

The field symptom of Karnal bunt is a dark discoloration of the wheat kernels (Fig. 1A). After the wheat is harvested and threshed, kernels show a partial dark discoloration (Fig. 1B). A few kernels may be completely smutted. This disease, however, is extremely difficult to detect in field surveys unless the infection is severe. A laboratory seed assay using a centrifuge-wash technique is an effective method of detecting the smut spores in harvested wheat.

Spores (teliospores) are dark-colored and large, 27-47 microns in diameter (Duran and Fischer, 1961), with a distinct spore wall ornamentation (Fig. 1C). The fungus is morphologically very similar to kernel smut of rice caused by Neovossia horrida (= Tilletia barclayana).

Karnal bunt spores were found in a railroad boxcar from Mexico on October 19, 1983 at Calexico, California by USDA-PPQ Officer E.Adams, and identified by T.N. Boratynski. This boxcar contained a shipment of 50-gallon drums of honey from Meridan, Yucatan, Mexico with wheat residue contaminated with smut from an unknown location. The entry of railroad cars from Mexico poses a potential threat for the introduction of Karnal bunt into California. During the period of 10/1/82 to 9/30/83, 947 railroad cars entered Calexico from Mexico and 5.5% contained wheat residue. During the subsequent six-month period, the percentage of wheat residue in 476 railroad cars increased to 11.5%. Recently, Karnal bunt spores were detected in an assay of the debris from railroad cars showing no evidence of wheat seeds. A cooperative USDA-CDFA-County field laboratory has been set up in Calexico to process wheat samples from Imperial County and to detect the presence of Karnal bunt spores in railroad cars of Mexican origin.

References

- Duran, R. 1972. Aspects of teliospore germination in North America. Smut Fungi. II. Canada J. Bot. 50:2569-2573.
- Duran, R., and G.W. Fischer. 1961. The genus Tilletia. Washington State University, Pullman, WA.
- Gardner, J.S., J.V. Allen, W.M. Hess, and R.D. Tripathi. 1983. Sheath structure of Tilletia indica spores. Mycologia 75(2):333-336.
- Mitra, M.A. 1931. A new bunt of wheat in India. Annals. Appl. Biol. 18:178-179.
- T.T. Matsumoto is a Plant Pathologist, D.W. Showers is an Agricultural Biological Technician, and D. Higuera and D. Luscher are Agricultural Inspectors with the Analysis and Identification Unit, CDFA, in Sacramento. T.N. Boratynski is Officer in Charge of the USDA-Plant Protection and Quarantine office in Calexico.*

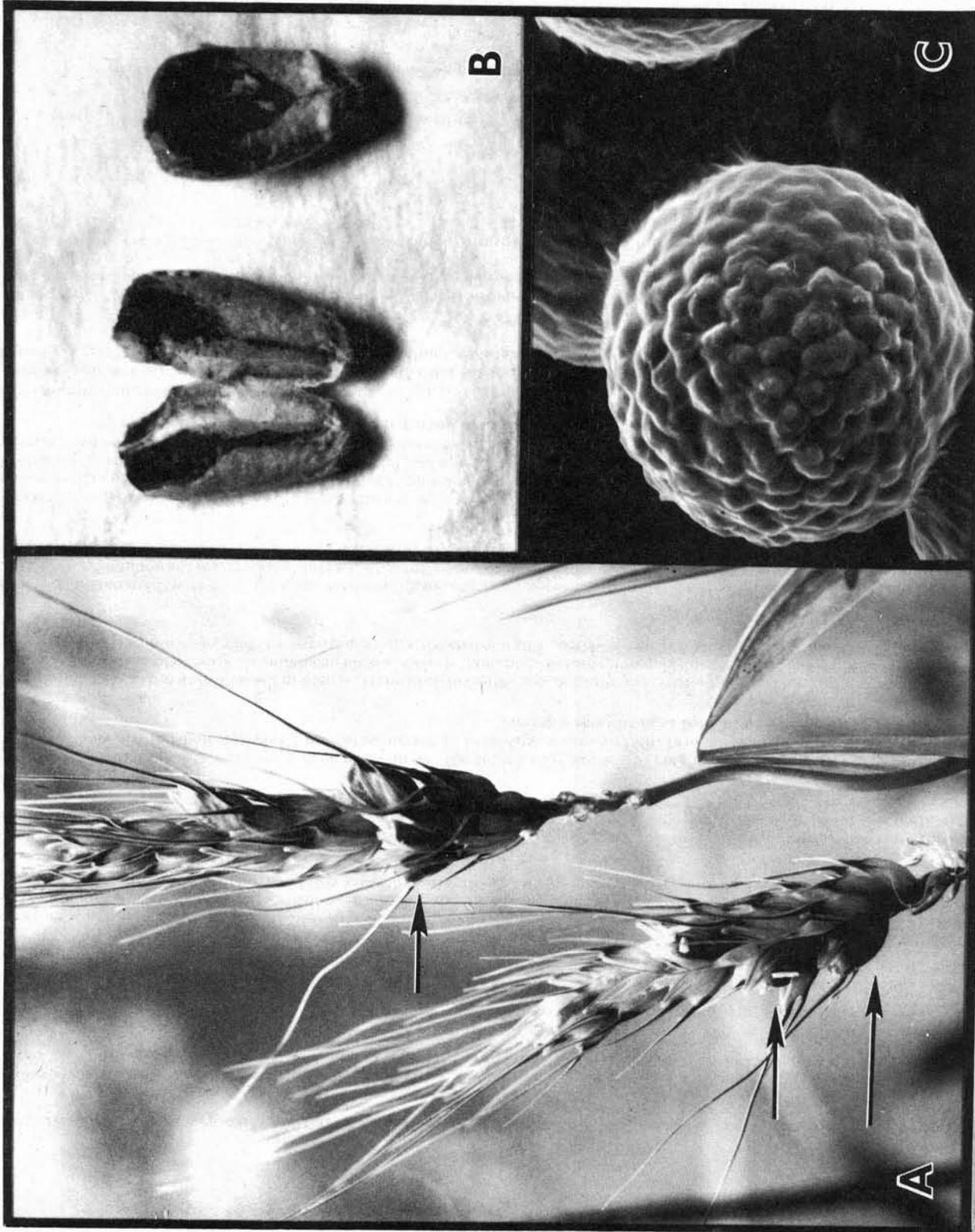


Fig. 1(A). Symptoms of Karnal bunt, showing darkening of the kernels as indicated by arrows. (B). Symptoms of Karnal bunt on partially smutted wheat kernels. Note discolored areas which contain numerous teliospores. (C). Teliospores of *Neovossia indica*, showing surface of the spore walls as seen with scanning electron microscope (2000X).

TESTING COTTON SEED FOR ANGULAR LEAF SPOT

Carl M. Lai

Cotton seed imported from other states for agronomic studies under California's "One-Variety Cotton" regulations must be tested for freedom from angular leaf spot, either by the CDFA or by another approved laboratory. Each year several hundred such seed lots are tested in our greenhouses by growing out a sample of at least 400 seeds from each lot. In some years this testing has revealed that 10% or more of the seed lots offered for importation were infected with the causal bacteria, Xanthomonas malvacearum.

Contaminated seeds give rise to seedlings whose cotyledons show water-soaked spots within two or three weeks after germination (Fig. 1). Primary infections on the leaves appear as small angular water-soaked spots limited by the small veins (Fig. 2). These lesions later turn dark brown and may coalesce to form large necrotic blotches, and the leaves often appear malformed. The petioles and young stems may develop black elongate lesions which eventually girdle the stem and produce the "black arm" symptom.

Although it has appeared in some sprinkler-irrigated fields in the San Joaquin and Imperial Valley some years ago, angular leaf spot is not currently known to occur in California cotton plantings.

