



# CALIFORNIA PLANT PEST and DISEASE REPORT

Vol. 5

Number 6

November-December  
1986

**IMPORTANT NOTICE!**

Volume Number Changes....	296
Chestnut Blight Identification Guide.....	278
ANNOUNCEMENT: Seventh Annual California Plant Disease Conference.....	284
Entomology Highlights.....	285
New County Records.....	290
Border Station Interceptions.....	295

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



**CHESTNUT BLIGHT DISEASE (Endothia parasitica) IN CALIFORNIA**

See Laboratory Identification Guide on page 278.

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  
Plant Pathology Editor  
Layout Consultant  
Typesetter

Ray Gill  
James Smith  
Jeanenne White  
Tessie Humilde

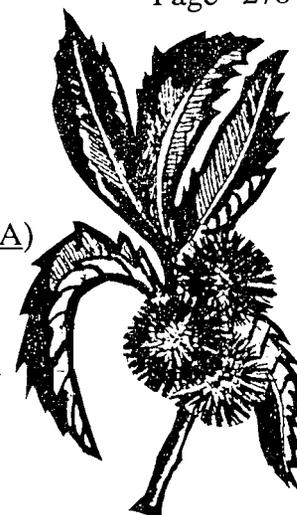
California Plant Pest and Disease Report Vol. 5, No. 6:277-296 was issued on April 1987.

California Plant Pest and Disease Report is in the public domain and may be freely reproduced with customary crediting of the source.

LABORATORY IDENTIFICATION GUIDE  
FOR  
CHESTNUT BLIGHT (ENDOTHIA PARASITICA)

By

Dr. D.C. Opgenorth, J.B. White & R. Pietersen



### 1. Introduction

The recommended time to survey for chestnut blight is during the moist part of the year from December through April. The moisture allows cankers to become active and produce mature pycnidia with long yellow cirri. This natural sporulation facilitates identification of the disease. New canker development has also been reported as early as September. These cankers result from incipient infections which occur in spring but are not noticeable until late summer due to dry conditions.

Chestnut blight incited by Endothia parasitica is rated as an "A" pest in the California Consolidated Pest Rating Booklet. The disease is of regulatory significance and appropriate action will be taken when the disease is found. Such action may be necessary to protect a fledgling chestnut industry and valuable stands of native oak which may also be susceptible.

### 2. Field Symptomatology

The most common symptoms of chestnut blight in California are cankers on trunks of trees. On trees of moderate diameter (less than 1 foot) with smooth bark, cankers are usually darker than healthy wood, slightly depressed in the center with raised margins, and have deep cracks or discolored fissures (Fig. 1). Close observation may reveal orange pustules or fruiting bodies of the fungus on the surface of the canker (Fig. 2). Cutting into the canker should expose a distinct margin of healthy wood and a cream to tan or brown mycelial mat (Fig. 3). As the cut surface rapidly oxidizes, the mycelial mat will darken. On older trees with thick rough bark, discolored sunken or fissured cankers may not be evident. In this case, observation of loose bark or wounded areas may be indicative of canker activity. When these conditions are not obvious, orange pustules may still be found deeply situated in the natural bark fissures of older trees as seen in cross section (Fig. 4).

In the eastern United States, the most common symptom of chestnut blight is blackening of leaves when young twigs have been girdled by the fungal cankers. The typical flagging of shoots has not been noticed in California. The pathogen is also known to produce typical cankers on live oak (Quercus virginiana) and may grow as a saprophyte with orange pustules on members of the genera Acer, Carya and Rhus.

### 3. Collection of Samples

- a. The trunk of each suspect tree should be closely inspected for obvious cankers and loose bark. Special effort should be made to find orange pustules on the smooth bark surface or in deep bark fissures on old trees.
- b. When taking a sample, first sterilize a broad chisel (1 1/2 inches) using an alcohol spray (70 - 90%) or Lysol.

- c. Using a heavy mallet, cut a diamond, pentagonal or hexagonal area which includes some of the orange pustules.
- d. When all cuts down to the cambium have been made, pry out the free piece of bark to expose the characteristic mycelial mats below (Fig. 5).
- e. If typical mycelial mats are not observed, a re-sample should be taken.
- f. Place the sample in a plastic bag with a small paper label inside and a waterproof label on the outside of the bag. The label should identify the specific tree and site. Sample bags should be closed with a twist tie or loosely knotted to preserve sample integrity and avoid mixing or confusion between samples.
- g. Bagged samples exhibiting orange pustules and mycelial mats should be transported to the laboratory in a cooler.

\* A sample consisting of numerous bark chips is not acceptable.

