CALIFORNIA PLANT PEST and DISEASE REPORT

Volume 2 Number 3

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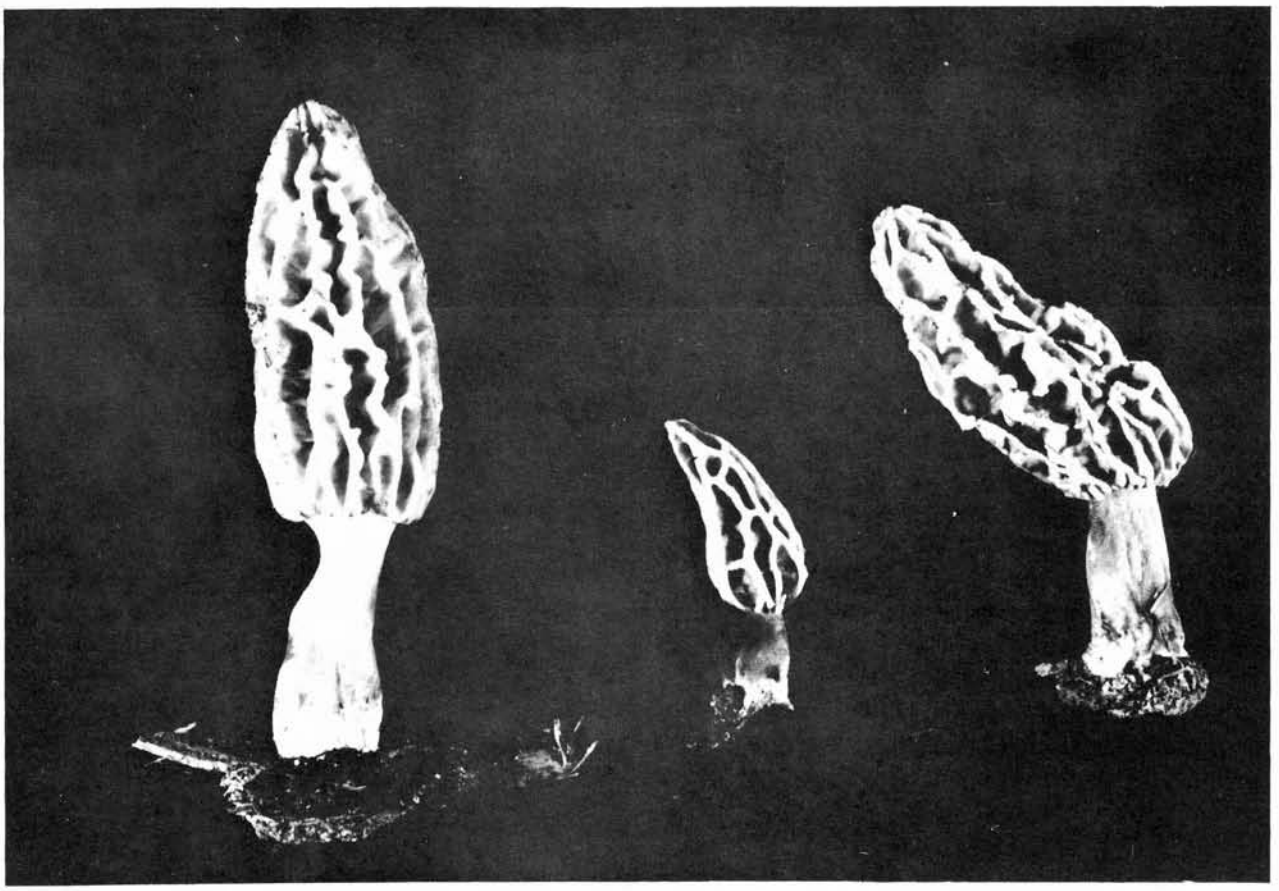
California Department of Food and Agriculture 1220 N Street Sacramento California 95814



Morchella esculenta, a non-pathogenic Ascomycete fungus, found growing in moist redwood bark chips under shade trees during the damp spring weather in Roseville, California. Commonly called "morels," these two to four inch fruiting bodies are considered a gourmet's delight. (Photo by David Higuera)