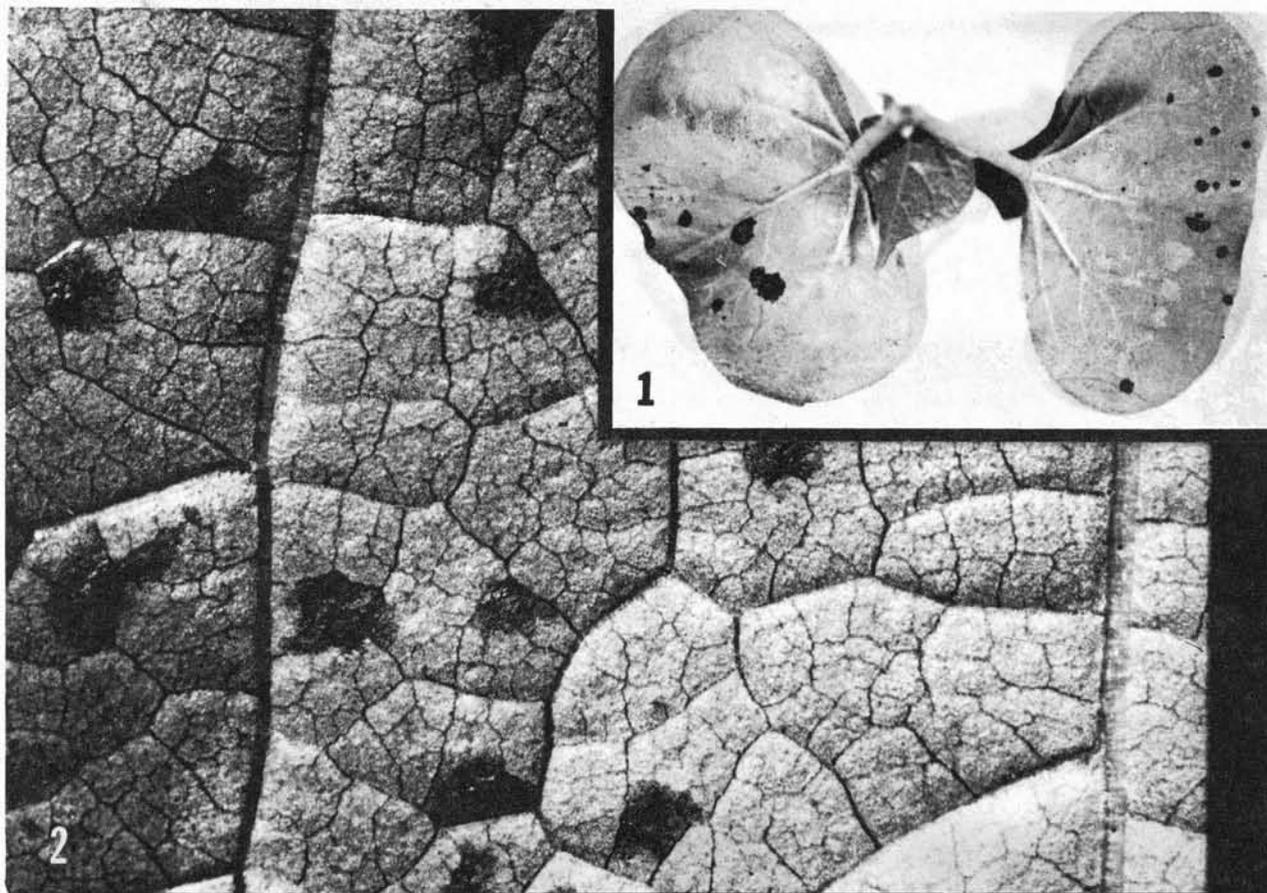


Fig. 1. Early cotyledon infection caused by Xanthomonas malvacearum on cotton seedlings. Fig. 2. Water-soaked angular lesions on young leaves.

Carl M. Lai is a Plant Pathologist with the Analysis and Identification Unit, CDFA, in Sacramento.

Renaud Fortuner

The computer program NEMAID to help with identification of nematodes has been developed at California Department of Food and Agriculture. It was succinctly described in March 1983 in California Plant Pest and Disease Report 2(2):45-48. A detailed article about NEMAID is to be published soon in Revue de Nématologie.

NEMAID calculates a coefficient of similarity between a nematode to be identified and all the species in a particular genus. The species the most similar to the nematode are listed. For the moment only the genus Helicotylenchus (with Rotylenchoides as a synonym) is available. Other genera will be added in the near future.

NEMAID is "user friendly" and can be used by personnel without computer experience. It has been designed to be acceptable by all scientists, regardless of their individual taxonomic philosophy: lumpers or splitters, cladists, pheneticists or tenants of evolutionary classification.

NEMAID is deposited at ITT-DIALCOM in Maryland. It is accessible by phone via many public data networks: TELENET, TYMNET, DATAPAC, IPSS, etc. Only a terminal and a modem are needed to access the program.

This project is sponsored by the Society of Nematologists that will bill the users. There is no monthly minimum. U.S. domestic users are charged by ITT-DIALCOM \$16.5/hr. (prime time, 8 a.m. to 6 p.m., E.S.T.) or \$12.5/hr (non-prime). Non domestic users are charged \$15/hr at all time. To cover the cost of storage of NEMAID at ITT-DIALCOM, the Society of Nematologists adds a surcharge of \$6/hr to all users.

Users are requested to make a deposit of \$50 or of an amount equal to the expected monthly usage. If it is impossible to make a deposit, payment is required as soon as possible after receipt of the bill. A deposit is compulsory for private organizations and individuals.

(Please type or print)

NAME: _____
ADDRESS: _____
PHONE: _____

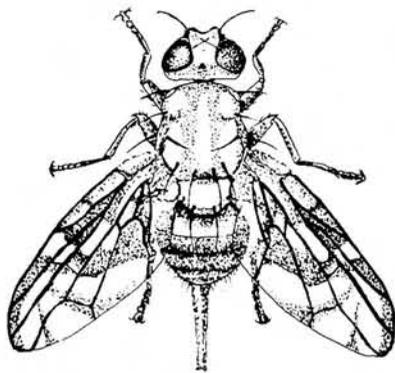
RETURN TO
Dr. R. Fortuner
Analysis and Identification
CA Dept. Food & Agric.
1220 N Street
Sacramento, CA 95814 USA

Please open a User ID for me at ITT-DIALCOM to use the program NEMAID. I agree to pay the fee charged by ITT-DIALCOM and the storage fee added by SON.

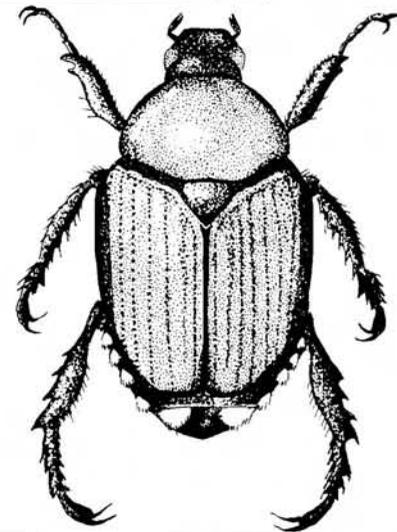
I enclose a deposit for \$_____, payable to Society of Nematologists.

I cannot send a deposit, but I will pay the monthly bills upon receipt.

SIGNATURE: _____ DATE: _____



Entomology Highlights



Peach fruit fly, Dacus zonatus -(A)- Discovery of this fruit fly in California was made just as the last issue of this publication was going to press. Since then, one other male fly was trapped. The following information supplied by John Pozzi is an update for both finds:

"A new species of fruit fly, Dacus zonatus, has been trapped in California. The discovery was made on 3/16/84, $\frac{1}{4}$ mile south of Los Angeles International Airport, El Segundo, Los Angeles County. State Systematic Entomologist Karen Corwin made the initial identification of the fresh male specimen. However, because the identification keys available to Karen were questionable, final determination was delayed until USDA Systematic Entomologist D.E. Hardy, Hyattsville, confirmed her identification.

County Trapper Matt Kehr made the discovery while servicing a Jackson trap, which was baited with "combo-lure" (cuelure + methyl eugenol) and placed in an orange tree.

Los Angeles County personnel are increasing Jackson trap densities baited with "combo-lure" in the immediate one square mile around the find to 25 per square mile, and five traps per square mile surrounding the location.