#### 4. Laboratory Preparation of Samples

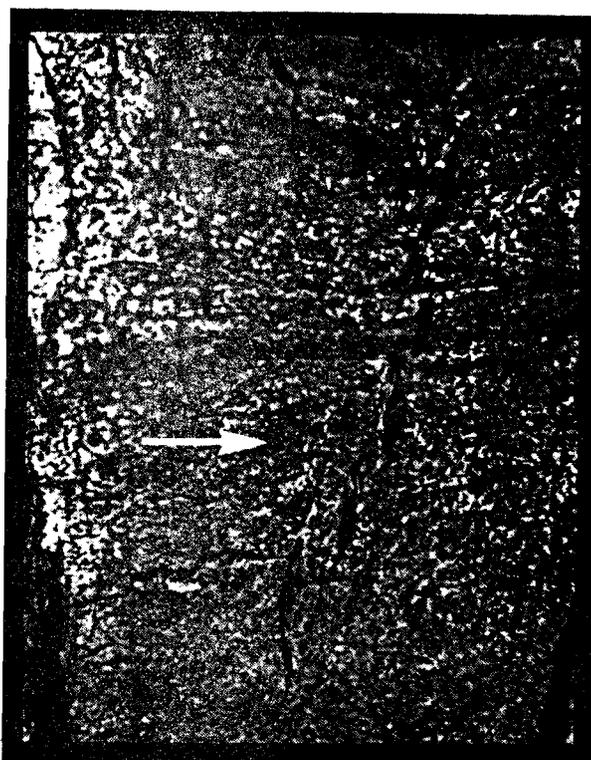
- a. Upon arrival at the laboratory, samples should be examined to determine that all sample bags are intact and closed.
- b. Samples should be organized by collection numbers and logged into the laboratory record.
- c. Samples can then be taken to the laboratory and individually opened. Notation regarding sample quality, presence of orange pustules and mycelial mats should be made.
- d. Cultures of the fungus should be made by transferring portions of the orange fruiting bodies or pieces of the mycelial mat to acidified potato dextrose agar. When using mycelial mats, dig deeply to first expose new areas and then select a small portion for culture with a sterile needle.
- e. A yellow to deep orange culture should appear in three to four days along with numerous contaminants. The least contaminated cultures usually originate from orange pustules.
- f. The characteristic colonies should then be transferred to acidified potato dextrose agar to obtain pure cultures. In all cases, the cultures should be grown under light (diurnal or continuous) at room temperature.
- g. Characteristic deep orange colonies should develop in seven to ten days (Fig. 6).
- h. The fungus should sporulate under these conditions forming very small oblong pycnospores (1.3 x 3.6 $\mu$ ) with rounded ends.
- i. A positive diagnosis is made when characteristic spores are identified from cultures which originate from symptomatic host material.
- j. In some cases the colony growth may be light orange, yellow or even white; however, pycnospores may not be produced. Such colony types have not as yet been reported from California and may constitute hyperparasitic strains of the pathogen (1).

**LITERATURE CITED**

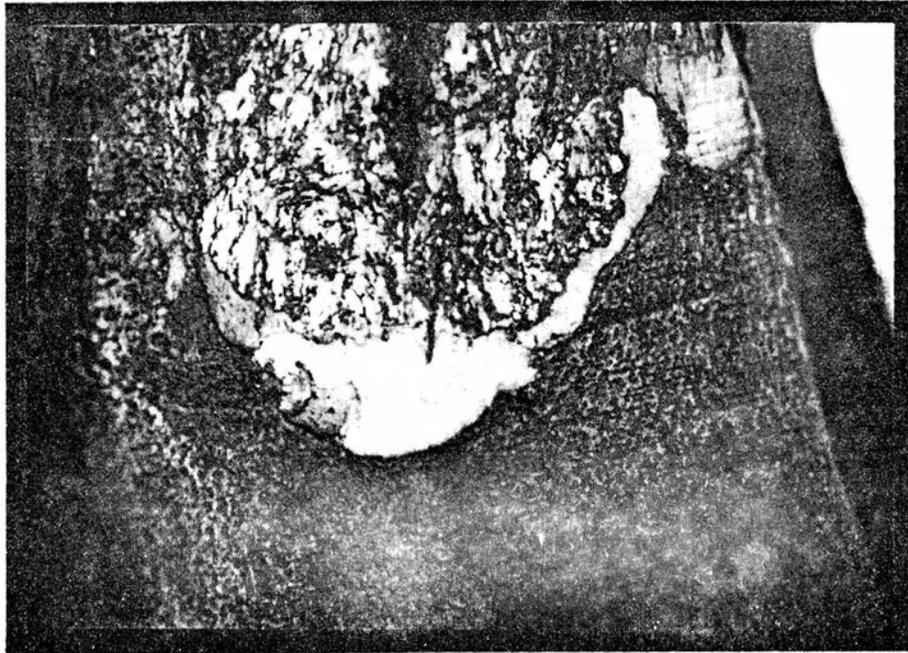
- ANAGNOSTAKIS, S.L. 1978. American Experience with Hypovirulence in Endothia parasitica. Proceedings of the American Chestnut Symposium. pp. 37-39.
- BATSON, W.E. and W. Witcher. 1968. Live Oak Cankers Caused by Endothia parasitica. Phytopathology. 58:1473-1475.
- GRAVATT, G.F. and L.S. Gill. 1930. Chestnut Blight. USDA Farmers Bulletin #1641.
- HEPTING, G. 1971. Diseases of Forest and Shade Trees. USDA Forest Service Handbook #386.
- WALKER, J.C. 1953. Plant Pathology. pp. 340-343.



(Fig. 1) Chestnut blight cankers on young trees with smooth bark. Cankers are usually darker than healthy wood, slightly depressed in the center with raised margins and having deep cracks or discolored fissures.



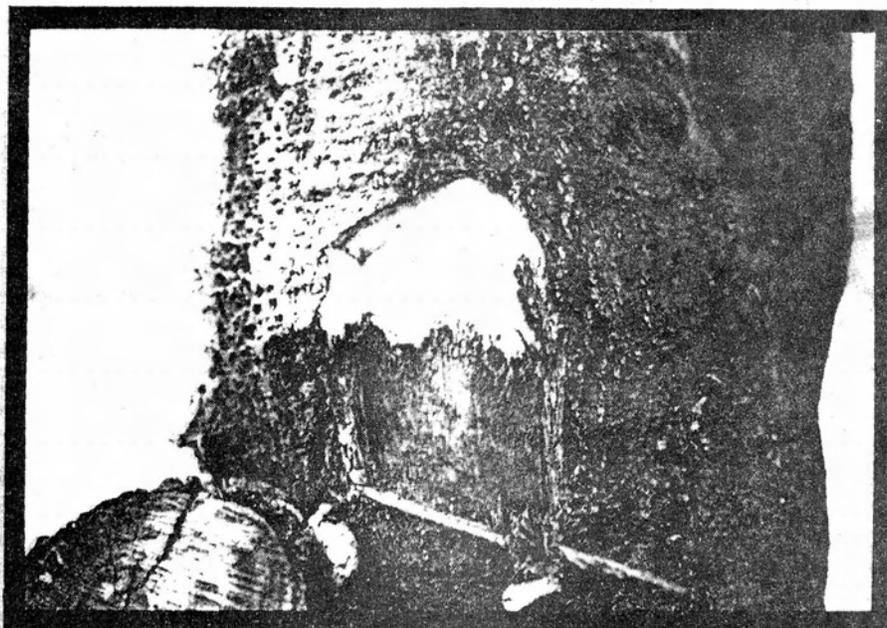
(Fig. 2) Close observation of the canker may reveal orange pustules or fruiting bodies of Endothia parasitica on the surface of the canker.