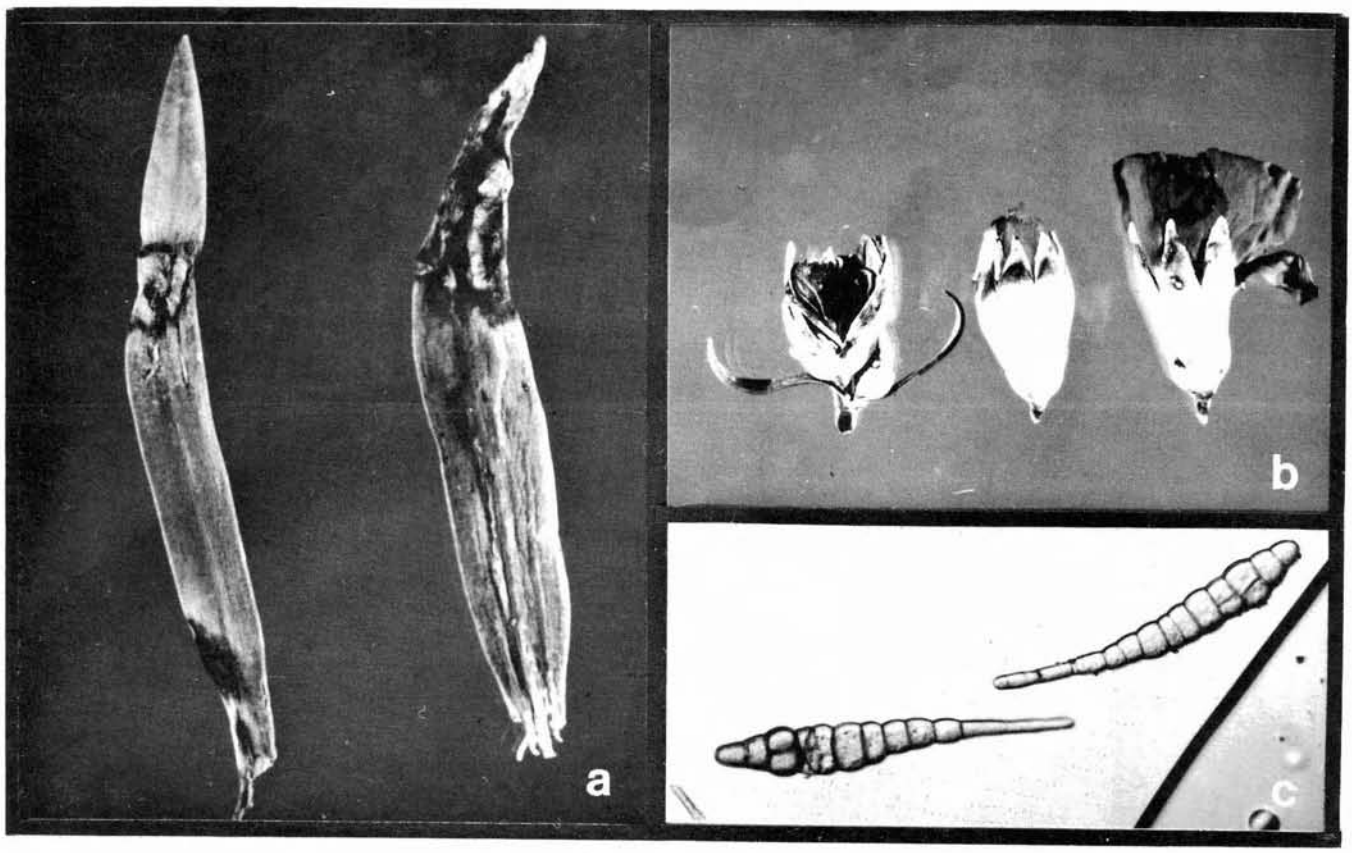
ALTERNARIA BLIGHT ON CARNATION

Dan Y. Rosenberg, T.T. Matsumoto and D.H. Showers

Alternaria blight of carnations is caused by either *Alternaria dianthicola* or *A. saponariae* (= *A. dianthi*). *A. saponariae* has been commonly found in many California counties for many years, but our first CDFA identification of *A. dianthicola* was made in the summer of 1982.

This disease was noted by a San Diego county carnation grower in seedling plants which had been greenhouse grown and then transplanted outdoors under sprinkler irrigation. No evidence of disease was found in plants maintained in the greenhouse.

Symptoms of Alternaria blight appear as oval spots on leaves, flowers, buds



Symptoms and conidia of *Alternaria dianthicola* on carnation:

(a) Large leaf spots showing light brown center with dark borders.
(b) Small oval spots with white centers surrounded by a dark border and large infected areas near the tip of the calyx.
(c) Conidia of the fungus, showing the characteristic septations.