A second male Dacus zonatus (peach fruit fly) was trapped on 3/29/84 in El Segundo near Los Angeles International Airport. Los Angeles County Trapper Matt Kehr made the discovery while servicing a Jackson trap bait with "combo-lure" placed in an orange tree along Bungalow Drive. The find site is within $\frac{1}{4}$ mile of the first peach fruit fly trapped on 3/16/84.

State Systematic Entomologist Karen Corwin determined that latest peach fruit fly was a very fresh, sexually immature male.

According to information provided by Analysis and Identification, Division of Plant Industry, this is the first time that peach fruit fly has been found in the Western Hemisphere. It is ranked with the melon fly and oriental fruit fly as one of the three most damaging fruit flies in India. Hosts include apple, citrus, cucumber, Eugenia spp., fig, guava, loquat, mango, orange, peach, pear, and tomato."

No more finds have been made so far. However, in response to the two finds, Department of Food and Agriculture and Los Angeles County Department of Agriculture personnel initiated an intensive trapping program in the surrounding 25 square

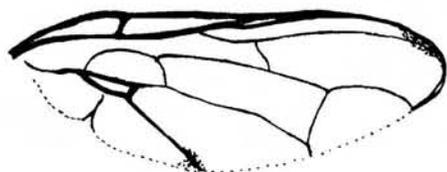
mile area. By using the peach fruit fly detections as the epicenter, State and County personnel have increased the trap density in the first square mile around each find to 50. Ten traps were distributed in each of the square miles adjoining the epicenter, and five Jackson traps per square mile were placed throughout the remaining area.

Eradication treatments using the male annihilation technique began on April 4, 1984. A methyl eugenol and naled mixture will be applied as bait stations in a nine square mile area around the finds. However, since most of the treatment area includes the Pacific Ocean, oil refineries and Los Angeles International Airport, only about two square miles need to be treated.

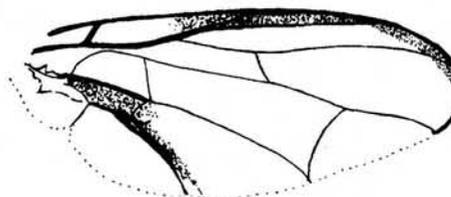
A female peach fruit fly can lay as many as 564 eggs in a lifetime. She reaches sexual maturity in 10 to 14 days and may mate several times. Usually, the eggs are laid just under the host fruit's skin, in groups of 2 to 9. The eggs hatch in 2 to 4 days, and the maggots feed on the fruit's pulp. Maggots remain in the fruit for 4 to 16 days and usually pupate in the soil. Pupation lasts 4 to 16 days in summer, and up to 46 days in winter. Under optimum conditions, an entire peach fruit fly life cycle can range from 13 to 27 days.

In the last issue, some tentative descriptive information was given regarding the identification of this fly. These data cannot really be improved much. The information given in the last issue is repeated here:

The new fruit fly is very similar to oriental fruit fly (Dacus dorsalis) in appearance, although lighter brown in color. A comparison of the wing patterns of zonatus and dorsalis is supplied below.



D. zonatus wing



D. dorsalis wing

Cotton boll weevil, Anthonomus grandis -(A)- Adult weevils are still being trapped in the desert areas of southeastern California. The following report is a trapping update by Tom Palmer and a summary of the eradication program conditions:

<u>MONTH</u>	<u>IMPERIAL COUNTY</u>	<u>RIVERSIDE COUNTY</u>
October	2,825	3,187
November	1,066	3,427
December	173	446
January	166	395
February	165	169

Trap Captures in the Mexicali Valley, B.C., Mexico

January 1984	110 traps;	1,282 weevils trapped
February 1984	110 traps;	1,088 weevils trapped

Trap Captures in Parker, Arizona

January 1984	28 traps;	6,677 weevils trapped
February 1984	28 traps;	1,898 weevils trapped

Current Program Conditions

The trapping program, as can be deduced from the update data, is progressing smoothly. Weevil trap captures are declining steadily, probably because of the warm, dry conditions. Outside of the irrigated areas the desert is much drier than at this time last year. Trap captures over the past two weeks have gone down to near zero level in all areas except right along the border of Mexico. The areas near San Luis, Mexico, Yuma, Arizona and Winterhaven, California still capture quite a few weevils.

A recent trip by Claude Finnell, Imperial County Agricultural Commissioner, his deputy Miguel Monroy, and Tom Palmer revealed that Mexico has now completed 90% of the cotton plowdown in the Mexicali Valley. The activity associated with the plowdown is probably contributing to the high weevil trap captures in the area. In areas where plowdown was completed as scheduled, in January, the counts have already declined.

Mexican fruit fly, Anastrepha ludens -(A)- three specimens were collected in the Los Angeles treatment area in March. Collections were made on March 2, 7 and 10 from traps by Azhar, Sundkuist and Parker.

Gypsy moth, Lymantria dispar -(A)- caged egg masses in San Diego and the Bay Area continued to hatch through the last part of April. Treatment programs are continuing in infested areas.

A number of important pests have been found in greenhouses and nurseries around the state during this period. It is hoped that they recently slipped through quarantine and have not spread from the hosts they entered on. They are all undergoing eradivative measures:

A soil mealybug Rhizoecus americanus -(Q)- on Syngonium roots in a U.C. greenhouse at El Centro, Imperial County. Found by Bob Flock on January 30.

Green shield scale Pulvinaria psidii -(A)- Found in two nurseries: Lodi, San Joaquin County, January 23 on Ficus benjamina by Art Moretto and Fallbrook, San Diego County, February 3 on Ficus benjamina by Steve Desserich.

Magnolia white scale, Pseudaulacaspis cockerelli -(A)- Found in two nurseries: Lodi, San Joaquin County, January 12 on Sansevieria by Art Moretto and Downey, Los Angeles County, January 19 on areca palm by Darlene Sulentic.

Coconut scale, Aspidiotus destructor -(A)- found in South San Francisco, San Mateo County, February 8, on areca palm by Bill Davis.

EUCARAZZIA ELEGANS (FERRARI), AN APHID NEW TO NORTH AMERICA
(HOMOPTERA: APHIDIDAE)

Tokuwo Kono* and Eldon Reeves**

A field collection of an aphid new to North America was made by B. Ballen and M. Grunnet. They collected the aphid at a farm in Mecca, Riverside County, California, on bell peppers, on March 30, 1984 (84D2-12). Dr. Manya Stoetzel, USDA-ARS, identified the aphid as Eucarazzia elegans (Ferrari).

According to Eastop and Hille Ris Lambers (1976), the list of synonyms for this aphid is: Rhopalosiphum elegans Ferrari, 1872; Eucarazzia picta Del Guercio, 1921; Rhopalosiphoninus salviae Hall, 1926; Anuraphis (Clavisiphon) elegans Del Guercio, 1930; Rhopalosiphoninus chicotei Gomez-Menor, 1950.

According to Hille Ris Lambers (1953), the geographical distribution of Eucarazzia elegans is around the Mediterranean (Italy, Spain, Morocco, Asia Minor, and Egypt); its host plants are various members of the family Labiatae such as, Salvia, Mentha, Coleus, and Lavendula on which it is found on the underside of leaves, shoots, or inflorescences; and very little is known of the biology. Dr. Stoetzel's records show that this aphid has been collected also in India.

As of May 18, 1984, California collections have been made in the counties of Imperial (84E16-14), Orange (84E7-5), Riverside (84D2-12), San Bernardino (84D23-5), San Diego (84C26-14 , Nursery), and Santa Barbara (84D23-33).

The commercial host plants recorded at CDFA are basil, bell pepper, mint, rosemary, sage, thyme, and watermelon. Other plants on record are: Amaranthus retroflexus, Catharanthus roseus, Erigeron canadensis, eucalyptus, fan palm, fuchsia, Lactuca serriola, lantana, Ligustrum sp., Malva sp., Nepeta lataria, petunia, Pittosporum tobira variegata, Ribes nevadense, Sonchus sp., and sunflower.