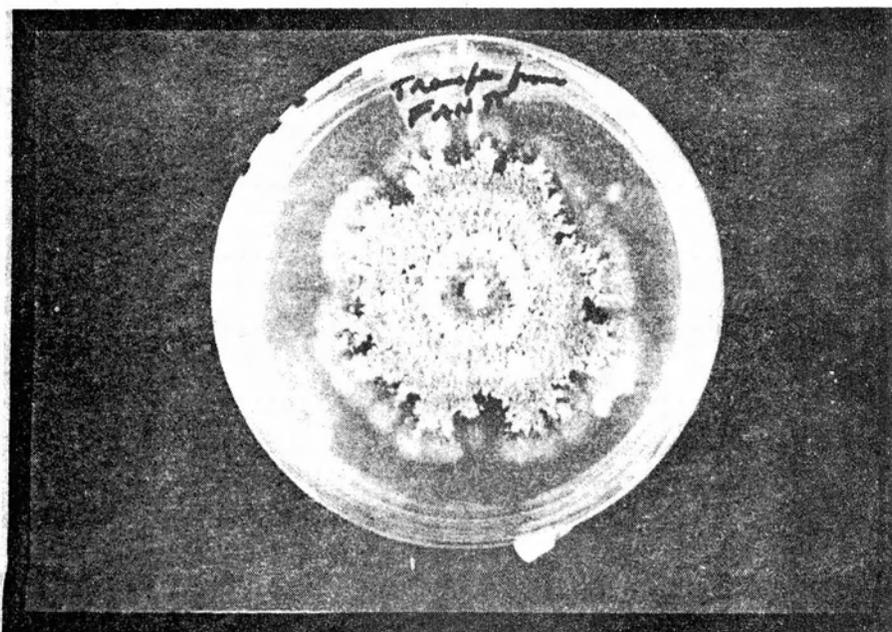
(Fig. 3) Cutting into the canker should expose a distinct margin of healthy wood and a cream to tan or brown mycelial mat.



(Fig. 4) When cankers are not obvious, orange pustules may still be found deeply situated in the natural bark fissures of older trees.



(Fig. 5) A sample was taken from this tree by cutting down to the cambium with a sterile chisel and prying out the free piece of bark. This should expose the characteristic mycelial mat.



(Fig. 6) The characteristic growth pattern and deep orange color of Endothia parasitica in culture.

**SEVENTH ANNUAL - CALIFORNIA PLANT DISEASE CONFERENCE**

SEED PATHOLOGY: BIOTECHNOLOGY, CERTIFICATION AND PLANT QUARANTINE

**Cal-Poly, San Luis Obispo  
August 13-14, 1987**

Speakers: Dr. Norman Schaad, University of Idaho  
Dr. Richard Gabrielson, Washington State University  
Dr. Zhang Zhihong, People's Republic of China  
Dr. Hasson Bolkan, Campbell Soup Company  
Mr. Dan Rosenberg, CDFa  
Mr. David Supkoff, CDFa  
Dr. Chester Sutula, Agdia Inc.

\*\*\*\*\*

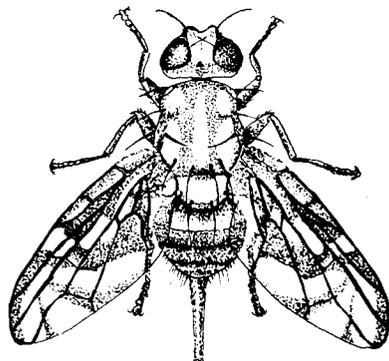
**SEED PATHOLOGY WORKSHOP**

TOPICS: ELISA, ISOZYME ANALYSIS, GENE PROBES, BEAN AND TOMATO ASSAYS

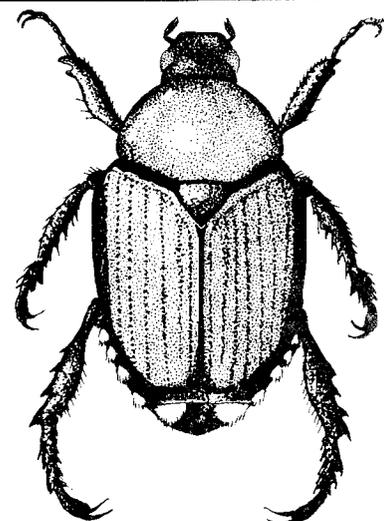
**Cal-Poly, San Luis Obispo  
August 11-14, 1987**

For additional information, please contact:

Dr. T. Matsumoto, CDFa, (916) 445-4521  
Dr. D. Opgenorth, CDFa, (916) 445-4521  
Dr. M. Yoshimura, Cal-Poly, (805) 548-2466



## Entomology Highlights



**MEDITERRANEAN FRUIT FLY, *Ceratitis capitata* -(A)-** A second Medfly find of 1986 has been made, this time in Los Angeles. An earlier find in August was made in San Diego. The following report by John Pozzi outlines the most recent find:

"Los Angeles County trapper Matt Kehr found a male Mediterranean fruit fly (Medfly) in a Jackson/trimedlure trap on December 4, 1986, in Los Angeles. The trap was placed in an orange tree along South Corinth Avenue.

Jackson/trimedlure trap density in the area was five traps per square mile and the Los Angeles County Department of Agriculture is increasing the trap density to protocol levels for new Medfly trap finds.

California Department of Food and Agriculture Insect Biosystematist Eric Fisher determined that the Medfly was a very fresh specimen and was sexually mature."

The following report by Don Henry outlines the steps taken in response to the find.