(Photos by Chet Fukushima)

and stems. Initially, these spots (5-10 mm) are white to brown with a dark border. Later, spots can coalesce to form lesions several cm long. Lesions on the calyx may cause distortion of the flowers, and both quality and quantity of flower production may suffer.

A. *dianthicola* can be easily distinguished from A. *saponariae* by the longer and more slender conidia with fewer longitudinal or diagonal septations.

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READERS PLEASE NOTE:

If you know of persons who miss this issue of CPPDR, tell them it is probably because they failed to send back the mailing list confirmation slip which was provided in the March 1983 issue. We will be happy to reinstate them if they request it.

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BLACK ROT DISEASE OF CAULIFLOWER

Brad Oliver

Black rot, incited by the bacterium *Xanthomonas campestris*, occurred sporadically in the Salinas valley on cauliflower this year, with some portions of infested fields showing severe leaf symptoms. As in past years when incidence of this worldwide disease of crucifers was high, the weather was generally mild and wet.

The name "black rot" derives from the blackened and necrotic veins which occur within the chlorotic leaf lesions. The characteristic wedge-shaped lesions at the margins of the leaves are result from the plugging of the subtending vascular system by bacteria and their gum-like by-products. Under the microscope, a bacterial ooze can be seen exuding from the edge of a cut made thru veins of a small section of lesion mounted in water.

Leaf symptoms on cauliflower differ from those on cabbage and broccoli; in addition to the usual marginal lesions, cauliflower leaves exhibit extensive lesions scattered over the leaf lamina. Entry of bacteria into the leaves occurs thru hydathodes on leaf margins, thru the stomata, or thru wounds. Splashing rain and wind are the principal means of spread from plant to plant.

In the cool climate of the Salinas valley, black rot rarely progresses beyond the leaf-symptom stage to the point of involving the stalks of the plants. However, in this area the disease is a significant factor in the production of crucifer seed free of seed borne pathogens.

In 1980, a year of exceptionally high black rot incidence, it was noted that the disease occurred not only on cauliflower, but also on cabbage, broccoli, and cruciferous weeds. Some weeds, in fact, were found infested 20 miles from the nearest commercial crucifer field.

Brad Oliver is Staff Biologist with the Monterey County Agricultural Commissioner's Office in Salinas, California.

Chlorotic margins on Cauliflower leaves exhibiting severe field symptoms of black rot caused by *Xanthomonas campestris*.

(Photo by Chet Fukushima)

NEW REFERENCE REVIEW

Compendium of Turfgrass Diseases, Richard W. Smiley, Editor. 1983, American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN, 55121, $22.00.

A new addition to the A.P.S. Compendia Series is the Compendium of Turfgrass Diseases, edited by Dr. Richard W. Smiley of Cornell University, Ithaca, N.Y. Plant pathologists who are involved in field or laboratory diagnosis of diseases occurring on common grasses cultivated as turfs in lawns, sod farms, recreation areas, cemeteries, highway or airport right-of-ways, etc., will find the book an informative reference resource.

Scientists and agribusiness leaders from more than a dozen representative countries on all continents have contributed to the Compendium. Diseases of grasses of the wet tropics, deserts, temperate and subarctic zones and other climates are included and compiled into a World Checklist of Turfgrass Diseases which notes the prevalence or importance of each disease in all parts of the world.

Written in both descriptive terminology and more technical language, the text includes excellent color photographs of disease symptoms, detailed diagrams of pathogen life-cycles, and basic keys for diagnosing turf diseases. A useful key for identifying host grasses, descriptions of damage caused by noninfectious entities, and information on disease control strategy are also included in this excellent reference.