Reeves has observed it on the following crop plants: beans, cabbage, sweet corn, grapes, orange, and tomato.

To this date, only early instar nymphs and alate viviparous females have been collected in California. Reeves noticed a very dramatic drop in population of E. elegans in Riverside County by April 20. This was followed by a similar crash in the Riverside area by May 2. However, by May 11, populations were observed to be re-building on commercial plantings of mint in the Coachella Valley.

On May 4 alates and nymphs were collected from Sierra currants, Ribes nevadense, growing along running streams at the 4,000 to 5,000 foot elevation in the San Jacinto mountains north of Idyllwild. E. elegans was feeding on the underside of the leaves on these blooming plants.

Early instar nymphs were collected on basil, Catharanthus roseus, fuchsia, Malva sp., mint, Ribes nevadense, rosemary, sage, and watermelon.

* Systematic Entomologist, California Department of Food and Agriculture, Sacramento.

** Entomologist, Riverside County Agricultural Commissioner's Office.

References

Del Guercio, G. 1921. Specie nuove e nuovi generi per l'Afidofauna italiana. Redia 14:107-136; Pl. III.

Eastop, V.E. and Hille Ris Lambers, D. 1976. Survey of the World's Aphids. Dr. W. Junk b.v., Publishers, The Hague, 573 pp.

Hille Ris Lambers, D. 1953. Contributions to a monograph of the aphididae of Europe. V. The genera Rhopalosiphoninus Baker, 1920; Eucarazzia Del Guercio, 1921; Rhopalomyzus Mordv., 1921; Chaetosiphon Mordv., 1914; Cryptomyzus Oestl., 1922; Pleotrichophorus Börner, 1930; Capitophorus v.d. Goot, 1913. Teminckia 9:1-176; pls, I-VI; Text figs. 1-10.

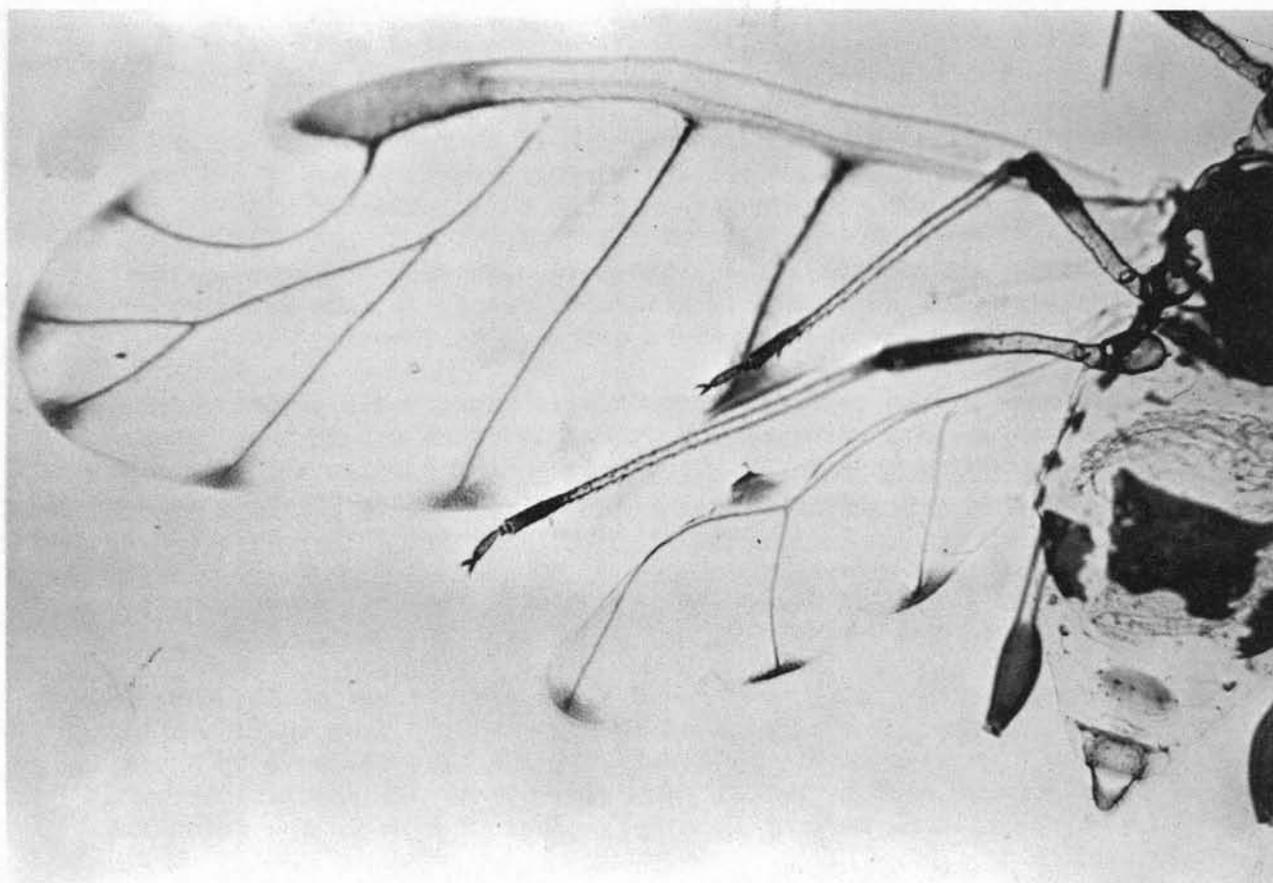


Fig. 1. Eucarazzia elegans alate viviparous female.

NEW COUNTY RECORDS

Bonell's planthopper, Caliscelis bonellii -(C)- specimens of this unusual fulgoroid planthopper (Homoptera: Issidae) were collected in Sacramento, Sacramento County by Randall Plant on October 2, 1983 for a new county record. It is previously known only from Sonoma County where it was first collected from several localities in 1965.

Randy Plant, the collector of the Sacramento specimens, swept them from grasses along the American River. Randy is an employee of Orchard Supply Company, a local pest control firm in Sacramento. He collects insects as a hobby and had submitted the specimens to the laboratory for identification. Randy says that the hoppers wave the modified (leaf-like) front legs in such a manner that they closely resemble small, black jumping spiders that are common in the same area.

The species is a native of Europe. It is apparently a grass feeder because most of the specimens have been collected from them, although laboratory tests have shown that the hoppers will feed on broadleaf plants in the Compositae. There is nothing in the literature that indicates that it causes economic injury.

Males are black with short, tan or yellow wings. The wings also have a black and white oblique band. Females are light brown. The illustration (Fig. 1) of the hopper which is provided here is taken from a paper by Lois O'Brien on the Sonoma County collections in Pan-Pacific Entomologist, 1967: Vol. 43(2): 130-133. The middle and hind legs are not included in the illustration.

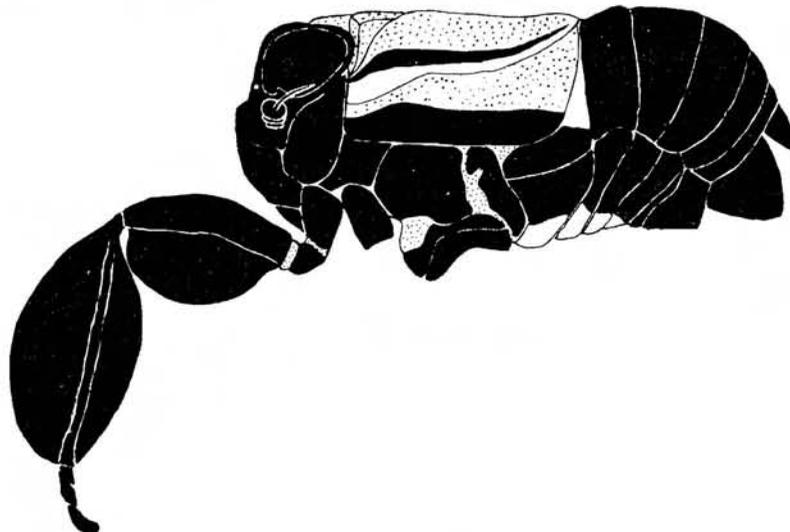


Fig. 1. Lateral view of Caliscelis bonellii (Latreille), male. Stippling indicates yellow coloration; black, black or ferruginous; white, white.