"A single newly emerged but sexually mature male Medfly was found on December 4, in the City of Los Angeles. The specimen was caught in a trimedlure baited Jackson trap placed in an orange tree at a residence located near the junction of Interstate 405 and Olypmic Blvd.

Los Angeles County detection trappers with assistance from supervisory personnel from the Agricultural Commissioner's office and on-site state staff began deployment of delineation traps on December 5. Participating PD/EP employees included Entomologists David Asakawa and Terry Lorick, APCS Roger Faulkner, and seasonals Ann Marie Gendreau, John Hart, and Rose Marie Sanchez. A total of 933 Jackson and 20 McPhail traps were needed to bring trap numbers to protocol levels over 81 square miles. The last 97 traps needed to complete the required density were placed on December 6. A total of 1,314 Jackson and 304 McPhail traps are being monitored in the 9 X 9 square mile grid. No additional flies were found during trap servicings conducted from December 5 to 12. Beginning December 15 traps will be visited weekly; four new county trappers have been

hired and trained to handle the 1,000 additional traps.

Larval searches were conducted on 16 properties in a 12 square block area surrounding the adult find site on December 8, 10, and 12. USDA PPQ officer Joe Sposato coordinated survey efforts with assistance from Entomologist Terry Lorick. Lemon, orange, grapefruit, crab apple, and avocado growing on accessible high hazard sites were examined. No immatures or suspect larval damage were found."

**MEXICAN FRUIT FLY, Anastrepha ludens -(A)-** Since the last issue of CPPDR, six more Mexican fruit flies have been trapped in San Diego County, all near the two earlier finds at San Ysidro and Otay Mesa. The following data outlines the finds: San Diego, October 30, lemon, Munoz-collector; San Diego, October 31, orange, Dearie-collector; National City, November 3, orange, Coyne-collector; Bonita, November 15, navel orange, Johnson-collector; Chula Vista, November 19, orange, Gardner-collector; National City, December 1, orange, Rumsey-collector.

The proliferation of these wild fly finds raised concern that an infestation might occur in either southern San Diego County or in Tijuana. In response to these fears the Mexican Fruit Fly Science Advisory panel met in San Diego on November 13-14 to gather information and make recommendations regarding the multiple finds of wild flies made in the county during the past five weeks. Panel members in attendance were Derrell Chambers, William Hart, Tim Holler, Gil Shaw, and Jim West. November 13 activities included inspection of the San Diego County find sites, an overview of the sterile release program, tour of the Tijuana area, and an afternoon session to discuss options and formulate recommendations. Recommendations were discussed, modified, and committed to writing the following morning. A public meeting was held at 1:30 in San Ysidro to discuss the panel's findings with interested community members. PD/EP personnel participating in the meetings and/ or discussion included Branch Chief Don Henry, Program Supervisor Dell Clark, Area Manager Bill Routhier, and Entomologists Brian Taylor and Dick Penrose.

As of November 21 an estimated 1,200 additional McPhail traps had been distributed over 104 square miles of urban area in the southwestern portion of the county in response to the six previous finds. Bait treatments of Nulure and Malathion to 32 properties adjacent to fly finds have been terminated after two treatments. This action was taken since the Science Advisory panel did not feel that available information was sufficient to demonstrate that an infestation exists. Although triggers to initiate eradication treatments have been met under currently accepted protocols, the panel felt that these guidelines should be revised to accommodate the unique circumstances created by the Tijuana sterile release program. In an attempt to implement the panel's recommendations the following actions have been proposed: 1) deployment of a uniform grid of 25 McPhail traps per square miles in impacted urban areas extending from the border north to Highway 94; and 2) the implementation of a more conservative definition of the term "infestation" as used to initiate eradication treatments.

**GYPSY MOTH, Lymantria dispar -(A)-** On November 6, collector Rebecca Jones found a viable egg mass and hatchling larvae of this serious tree pest. Rebecca made the collection on an oak tree along Sky Top Road in Encino, Los Angeles County. The find is associated with earlier gypsy moth finds in 1985 and 1986.

**PINK BOLLWORM, Pectinophora gossypiella -(A)-** Cotton harvest and plowdown are now completed in the San Joaquin Valley, as is detection trapping for this pest. The total catch of wild native moths is now complete at 62 for the year. One 60 acre field near Rosedale in Kern County produced 12 natives. It will be closely monitored in the future. The following chart supplied by Len Foote summarizes this years trap catches:

## TRAPPING DATA

<u>County</u>	<u>Natives</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>
Kern	42	1	2	4	1	34
Kings	5	0	0	0	1	4
Tulare	11	0	2	0	1	8
Fresno	3	0	0	0	1	2
Madera	1	0	0	0	0	1
Merced	0	0	0	0	0	0
TOTALS	62	1	4	4	4	49

**COTTON BOLL WEEVIL, Anthonomus grandis -(A)-** The status of this serious pest in southeastern California as of November 28 is outlined in the following report by Don Henry:

BOLL WEEVIL UPDATECalifornia

Low numbers of adults are being captured in the Bard/Winterhaven area of Imperial County. An estimated 80% of the cotton has been plowed down or shredded. No fields were treated this week. Area-wide weevil populations have been reduced an estimated 98-99% and the number of areas treated this year was only 16.5% of that receiving insecticidal applications in 1985. Dramatic reductions are expected to continue next year because of observance of the December 15 plowdown date by growers in adjacent regions of Arizona. One weevil was captured in the Imperial Valley during the week of November 21. A total of seven weevils have been trapped there this fall. This constitutes a 95% reduction in numbers of Anthonomus caught and is reflected in a similar reduction in numbers of acres treated.

Only one weevil was trapped in the Thermal area of Riverside County. Treatments continued, however, as a previously affected grower was going to begin picking and did not want to risk weevil immigration out of infested fields. At Blythe, weevil catches and treatments are 7% and 9.9% respectively, of those experienced in 1985. With the exception of the two fields treated during the week, most collections were scattered singles, reflecting an immigration pattern. Since no infested fields have been found in Blythe, or the Cibola and Parker Valley areas of Arizona, the above catches probably represent vestiges of the large number of weevils moving into the area from central Arizona.