J.B. White

BACTERIAL LEAF ROT OF AGLAONEMA

Carl M. Lai and Jeanenne B. White

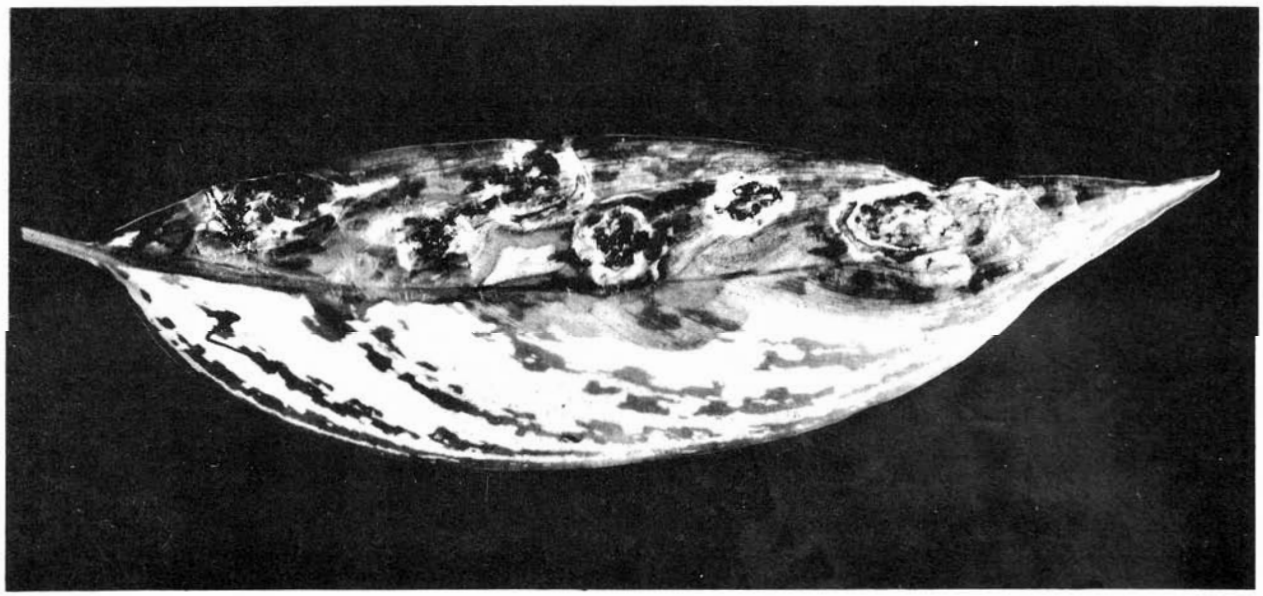
A common nursery greenhouse disease infecting many ornamental plants is bacterial leaf rot caused by the bacterium *Erwinia chrysanthemi*. The bacterial pathogen has a varied host range including *Syngonium podophyllum*, *Dieffenbachia maculata*, *D. amoena*, *D. exotica*, *Philodendron selloum*, *P. panduraeforme*, *Chrysanthemum morifolium* and *C. superbum*. Recently, *Erwinia chrysanthemi* has been discovered to infect *Aglaonema modestum* and *A. commutatum*, new hosts of this disease in California.

Symptoms of the disease on Aglaonema appear initially as small irregular water-soaked areas on the lower leaf-blade surfaces and petioles. If greenhouse conditions are warm (28° to 34° C) and humid, the water-soaked areas may enlarge and form watery blisters. Eventually the affected leaf tissue breaks down into soft, slimy cell masses and the rotting leaves drop. Under cooler, drier conditions the initial water-soaked areas may turn into dry, yellow to tan lesions with definite yellow zonations (below). The bacteria remain viable in these lesions and the disease can progress into the blistering and rotting phase if optimal conditions occur.

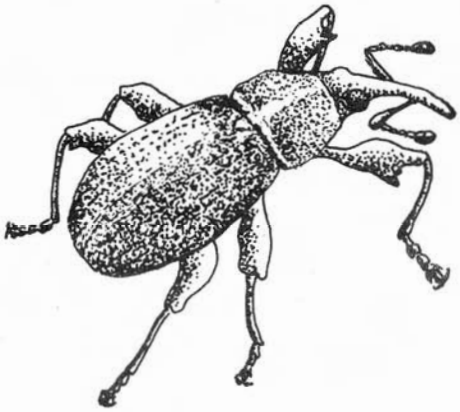
Disease transmission occurs through physical contact of leaves of an infected plant with the petioles and/or leaves of a healthy plant; splashing water during irrigation; use of seed flats harboring the bacteria; and probably by insects, snails and slugs.

Successful control measures for *Erwinia chrysanthemi* on *Aglaonema* spp. include: 1) use of uninfected mother stock for cutting propagation; 2) avoidance of over-crowded growing conditions; 3) removal of all infected leaf blades and petioles and destruction of all infested seed-flats; 4) maintaining low moisture conditions and avoiding wetting of foliage; and 5) spray application of the antibiotic Agrimycin 100.