Texas citrus mite, Eutetranychus banksi -(B)- specimens collected at Mecca, Riverside County constitute a new county record and the only other known record for California outside of Bard, Imperial County. The Riverside specimens were collected from citrus by J. Bercinas of the University of California on April 6, 1984.

A eucalyptus psyllid, Ctenarytaina sp. -(Q)- This undescribed psyllid has been collected from Huntington Beach, Orange County on February 16 by Duane Park. This is the only California locality outside of San Diego. It is the second undescribed psyllid on eucalyptus that has apparently been a recent introduction into California. The host was the Brisbane boxtree, Tristania conferta, a eucalyptus relative.

Fuchsia mite, Aculops fuchsiae -(B)- This serious fuchsia pest was collected by C. Radford and B. Oliver for the first time in Monterey County at Pacific Grove on January 11.

Miscellaneous Finds of Significance

A Report on Tyrophagus similis Volgin, a Mite Pest of Seedlings in California

Dr. V.E. Burton, University of California Extension Entomologist, collected mites in a tomato seed at Knights Landing, California, on March 8, 1984. He submitted the mites for identification with the following remarks: "Planted seed. Damaged seed appears chewed. These mites abundant in seed."

The mite was identified as Tyrophagus similis Volgin (Acari: Acaridae) by T. Kono of CDFA (84C13-9).

According to Johnston and Bruce (1965), Tyrophagus similis Volgin is the proper name for this mite, which we had been identifying as Tyrophagus dimidiatus (Hermann) according to Hughes (1961). In California, Tyrophagus dimidiatus was commonly known as the spinach crown mite.

According to Hughes (1976), "T. similis is found on grassland, in soil and on plants such as Phlox, spinach, mushrooms, etc. It has also been recorded from old hay, chaff, in an eider duck nest and a nest of Bombus ionellus."

A sample of California collections in the CDFA file is as follows: Barley root: 65B15-25, Ramona, San Diego Co., February 10, 1965, W. McCans. Barley sacks: 64B26-14, Corcoran, Kings Co., February 14, 1964, H. Robinson. Broccoli: 68A18-3, Betteravia, Santa Barbara Co., January 17, 1968, J. Betz. Cauliflower: 66I8-8, Santa Maria, Santa Barbara Co., July 6, 1966, R.P. Allen. Celery: 71L20-9, Irvine, Orange Co., December 15, 1971, Hall. Fragaria sp.: 65C22-15, Garden Grove, Orange Co., March 17, 1965, W. Wyatt. Tomato: 84C13-9, Knights Landing, Yolo Co., March 8, 1984, V.E. Burton.

CDFA records show that most of the collections were made in February and March, indicating that this mite is a cool, wet weather problem.

As with other members of genus Tyrophagus, the shape of the aedeagus is an important taxonomic character. A few of the morphological characters that are common to both males and females are the short dorsal setae (d₁ and d₂), and the lateral seta (1a) (Fig. 1); solenidion omega₁ of leg I slightly enlarged at the tip (Fig. 3); and the slender supracoxal seta with long setules (Fig. 4).

References

- Hughes, A.M. 1961. The Mites of Stored Food. Minist. Agric. Lond. Tech. Bull. 9:1-287.
- Hughes, A.M. 1976. The Mites of Stored Food and Houses. Minist. Agric. Lond. Tech. Bull. 9:1-400.
- Johnston, D.E. and Bruce, W.A. 1965. Tyrophagus neiswanderi, a new acarid mite of agricultural importance. Ohio Agric. Res. Dev. Center Res. Bull. 977:1-17.

Scanning Electron Micrographs of Tyrophagus similis Female

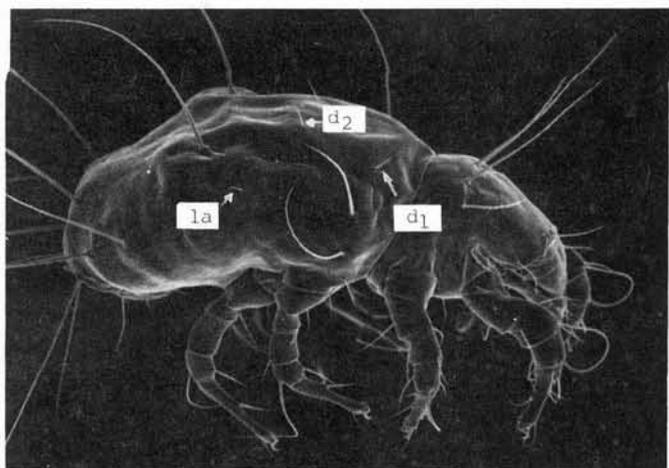


Fig. 1. Tyrophagus similis female.

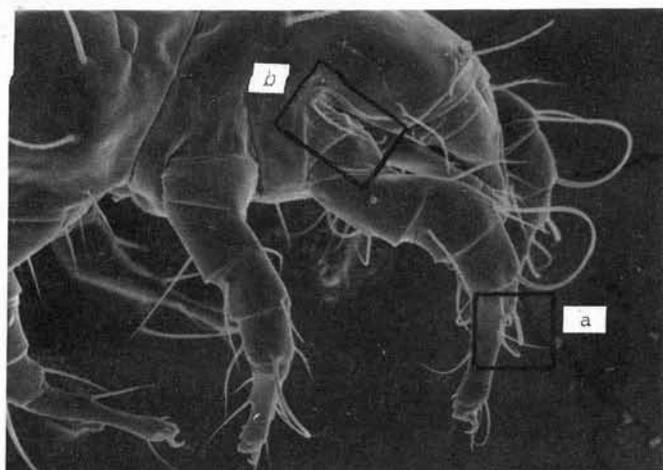


Fig. 2. Enlargement of Fig. 1 showing anterior end.

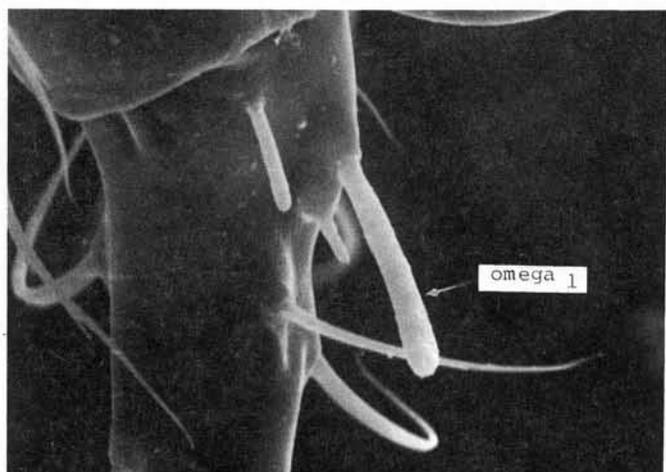


Fig. 3. Enlargement of Fig. 2a showing omega₁ of leg I.

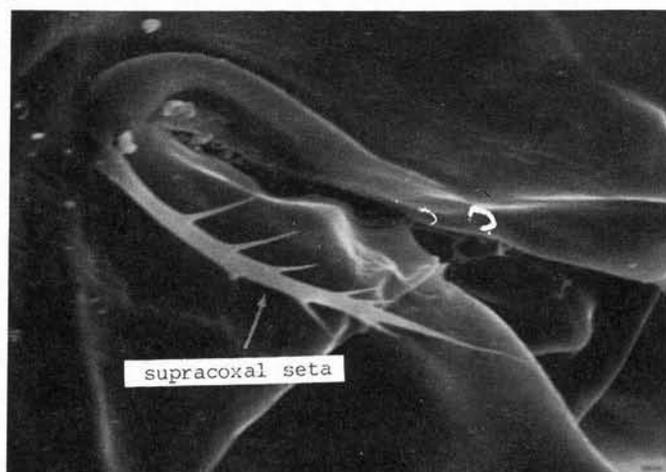


Fig. 4. Enlargement of Fig. 2b showing supracoxal seta.