Three fields were treated in the Needles area of San Bernardino County, the result of catching 17 weevils during the week.

Arizona

Weevil counts still show our biggest problems lie outside of the project area in central Arizona. Considerable pressure is still present from Maricopa County as reflected by trap catches in areas IV, V, and VII and the remote traplines in the desert between Maricopa County and the buffer areas of the east. In contrast are the extremely low numbers present in Parker and Yuma Valley areas. Of special note is the increased plow down activity in the Yuma growing areas where 80 to 90% of the cotton has been shredded or plowed down.

Mexico

In general our problem areas are still largely associated with regrowth and improperly plowed down cotton from 1985. However, all indications are that this year's harvest and crop destruction activities are far ahead of last year's in all areas of Mexico.

**ACARINE MITE, Acarapis woodi** -(A)- The quarantine regulations against this pest on a state level have been dropped. However, several counties are now conducting their own detection identification and abatement programs. The following information outlines the necessity for dropping the quarantine:

"The specific purpose of the Acarine Mite Quarantine was to provide authority for the Department to maintain and enforce a quarantine against acarine mite to prevent its introduction into California and protect California's beekeeping industry.

The factual basis for the determination by the Department that repealing of this regulation is necessary is as follows:

Notice of proposed amendment to Section 2990, Acarine Mite Quarantine, was published on March 21, 1986 and a hearing was held on March 20, 1986. As a result of the hearing record and written comments received, the Department has determined that the State's beekeeping industry no longer supports this regulation. Without industry support in reporting and assisting in control of acarine mite infestations, the quarantine program would not succeed.

California beekeepers are divided over the quarantine with those apiarists concerned with honey production opposed to the regulations and producers of package and queen bees in favor of the quarantine. The California Apiary Board and California State Beekeepers Association have ceased to support the quarantine due to this division in the beekeeping industry. At the hearing, interest was shown in pursuing an acarine mite control program in areas of the State where the mite is not present and queen and package bee producers are located."

During the period of time that the quarantine was in effect, California depopulated a large number of infested apiaries. The following chart produced by the Pest Exclusion Branch summarizes the number of hive depopulations:

<u>Date</u>	<u>County</u>	<u>Colonies</u>
12/03/85	Stanislaus	466
12/04/85	Stanislaus	394
01/18/86	Madera	260
01/20/86	Madera	1,900
01/21/86	Madera	530
01/23/86	Amador	120
01/25/86	Merced	476
01/28/86	Sonoma	344
02/01/86	Colusa	153
02/07/86	Amador	144
02/07/86	Amador	248
02/07/86	Amador	240
02/21/86	Tulare	64
02/21/86	Merced	20
02/21/86	Merced	32
02/23/86	Madera	68
02/23/86	Madera	36
02/23/86	Madera	20
02/25/86	Merced	184
02/26/86	Mendocino	105
02/28/86	Santa Cruz	112
03/11/86	Merced	16
04/02/86	Stanislaus	388
04/17/86	Merced	498
05/08/86	Mariposa	63
TOTAL COLONIES DEPOPULATED		6,881

### OTHER FINDS OF SIGNIFICANCE

**GREEN SHIELD SCALE, Pulvinaria psidii -(A)-** On November 12, San Diego County Biologists J. Kenyon and S. Redding discovered a heavy infestation of this serious ornamental plant pest on a large tree growing outdoors next to a greenhouse in Chula Vista. Plants inside the greenhouse were later found infested as well. Fortunately, the nursery complex involved was fairly isolated from other urban environments and it appears that the scale has not been able to spread out from the original source of infestation. Other facilities of this nursery in other areas were also found to have infested plants. Eradicative measures have been undertaken. The original infested tree has been destroyed. Specimens of this scale have also been found at yet another nursery in San Diego, at Vista on November 24 by Paul Boch.

**NANTUCKET PINE TIP MOTH, Rhyacionia frustrana -(B)-** Reported last issue as being found for the first time in northern California at Sunol, Alameda County; this serious pest of pine trees now appears to be well established there. During this period, nine collections have been made from three different nurseries. Collections were made by Whitaker, Henning, Gould, Owen, Peters and Weston. Eradication measures are underway.

**AUSTRALIAN SOD FLY, Inopus rubiceps -(B)-** Listed as a new Sonoma County record when collections were made at Santa Rosa in early October, this minor pest of turf has now been found in the same county at Petaluma. The collection was made by R. Roach on October 20. The following report on the insect is modified from an article written by H.M. Armitage that appeared in the 1952 [4(2):47-48] issue of the CDA Monthly Bulletin. The report outlines its history and economic potential in California.

The Australian sod fly, (Metoponia) rubiceps was first reported in California by Dr. E.L. Kessel, of the University of San Francisco, who found it infesting lawns in Golden Gate Park on November 30, 1948. It had since been under observation by the department. It reappeared annually in increasing numbers in the same general vicinity where first found. However, some outward spread had been recorded in 1951. In October, at the time of its normal fall flight, Dr. H.T. Osborn and R.P. Allen, of the department, recorded spread south on Sunset Boulevard in San Francisco as far as Taraval Street, approximately two miles from Golden Gate Park, and also in the Presidio to the north. It was also found on the grounds of the city and county hospital west of Twin Peaks. It is recorded as a pest of maize in Australia only when planted on newly plowed, previously infested sod land. While larvae are abundant in the sod and areas where found in San Francisco, infestation has as yet shown no visible economic damage. Its lack of serious previous economic history and rather wide distribution when first found here precluded any control measures, except at the local level if found desirable.

The fly now occurs in the following counties listed by date of original find: San Francisco, 1948; San Mateo, 1959; Alameda, 1982; Monterey, 1982 and Sonoma, 1986.

**A WHITEFLY, Paraleyrodes sp. -(Q)-** First found in California in 1985 by Belinda Moss at San Diego (See September 1985 issue of CPPDR: 4(4):111), this whitefly is rapidly expanding its range in that city. San Diego biologists and trappers have submitted 38 samples from October to December from San Diego, Chula Vista, National City, Pt. Loma, East San Diego, Hillcrest, Encanto and La Mesa.