Carrot rust fly, Psila rosae -(B)- Richard Spadoni found this fly damaging carrots in Eureka, Humboldt County on February 9.

Quarantine and Exclusion

Gypsy Moth, Lymantria dispar -(A)- Nineteen Collections of gypsy moth immature stages have been made between December and April. Some collections during December and January have already been listed in the last issue of CPPDR. All interceptions were from the New England States. Collectors were Sokolsky, Snyder, Foster, Otsuji, Wyatt, Brownfield, Gilmar, Robertson, Juten, Bergman and Perry, DeHoop, Janssen, Rasmussen, Sixtus, Anderson, Cruzar, Park and Danker.

Tent caterpillars, Malacosoma sp. -(Q)- larvae and pupae of these destructive moths are usually found on household and patio goods during routine gypsy moth surveys. Six collections were made between January and April by Jensen, Hillis, Karl, Donahue, DeHoop and Dirks.

Correspondence should be addressed to the appropriate member of the editorial staff of the California Plant Pest and Disease Report (C.P.P.D.R.):

*Entomology Editor
Assistant
Plant Pathology Editor
Botany & Seed Editor
Nematology Editor
Layout Editor
Typesetter
Photographer*

*Ray Gill
Susan Kaiser
Alex French
Douglas Barbe
Renaud Fortuner
Jeanenne White
DeeAnn Chrzanowski
David Hiquera*

*Analysis and Identification Unit
Department of Food and Agriculture
1220 N Street, Room 340
Sacramento, CA 95814*

The following A, B and Q pests have been intercepted in Quarantine between December and April

Rating	Species	Common Name	Date	Origin	County	Host	Collector
Q	<u>Siphanta acuta</u>	Torpedo bug	3-9	N. Zeal	LA	Flax	Hansen
			3-9	HI	LA	Flowers	Hansen
			3-20	HI	H	<u>Lycopodium</u>	Spadoni
			1-12	HI	LA	Flowers	McGrath/ Hansen
Q	<u>Crenidorsum sp.</u>	a whitefly	12-21	HI	V	<u>Anthurium</u>	VanEpp
Q	<u>Aleurocerus sp.</u>	a whitefly	1-23	MX	SLO	Palm	Crump
Q	<u>Dialeurodes citri</u>	cloudywinged whitefly	1-18	HI	SM	Tropicals	Buerer
Q	<u>Aleurotrachelus sp.</u>	a whitefly	1-27	MX	SD	Orchids	Kenyon
Q	<u>Aleurodicus dispersus</u>	spiraling whitefly	1-18	HI	LA	Monstera	McGrath
			3-14	HI	LA	<u>Spathiphyllum</u>	Eisenhart
			2-?	HI	LA	Taro	McGrath
Q	<u>Rhizoeus americanus</u>	a soil mealybug	1-17	FL	LA	Palm	Rawald
			1-19	FL	LA	Palm	Sulentich
			1-23	FL	LA	Palm	Eisenhart
			1-23	FL	LA	Palm	Juten
			1-30	FL	LA	Palm	Rawald
			2-13	FL	SD	Palm	Anderson/ Parker
Q	<u>Palmicultor palmarum</u>	palm mealybug	2-21	FL	LA	Palm	Rawald
Q	<u>Pseudococcus lycopodii?</u>	a mealybug	2-24	?	SLO	Coconut	Smithback
			12-19	HI	V	Moss	Mitchell
			2-7	HI	V	Moss	Mitchell
			3-20	HI	H	Moss	Spadoni
B	<u>Dysmicoccus alazon</u>	Alazon mealybug	2-13	S Am.	V	Banana	VanEpp
A	<u>Pulvinaria psidii</u>	green shield scale	12-20	HI	SBO	Ginger	Nash
			1-13	HI	LA	Flowers	McGrath/ Hansen
			1-19	HI	Son	<u>Ficus</u>	Kobayashi
			2-3	HI	STCL	<u>Ficus</u>	Rovarik
			2-9	HI	LA	Flowers	McGrath
			2-10	HI	LA	Flowers	McGrath/Smice
			2-11	HI	LA	Flowers	McGrath
			2-24	HI	LA	Flowers	McGrath
			3-1	HI	SJ	Flowers	Watkins
			3-6	HI	SD	<u>Ficus</u>	Desserich
			3-9	HI	LA	Flowers	Hansen
			3-13	FL	SD	<u>Ficus</u>	Parker
			3-14	HI	LA	<u>Flowers</u>	Eisenhart
			3-22	HI	LA	<u>Ficus</u>	Sulentich
Q	<u>Coccus viridis</u>	Green scale	12-5	HI	LA	<u>Flowers</u>	McGrath/Kellam
			2-1	HI	SD	Flowers	Ginsky
			2-7	HI	V	Flowers	Mitchell

P
S
J
D
S

Rating	Species	Common Name	Date	Origin	County	Host	Collector
A	<u>Killifia acuminata</u>	acuminate scale	3-2	HI	LA	Philodendron	Hansen
A	<u>Ceroplastes rubens</u>	red wax scale	3-15	HI	LA	Monstera	Hansen
Q	<u>Mesolecanium sp.</u>	a soft scale	2-25	HI	LA	Philodendron	Papilli
A	<u>Pseudaulacaspis cockerelli</u>	Magnolia white scale	2-23	MX	SD	Bromeliad	Kenyon
			1-18	HI	SM	Tropicals	Buerer
			2-6	HI	V	Dracaena	Mitchell
			2-8	HI	STB	Dracaena	Wurster
			2-8	HI	LA	Palm	McGrath
			2-25	HI	LA	Palm	Papilli
			2-29	HI	LA	Palm	Sulentich
			2-29	HI	LA	Oriental Vegetable	McGrath
			3-1	HI	V	Ti	VanEpp
			3-2	HI	V	Plumeria	Mitchell
			3-22	HI	LA	Piper	Hansen
			4-20	HI	V	Flowers	VanEpp
A	<u>Pinnaaspis strachani</u>	lesser snow scale	12-21	HI	V	Flowers	VanEpp
Q	<u>Pinnaaspis buxi</u>	boxwood scale	3-1	HI	LA	Cordyline	McGrath
			12-7	HI	V	Ti	VanEpp
			4-19	HI	V	Ti	VanEpp
A	<u>Aspidiotus destructor</u>	coconut scale	2-8	HI	SD	Palm	Nielsen
Q	<u>Aonidiella Fnornata</u>	Inornate scale	12-7	HI	V	Palm	VanEpp
A	<u>Abgrallaspis palmae</u>	tropical palm scale	2-22	P.R.	SD	Bromeliad	Boch
Q	<u>Aspidiotus excisus</u>	aglaonema scale	4-?	C.R.	STB	Aglaonema	Karl
Q	<u>Diaspis sp.</u>	an armored scale	3-14	MX	SD	Bromeliad	Kenyon
Q	<u>Hemiberlesia ocellata</u>	an armored scale	2-27	S. Am.	V	Banana	VanEpp
A	<u>Howardia biclavata</u>	mining scale	2-28	FL	SBO	Ficus	Nash
A	<u>Ischnaspis longirostris</u>	black thread scale	1-18	HI	SM	Tropicals	Buerer
Q	<u>Paratrechina fulva</u>	an ant	1-27	FL	LA	Ficus	Calicchia
			2-21	FL	LA	Dracaena	Calicchia
			3-6	FL	LA	Ficus	Juten
			3-6	FL	LA	Dracaena	Calicchia
			3-22	FL	LA	Palm	Sulentich/Rawald
Q	<u>Pheidole megacephala</u>	bigheaded ant	3-22	FL	LA	Schefflera	Sulentich
			12-2	HI	SJ	Flowers	Watkins
			12-21	HI	V	Heliconia	VanEpp
			1-13	HI	V	Flowers	VanEpp
			3-14	HI	LA	Ginger	Eisenhart
			3-14	HI	LA	Flowers	Adams
			3-14	FL	LA	Tropicals	Eisenhart
Q	<u>Ochetomyrmex auropunctatus</u>	little fire ant	3-14	Japan	SJ	Wood	Hamon/Burns
Q	<u>Crematogaster matsuroai</u>	an ant	3-6	HI	V	Flax	Hixson
Q	<u>Anoplolepis longipes</u>	an ant	3-16	HI	LA	Ficus	Calicchia
Q	<u>Camponotus abdominalis</u>	a carpenter ant	1-27	FL	LA	Ginger	Ginsky
Q	<u>Technomyrmex albipes</u>	an ant	2-1	HI	SD	Ginger	Karl
Q	<u>Diastrophus radicum</u>	raspberry root gall wasp	3-8	Iowa	STB	Raspberry	Karl

C.P.P.D.R.
May 1984

Rating	Species	Common Name	Date	Origin	County	Host	Collector
Q	<u>Scolytus scolytus</u>	a bark beetle	2-29	?	Ala	Wood	Brown
Q	<u>Xyloborus sp.</u>	a bark beetle	12-6	?	SD	Pine	Banzhoe
Q	<u>Oxydema sp.</u>	a weevil	12-7	HI	SJ	Flowers	Daveluy
Q	<u>Oiketicus kirbyi</u>	a psychid moth	12-17	HI	LA	Sugarcane	Papilli
Q	<u>Achaea janata</u>	a noctuid moth	12-5	FL	LA	Casurina	McGrath/Kellam
Q	<u>Actias luna</u>	luna moth	2-27	HI	SD	Croton	Desserich
Q	<u>Plutella sp.</u>	a plutellid moth	3-?	?	Ki	Housegoods	Felleke
Q	<u>Chrysodeixis chalates</u>	green garden looper	3-2	Japan	Yo	Rice	Marion
A	<u>Anastrepha obliqua?</u>	a fruit fly	12-22	HI	B	Aspidistra	Surjan
B	<u>Bradybaena similaris</u>	a snail	2-25	S. Am.	V	Mango	Lott
			1-20	FL	MY	Hedera	Lyons
			2-28	FL	SBO	Ficus	Nash
			2-29	HI	SF	Herbs	Rios
B	<u>Lamellaxis gracilis</u>	a snail	12-6	FL	SJ	Spathyphyllum	Croce
The following insects and molluscs are "A" or "Q" rated pests intercepted in quarantine which were not immediately identifiable to species because of life stage, condition or lack of comprehensive taxonomic studies of the groups.							
Q	Pseudococcidae	mealybugs	12-6	NEB	LA	Dogwood	Connelly
Q	Coccidae	soft scales	3-8	HI	LA	Flowers	Hansen
Q	Tortricidae	a moth	3-16	Okinawa	YU	Aircraft	Storm
Q	Cosmopterygidae	a moth	1-12	FL	SD	Dracaena	Anderson
Q	Noctuidae	a moth	2-29	HI	SF	Herbs	Rios
			3-1	VA	YU	Table	Roush
			3-22	HI	STB	Ti	Pritchard
			1-25	NY	SBO	Sawhorse	Lopez-Plant
			3-1	NJ	SLO	Pool Equip.	Stultz
			3-5	FL	SD	Box	Bertrand
			3-15	NY	LA	Table	Eisenhart
			2-24	MA	Ala	Bicycle	Garibaldi
			2-24	?	Ala	Wood	Brown
			2-17	Mid.W	Tuo	Butternut	Anzar
Q	Scolytidae	a bark beetle					
A	<u>Rhagoletis suavis</u>	walnut husk maggot					

BORDER STATION INTERCEPTIONS
(January 22 - May 1)

PECAN WEEVIL	(<u>Curculio caryae</u>)	-A-	29
A WEEVIL	(Curculionidae)	-A-	5
HICKORY SHUCKWORM	(<u>Cydia caryana</u>)	-A-	37
SWEET POTATO WEEVIL	(<u>Cylas formicarius</u>)	-A-	1
SUGARCANE BORER	(<u>Diatraea</u> sp.)	-Q-	1
A WEEVIL	(Prob. Rhyncophorinae)	-Q-	1
GYPSY MOTH	(<u>Lymantria dispar</u>)	-A-	34
TEA SCALE	(<u>Fiorinia theae</u>)	-A-	1
PURPLE SCALE	(<u>Lepidosaphes beckii</u>)	-B-	20
PINK BOLLWORM	(<u>Pectinophora gossypiella</u>)	-A-	4
CALIFORNIA RED SCALE	(<u>Aonidiella aurantii</u>)	-B-	6
A PHYCITINE MOTH	(Pyralidae)	-Q-	1
AN ARMORED SCALE	(very near: <u>Nuculaspis apachea</u>)	-Q-	1
A DUPLEX SCALE	(<u>Pseudaonidia</u> sp. prob. <u>duplex</u>)	-Q-	1
WALNUT HUSK MAGGOT	(<u>Rhagoletis</u> sp. poss. <u>suavis</u>)	-A-	2
AN ANT	(<u>Paratrechina fulva</u>)	-Q-	3
CHAFF SCALE	(<u>Parlatoria pergandii</u>)	-B-	14
A PYRALID MOTH	(<u>Dioryctia</u> ? sp.)	-Q-	1
A TENT CATERPILLAR	(<u>Malacosoma</u> sp.)	-Q-	15
FIRE ANT	(<u>Solenopsis invicta</u>)	-A-	1
GLOVER SCALE	(<u>Lepidosaphes gloverii</u>)	-B-	9
AN ARMORED SCALE	(<u>Pinnaspis</u> sp. or <u>Unaspis</u> sp.)	-Q-	1
EASTERN TENT CATERPILLAR	(<u>Malacosoma americanum</u>)	-Q-	7
ORIENTAL SCALE	(<u>Aonidiella orientalis</u>)	-Q-	5
AN ANT	(<u>Crematogaster</u> sp.)	-Q-	1
COCONUT SCALE	(<u>Aspidiotus destructor</u>)	-A-	1
A WOOLLY BEAR	(Arctiidae)	-Q-	8
LITTLE FIRE ANT	(<u>Ochetomyrmex auropunctata</u>)	-Q-	2
A BAGWORM	(Psychidae)	-Q-	2
AN OWLET MOTH	(Noctuidae)	-Q-	4
A LASIOCAMPID MOTH	(near <u>Malacosoma</u> sp.)	-Q-	1
AN ANT	(<u>Paratrechina</u> sp.)	-Q-	1
FLORIDA WAX SCALE	(prob. <u>Ceroplastes floridensis</u>)	-A-	1
A GRASS SCALE	(<u>Odonaspis litorosa</u>)	-Q-	1
ARGUS TORTOISE BEETLE	(<u>Chelymorpha cassidea</u>)	-B-	1
JAPANESE BEETLE	(<u>Popillia japonica</u>)	-A-	1
APPLE MAGGOT	(<u>Rhagoletis pomonella</u>)	-A-	1
HOLLY LEAFMINER	(<u>Phytomyza ilicis</u>)	-B-	2
A WEEVIL	(<u>Sphenophorus venatus vestitus</u>)	-B-	1
ACUMINATE SCALE	(<u>Kilifia acuminata</u>)	-A-	1
CLOUDYWINGED WHITEFLY	(<u>Dialeurodes citrifolii</u>)	-A-	1
BEAN LEAF BEETLE	(<u>Cerotoma trifurcata</u>)	-Q-	1
A SCARAB BEETLE	(<u>Anomala</u> sp. prob. <u>undulata</u>)	-Q-	1
LESSER SNOW SCALE	(<u>Pinnaspis strachani</u>)	-A-	1
A SOFT SCALE (nymph)	(Coccidae)	-Q-	1
A SNAIL	(<u>Subulina octona</u>)	-B-	1
A TIGER MOTH	(Arctiidae)	-Q-	1
COLORADO POTATO BEETLE	(<u>Leptinotarsa decemlineata</u>)	-A-	1