### OTHER FINDS

**FACE FLY, Musca autumnalis -(B)-** This recently introduced pest of livestock and other domestic animals has also been causing some annoyance to humans lately. Complaints of large numbers of these flies hanging around sunny areas and especially the warm sides of building was

apparently a common complaint during this period. Samples have been submitted from Petaluma, Sonoma County and from Concord, Contra Costa County.

During this period, a number of A, Q and B rated pests have been found in commercial nurseries. These finds are assumed to be on the hosts on which they originally entered the state. Eradicative procedures have been undertaken.

**FALSE PARLATORIA SCALE, Pseudoparlatoria parlatorioides** -(A)- Found in the Otay area of San Diego County at a nursery on Dracaena marginata November 24 by Jim Kenyon. Specimens of what are probably this species were found on Tillandsia on December 9 by Redding, Boch and Sims at Carlsbad, San Diego County.

**MAGNOLIA WHITE SCALE, Pseudaulacaspis cockerelli** -(A)- Found at two separate locations during this period. Found on ginger and cut flowers in San Diego on November 16 by Johnson and Ginsky and at Chula Vista, San Diego County on mango plants on August 25 by Jim Kenyon.

**LESSER SNOW SCALE, Pinnaspis strachani** -(A)- Collected at a nursery in Jamul, San Diego County on November 4 on Dracaena marginata by T. Smith.

**ALAZON MEALYBUG, Dysmicoccus alazon** -(B)- Found on banana plants at a nursery in Solvang, Santa Barbara County November 14 by T. Wurster.

**A SHARPSHOOTER, Homalodisca sp.** -(Q)- Eggs of this leafhopper were found on Dracaena marginata at an Otay nursery in San Diego County November 13 by Jim Kenyon.

**GLASSYWINGED SHARPSHOOTER, Homalodisca coagulata** -(Q)- One live adult female of this vector of Pierce's disease and phony peach was found on crepe myrtle nursery stock at Fresno. The collection was made by nursery personnel last summer but was not submitted to the county until November 3. Further survey failed to indicate the presence of more specimens.

#### NEW COUNTY RECORDS

**ASPARAGUS APHID, Brachycolus asparagi** -(A)- This severe pest of commercial asparagus continues to spread throughout the state at a very rapid rate. It has now been found in Solano County on Ryer Island. The collection was made on December 5 by Hogan and Hori. Also, infested asparagus was found at Jenny Lind, Calaveras County on December 9 by Norfolk and Kerstan. The new record for San Joaquin County is at Clements collected on November 14 by R. Mullens.

**ICE PLANT SCALE, Pulvinaria mesembryanthemi** -(C)- This occasionally serious pest of ice plant was found for the first time in Merced County infesting plants on Cal Trans freeway plantings in the City of Merced. The collection was made on November 18 by Aguilar and Peeler.

**EXCLUSION & DETECTION**

**GYPSY MOTH, Lymantria dispar -(A)-** The following chart outlines the quarantine interceptions for the period October 16 to December 30.

County	Origin	Date	Stage	Collector
CC	NY	10/16	E	Ziegler
SOL	CT	10/20	E	Low
S CZ	NH	10/31	E	Morton
SAC	NJ	11/3	L,P	Zukin
0	NJ	11/6	L,P	Goodreau
LA	Portugal	11/7	E	Brown
SD	MA	12/1	E,P	Paredes
LA	CT	12/8	L,P	London
CC	MA	12/11	E	Alavi
LA	RI	12/16	E	London
SAC	MA	12/16	E	Sarracino
SLA	PA	12/19	E	Smithback
LA	NY	12/19	L,P	Cassidy
ST CL	NJ	12/19	E	Cover
LA	RI	12/22	E,L,P	London
ST CL	NY	12/23	E,P	Ashikawa
SD	CT	12/26	L	Paredes
CC	NJ	12/29	E	Zeigler,Alvai
ALA	MD	12/30	E	Jones

**PAPAYA FRUIT FLY, Toxotrypana curvicauda -(A)-** A large number of collections of this fruit fly have been made at the border in papayas bound from Mexico to various locations in California. The following chart outlines the interceptions.

Place	Destination	Date	Collector
Tijuana	Redwood City	10/23	Krogh
Tijuana	Los Angeles	10/22	Sudduth
Escondido	Escondido	10/24	Avery
Fallbrook	Fallbrook	11/21	Parker
Otay Mesa	Los Angeles	11/30	Krogh
Otay Mesa	Los Angeles	12/9	Krogh
Otay Mesa	San Diego	12/23	Krogh

**WEST INDIAN FRUIT FLY, Anastrepha obliqua -(A)-** Many interceptions of what is probably this species have been made from mangos during this period. The following chart outlines these.

County	Origin	Date	Collector
0	Brazil	12/2	Yocum
CC	Haiti	12/10	Koan
LA	Haiti	12/11	Hausen
SM	Haiti	12/11	Buerer
CC	Haiti	12/11	Ziegler
SF	Haiti	12/15	Weeth
SJ	Haiti	12/18	Watkins

The following insects and mollusks have been intercepted in quarantine so many times during this period that it is not practical to account for all of the collections and collectors.

Species	Common Name	Rating	#Interception
Pheidole megacephala	big-headed ant	Q	10
Paratrechina sp.	an ant	Q	4
Pulvinaria psidii	green shield scale	A	8
Pseudaulacaspis cockerelli	magnolia white scale	A	18
Aspidiotus destructor	coconut scale	A	9
Pinnaspis strachani	lesser snow scale	A	12
Coccus viridis	green scale	Q	3
Howardia biclavis	mining scale	A	4
Pseudococcus elisae	elisa mealybug	Q	3
Aleurodicus dispersus	spiraling whitefly	Q	5

### BORDER STATIONS

A few years ago, some of the border stations were closed indefinitely, during certain periods, or sometimes at night. The following excerpt from Dick Brown's report highlights a good reason for discontinuing those practices:

Graveyard Pest - It is lonely and often rather uneventful after midnight on the border. But sometimes pests are found before dawn. Inspector Rich Steen at Meyers intercepted apples from an Indiana auto during the "wee hours" this week. He cut them open and there it was...a little wiggling apple maggot larva. A few years ago Meyers was closed at night. Pests are where and when you find them.