AN ARMORED SCALE	(<u>Pseudaonidia trilobitiformis</u>)	-Q-	1
A TEPHRITID FLY	(<u>Anastrepha sp. poss. obliqua</u>)	-A-	1
SATIN MOTH	(<u>Stilpnota salicis</u>)	-B-	1
ASIATIC GARDEN BEETLE	(<u>Maladera castanea</u>)	-Q-	1
CITRUS SNOW SCALE	(<u>Unaspis citri</u>)	-Q-	1
WOOLLY WHITEFLY	(<u>Aleurothrixus floccosus</u>)	-A-	1
A SCARAB BEETLE	(<u>Anomala sp.</u>)	-Q-	1

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	2-29-84	3-4-84	3-5-84	3-11-84	3-11-84	3-11-84
LOCATION	Manteca	Manteca	Roberts Island	Manteca	Bellota	Roberts Island
TEMPERATURE						
ALFALFA LOOPER <i>Autographa californica</i>		2			4	2
ARMYWORM <i>Pseudaletia unipuncta</i>	3	1		4	4	1
BEET ARMYWORM <i>Spodoptera exigua</i>						
BLACK CUTWORM <i>Agrotis ipsilon</i>	1	1	2	4		
CABBAGE LOOPER <i>Trichoplusia ni</i>						
CLOVER CUTWORM <i>Scotogramma trifolii</i>				1	1	
CODLING MOTH <i>Laspeyresia pomonella</i>						
CORN EARWORM, (ETC.) <i>Heliothis zea</i>						
FALSE CELERY LEAFTIER <i>Udea profundalis</i>						
GRANULATE CUTWORM <i>Feltia subterranea</i>						
GRAPE LEAFFOLDER <i>Desmia funeralis</i>						
NAVEL ORANGEWORM <i>Amyelois transitella</i>						
OMNIVOROUS LEAFROLLER <i>Platynota stultana</i>						
PEACH TWIG BORER <i>Anarsia lineatella</i>						
ROUGH SKINNED CUTWORM <i>Proxenus mindara</i>			1			
SALTMARSH CATERPILLAR <i>Estigmene acrea</i>						
SPOTTED CUTWORM <i>Amathes c-nigrum</i>						
SUGARBEEB WEBWORM <i>Loxostege sticticalis</i>						
TOBACCO BUDWORM <i>Heliothis virescens</i>						
VARIEGATED CUTWORM <i>Peridroma saucia</i>		1		1		
W. YELLOWSTRIPED ARMYWORM <i>Spodoptera praefica</i>						
				1		

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	3-18-84	3-19-84	3-25-84	3-25-84	4-1-84	4-1-84
LOCATION	Bellota	Roberts Island	Bellota	Manteca	Bellota	Manteca
TEMPERATURE						
ALFALFA LOOPER <i>Autographa californica</i>		4				1
ARMYWORM <i>Pseudaletia unipuncta</i>	7	4	9	17	5	7
BEEF ARMYWORM <i>Spodoptera exigua</i>						
BLACK CUTWORM <i>Agrotis ipsilon</i>			6	6	4	4
CABBAGE LOOPER <i>Trichoplusia ni</i>						
CLOVER CUTWORM <i>Scotogramma trifolii</i>			1			
GODLING MOTH <i>Laspeyresia pomonella</i>						
CORN EARWORM, (ETC.) <i>Heliothis zea</i>						
FALSE CELERY LEAF-TIER <i>Udea profundalis</i>			4			1
GRANULATE CUTWORM <i>Feltia subterranea</i>						
GRAPE LEAF-FOLDER <i>Desmia funealis</i>						
NAVEL ORANGEWORM <i>Amyelois transitella</i>						
OMNIVOROUS LEAF-ROLLER <i>Platynota stultana</i>						
PEACH TWIG BORER <i>Anarsia lineatella</i>						
ROUGH SKINNED CUTWORM <i>Proxenus mindara</i>						
SALT MARSH CATERPILLAR <i>Estigmene acrea</i>						
SPOTTED CUTWORM <i>Amathes c-nigrum</i>					6	
SUGARBEEF WEBWORM <i>Loxostege sticticalis</i>						
TOBACCO BUDWORM <i>Heliothis virescens</i>						
VARIABLE CUTWORM <i>Peridroma saucia</i>	1			1		1
W. YELLOW STRIPED ARMYWORM <i>Spodoptera praefica</i>						
				7		

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	4-1-84	4-9-84	4-12-84	4-15-84	4-16-84	4-19-84
LOCATION	Roberts Island	Bellota	Manteca	Bellota	Roberts Island	Manteca
TEMPERATURE						
ALFALFA LOOPER <i>Autographa californica</i>						
ARMYWORM <i>Pseudaletia unipuncta</i>	37	11	11	40	7	6
BEEET ARMYWORM <i>Spodoptera exigua</i>					1	
BLACK CUTWORM <i>Agrotis ipsilon</i>	12	4		7		3
CABBAGE LOOPER <i>Trichoplusia ni</i>						
CLOVER CUTWORM <i>Scotogramma trifolii</i>						
CODLING MOTH <i>Laspeyresia pomonella</i>				1		
CORN EARWORM, (ETC.) <i>Heliothis zea</i>						
FALSE CELERY LEAFTEER <i>Udea profundalis</i>	2	1				
GRANULATE CUTWORM <i>Feltia subterranea</i>						
GRAPE LEAFFOLDER <i>Desmia funeralis</i>						
NAVEL ORANGEWORM <i>Amyeloidis transitella</i>						
OMNIVOROUS LEAFROLLER <i>Platynota stultana</i>			1			
PEACH TWIG BORER <i>Anarsia lineatella</i>						
ROUGH SKINNED CUTWORM <i>Proxenus mindara</i>						
SALTMARSH CATERPILLAR <i>Estigmene acrea</i>						
SPOTTED CUTWORM <i>Amathes c-nigrum</i>		18	3	18		2
SUGARBEET WEBWORM <i>Loxostege sticticalis</i>						
TOBACCO BUDWORM <i>Heliothis virescens</i>						
VARIEGATED CUTWORM <i>Peridroma saucia</i>	5	3		9	1	
W. YELLOWSTRIPED ARMYWORM <i>Spodoptera praefica</i>						

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	4-22-84	4-23-84	4-29-84	4-29-84	5-2-84	
LOCATION	Bellota	Roberts Island	Bellota	Roberts Island	Manteca	
TEMPERATURE						
ALFALFA LOOPER <i>Autographa californica</i>					1	
ARMYWORM <i>Pseudaletia unipuncta</i>	133	29	104	43	10	
BEET ARMYWORM <i>Spodoptera exigua</i>				1		
BLACK CUTWORM <i>Agrotis ipsilon</i>	15	1	7	2	4	
CABBAGE LOOPER <i>Trichoplusia ni</i>						
CLOVER CUTWORM <i>Scotogramma trifolii</i>	2		3			
CODLING MOTH <i>Laspeyresia pomonella</i>						
CORN EARWORM, (ETC.) <i>Heliothis zea</i>						
FALSE CELERY LEAFTIER <i>Udea profundalis</i>	1	7				
GRANULATE CUTWORM <i>Feltia subterranea</i>					1	
GRAPE LEAFTOLDER <i>Desmia funeralis</i>					1	
NAVEL ORANGEWORM <i>Amyelois transitella</i>					1	
OMNIVOROUS LEAFTOLLER <i>Platynota stultana</i>						
PEACH TWIG BOKER <i>Anarsia lineatella</i>					12	
ROUGH SKINNED CUTWORM <i>Proxenus mindara</i>	4	6		1		
SALTMARSH CATERPILLAR <i>Estigmene acrea</i>						
SPOTTED CUTWORM <i>Amathes c-nigrum</i>	76	1	45	6	4	
SUGARBEET WEBWORM <i>Loxostege sticticalis</i>	1	1				
TOBACCO BUDWORM <i>Heliothis virescens</i>						
VARIEGATED CUTWORM <i>Peridroma saucia</i>	4	1	6	2		
W. YELLOWSTRIPED ARMYWORM <i>Spodoptera praefica</i>			1	1		