Kudos this issue go to Brian Shurtleff for continued vigilance and a good memory:

Dirty Hay Rejection - PQS Brian Shurtleff (on loan from Needles during Apple Maggot Roving Crew time) rejected a shipment of timothy hay infested with Canada thistle. The driver elected to return to Washington to off-load. The back trailer was reloaded, but the front trailer was untouched because as the driver stated, "It looks clean to me!" As fate would have it, Brian was working graveyard two days later when the same truck arrived again at Dorris. On inspection, Brian found the inspection slips he had hidden among the bales on the front trailer (placed there to identify the rejected load). No slips were found on the rear trailer, but more Canada thistle was found! The driver was issued a second rejection notice, plus a citation for attempting to bring the previously rejected load (front trailer) into California.

The Rest of the Story - A few days later, the shipper called the station to explain and apologize. It seems that the "ex-driver" had been given his first (and last) chance to load his truck without supervision. After specific instructions, to the contrary, he had loaded from the stack which was "NOT for California delivery" because, (yep, you guessed it) it was obviously infested with Canada thistle.

The following "A", "B" and "Q" rated pests have been intercepted in quarantine during the period October to December 1986:

Rating	Species	Common Name	Date	Origin	County	Host	Collector
Q	Chrysodeixis chalcites	green garden looper	12/22	HI	SAC	Tea leaf	Jensen
A	Cydia caryana	hickory shuckworm	12/02	TX	SF	Hazel nuts	Rios
Q	Phobetrion hipparchia	hag moth	11/13	?	F	Bananas	Berg
Q	Phyllonorycter sp.	leaf blotch miner	11/21	UT	R	Apple Tree	Domenigoni
Q	Spodoptera eridania	southern army worm	11/12	FL	O	Schefflera	Robertson
Q	Spodoptera latifascia	an army worm	11/12	FL	O	Schefflera	Robertson
Q	Halysidota tessellaris	pale tussock moth	11/04	MD	SM	Household goods	Buerer
Q	Bucculatrix sp.	a Lyonetid moth	11/03	CT	SAC	Household goods	Zukin
Q	Malacosoma sp.	tent caterpillar	11/03	PA	O	Household goods	Goodreau
Q	Anoplolepis longipes	long-legged ant	12/24	HI	SBO	Flowers	Nash/Cadiente
Q	Tapinoma melanocephalum	black headed ant	12/19	HI	STB	Flowers	Tingos
Q	Tapinoma melanocephalum	black headed ant	10/23	HI	LA	Ginger	Cassidy/Flowers
Q	Solenopsis invicta	red imported fire ant	10/16	TX	SD	Flowers	Stotz/Walsh
Q	Resseliella clavula	dogwood club gall midge	12/04	TN	TUO	dogwood	Anzar
Q	Nezara viridula	southern green stinkbug	12/12	HI	SD		Stotz/Kennedy
Q	Araecerus fasciculatus	coffee bean weevil	12/06	HI	SD	Basil	Stotz
Q	Anomala sp.	a scarab beetle	12/17	Guatem.	R	Avocado	Oesterlein/Brown
B	Bradybaena similaris	a snail	11/12	FL	SD	Schefflera	Desserlich
Q	Vaginulus plebius	a slug	10/14	HI	LA	Flowers	Papilli
B	Bradybaena similaris	a snail	10/22	FL	LA	Ficus	Neblett et al
B	Subulina sp.	a snail	10/22	FL	LA	Ficus	Neblett et al
A	Clavaspis herculeana	herculeana scale	11/12	HI	SD	Plumeria	Ginsky
A	Ceroplastes rubens	red wax scale	11/10	HI	LA	Ginger	Papilli
A	Ceroplastes rubens	red wax scale	12/10	HI	LA	Palm	Simon
Q	Coccus acutissimus	slender soft scale	10/27	HI	YO	Cycad	Souza-Cole
Q	Aonidiella inornata	inornate scale	11/17	HI	SD	Pikake	Kennedy
Q	Aonidiella orientalis	Oriental scale	10/24	S. Amer.	SF	Coconut	Brown
Q	Pinnaaspis buxi	boxwood scale	10/24	HI	STB	Ti	Tingos
Q	Pinnaaspis buxi	boxwood scale	11/26	HI	SD	Ti	Kennedy
Q	Geococcus coffeae	a soil mealybug	11/01	HI	LA	Palm	McClure
Q	Abgrallaspis sp.	an armored scale	11/04	Guatem.	LA	Tillandsia	Kellam
Q	Ceroplastes floridensis	Florida wax scale	11/05	FL	SD	Ficus	Smith
Q	Geococcus coffeae	a soil mealybug	12/17	HI	LA	Palm	Hansen
A	Genaparlatoria pseudaspidiotus	vanda orchid scale	11/24	HI	SD	Seed pod	Ginsky
Q	Unaspis yanonensis	arrowhead scale	12/17	LA	LA	Mandarin Orange	Keller/Pab
Q	Lineaspis callitris?	an armored scale	12/12	Austr.	STCL	Verticordia	Gilmour
B	Ferrisia virgata	striped mealybug	12/15	HI	SAC	Ti	Jensen
Q	Pseudococcus lycopodii	club moss mealybug	11/24	HI	H	Lycopodium	Spadoni
B	Siphanta acuta	torpedo bug	11/20	HI	SJ	Protea	Helmar
Q	Calophya sp.	a psyllid	12/17	Mexico	SLO	Croton	Smithback

The following charts record individual collections of quarantined arthropods and mollusks intercepted during the period:

The following insects and mollusks are "A" or "Q" rated pests intercepted from the period October to December 1986 in quarantine which were not immediately identifiable to species because of life stage condition or lack of comprehensive taxonomic studies of the groups:

<u>Rating</u>	<u>Species</u>	<u>Common Name</u>	<u>Date</u>	<u>County</u>	<u>Host</u>	<u>Collector</u>
Q	Coccidae	a soft scale	12/17	FL	Ficus	Simon
Q	Diaspididae	an armored scale	12/06	Guatemala	Tillandsia	Boch
Q	Pseudococcidae	a mealybug	11/13	HI	Orchid	Delwiche
Q	Cicadellidae	a leafhopper	12/26	HI	Ti	Cadiante
Q	Aphididae	an aphid	11/24	HI	Flowers	Spadoni
Q	Tettigoniidae	a katydid	12/04	HI	Flowers	Raschke
Q	Pentatomidae	a stinkbug	11/14	HI	Flowers	Jensen
Q	Tettigoniidae	a katydid	10/24	HI	Flowers	Brown
Q	Leptopiin curculionidae	a weevil	12/15	N.Z.	Yogurt	Gibbons
Q	Noctuidae	owlet moth	10/17	HI	Schefflera	Miller
Q	Tortricidae	leafroller	11/23	Costa Rica	Dracaena	Kenyon/Redding
Q	Pyralidae	a moth	12/01	HI	Papaya	Koller
Q	Noctuidae	an owlet moth	12/09	HI	Ti	Hamilton
Q	Arctiidae	a woolly bear	12/19	NY	Household Goods	Cassidy
Q	Lepidoptera	a moth	12/23	Japan	Aircraft	Devaney
Q	Tettigoniidae eggs	a katydid	12/08	HI	Bamboo	Musso

**BORDER STATION INTERCEPTIONS**  
(November 1 through December 30, 1986)

			Rating
APPLE MAGGOT	<i>Rhagoletis pomonella</i>	41	A
GYPSY MOTH	<i>Lymantria dispar</i>	40	A
PECAN WEEVIL	<i>Curculio caryae</i>	101	A
HICKORY SHUCKWORM	<i>Cydia caryana</i>	193	A
PINK BOLLWORM	<i>Pectinophora gossypiella</i>	24	A
IMPORTED FIRE ANT	<i>Solenopsis invicta</i>	3	A
BOLL WEEVIL	<i>Anthonomus grandis</i>	8	A
CLOUDYWINGED WHITEFLY	<i>Dialeurodes citrifolii</i>	1	A
EUROPEAN CORN BORER	<i>Ostrinia nubilalis</i>	2	A
WALNUT HUSK MAGGOT	<i>Rhagoletis suavis</i>	6	A
GREEN SHIELD SCALE	<i>Pulvinaria psidii</i>	1	A
COCONUT SCALE	<i>Aspidiotus destructor</i>	2	A
WEST INDIAN FRUIT FLY	<i>Anastrepha nr. obliqua</i>	1	A
SWEET POTATO WEEVIL	<i>Cylas formicarius elegantulus</i>	6	A
EASTERN TENT CATERPILLAR	<i>Malacosoma americanum</i>	6	Q
ORIENTAL SCALE	<i>Aonidiella orientalis</i>	4	Q
SUGARCANE BORER	<i>Diatraea considerata</i>	2	Q
BIGHEADED ANT	<i>Tapinoma melanocephalum</i>	2	Q
RED BANDED LEAFROLLER	<i>Argyrotaenia velutinana</i>	1	Q
LITTLE FIRE ANT	<i>Ochetomyrmex auropunctata</i>	1	Q
ARROWHEAD SCALE	<i>Unaspis yanonensis</i>	1	Q
SOUTHERN GREEN STINKBUG	<i>Nezara viridula</i>	1	Q
WHITE MARKED TUSSOCK MOTH	<i>Orgyia leucostigma</i>	1	Q
WEEVIL	<i>Conotrochelus sp.</i>	1	A
WEEVIL	<i>Curculio sp.</i>	15	A
FRUIT FLY	<i>Anastrepha sp.</i>	1	A
TENT CATERPILLAR	<i>Malacosoma sp.</i>	16	Q
ANT	<i>Paratrechina sp.</i>	2	Q
PHYLLOXERA	<i>Phylloxera sp.</i>	1	Q
LOOPER	<i>Eupithecia sp.</i>	1	Q
ARMYWORM	<i>Spodoptera sp.</i>	1	Q
CASEBEARER MOTH	<i>Coleophora sp.</i>	1	Q
MOTH	<i>Cydia sp.</i>	2	Q
PSYLLID	<i>Pachypsylla sp.</i>	2	Q
SCALE	<i>Parlatoria sp.</i>	1	Q
TUSSOCK MOTH	<i>Orgia sp.</i>	1	Q
LEAFHOPPER	<i>Cicadellinae</i>	1	Q
WOOLY BEAR	<i>Arctiidae</i>	8	Q
TENT CATERPILLAR	<i>Tortricidae</i>	2	Q
LEAFMINER MOTH	<i>Gracillariidae</i>	1	Q
GRAIN MOTH	<i>Pyralidae</i>	3	Q
WEEVIL	<i>Curculionidae</i>	4	Q
BAGWORM	<i>Psychidae</i>	5	Q
OWLET MOTH	<i>Noctuidae</i>	5	Q
GIANT SILK MOTH	<i>Saturniidae</i>	2	Q
MEALYBUG	<i>Pseudococcidae</i>	3	Q
SCALE	<i>Diaspididae (male only)</i>	1	Q
PUPAL CASE	Unknown	1	Q
CALIFORNIA RED SCALE	<i>Aonidiella aurantii</i>	3	B
PURPLE SCALE	<i>Lepidosaphes beckii</i>	6	B
CHAFF SCALE	<i>Parlatoria pergandii</i>	12	B
GLOVER SCALE	<i>Lepidosaphes gloverii</i>	1	B
HOLLY LEAFMINER	<i>Phytomyza ilicis</i>	1	B