Carl M. Lai is a Plant Pathologist and Jeanenne B. White is an Agricultural Biological Technician with the CDFA Analysis and Identification Unit, Sacramento.



Lesions and resulting rot caused by *Erwinia chrysanthemi* on *Aglaonema* sp.
(Photo by David Higuera)



Entomology Highlights

Cotton Boll Weevil - *Anthonomus grandis* -(A)- Little activity was seen from this pest during this period because of the cotton plow down. However, the following list includes those confirmed finds for the period of November 15 to March 15:

LOCATION	ADULTS	LARVAE
Winterhaven, Imperial County Collectors: Land, Collins, Lockhart, Ball, Gonzales	1572	0
Holtville, Imperial County Collector : Solorzano	2	0
Palo Verde, Imperial County Collectors: Muschinske, Gonzales, Moreo, Tabb	113	0
Brawley, Imperial County Collector : Galindo	3	0
Calipatria, Imperial County Collector : Galindo	3	0
Glamis, Imperial County Collector : Moreo	1	0
Palo Alto, Imperial County Collector : Moreo	2	0
Blythe, Riverside County Collector : Tabb	3	0
Vidal, San Bernardino County Collectors: Moreo, Rosander	3	2

Gypsy moth *Lymantria dispar* -(A)- Moths and larvae were not active during this period, although spray crews were active. However, larvae were slowly beginning to hatch from monitored, caged egg masses which had been found in the state. For more information on the emergence monitoring program see the following report by R.E. Somerby:

Egg masses of gypsy moth *Lymantria dispar* were caged during the past winter in order to determine local emergent time under coastal California environment conditions. Experiments were carried out in Contra Costa, Santa Clara, and San Mateo Counties. Except for one early February record in Contra Costa County, larvae began hatching in mid-March and continued to hatch until mid-April in all three counties.

Gypsy moths spend 8 or 9 months in the egg stage in a post-embryonated state as fully formed larvae. In diapause, they reduce their water content as a means of reducing the possibility of freezing. Hatching and larval activity are functions of temperature. Most larvae hatch within a one-week period but the entire hatch may cover a month, as it did in the above experiments.

NEW STATE RECORDS

New Psyllid in California Stumps All The Experts

Psyllid specimens were collected from *Eucalyptus* spp. plants from a nursery at Sylmar, Los Angeles County on April 8, 1983 by Los Angeles County Inspector, Karen Cornett. Since very few insects, if any, are known to feed on eucalyptus consistently in California, this collection of adults and nymphs caused immediate interest in the Sacramento lab.

The specimens proved to be unlike any psyllids ever collected in California and in North America. There are nearly 100 species of psyllids known to feed on eucalypts in Australia and attempts were made in Sacramento to identify this species based on available literature. Recent work done on one genus of Australian eucalyptus psyllids failed to provide information necessary for a specific identification. Other, older literature pertinent to the problem was not currently available in Sacramento.

A quick phone call to psyllid specialists at the U.S. National Museum also failed to supply a determination so specimens were rushed to the U.S.N.M. identification laboratory in Beltsville. Hours of work by U.S.N.M. specialists also failed to produce a specific or generic identification so specimens have been mailed to psyllid specialists in England and Australia.

In the mean time, these psyllids have been collected from Sylmar and Gardena in Los Angeles County, both in nurseries, and from five residential properties just outside the Sylmar nursery. Large numbers of the psyllids have been found so far. Infested species of eucalyptus include *camaldulensis*, *polyanthemos*, *nicholii*, *cladocalyx*, *rudis*, *spathulata*, *sideroxylon*, *lehmannii*, *maculata* and *erythrocorys*.

The psyllids are small, approximately 2 mm long from head to wing tips. The ground color is yellow but there is much black marking in some individuals on the dorsum of the head, thorax and abdomen. Nymphs are smaller, yellow and black with small amounts of white flocculent wax. Injury seems to be restricted to the production of small amounts of honeydew.

A leafhopper (*Trypanalebra balli*) -(C)- specimens of this new California leafhopper were collected at Winterhaven, Imperial County on March 11. The specimens were collected by Dr. Robert Flock, entomologist for Imperial County, while checking the Malvaceous plant *Horsfordia alata* as a possible alternate host for cotton boll weevil. The leafhopper was originally described from Arizona and is probably native there. It may even be native to the Winterhaven area. The leafhopper is small, three mm long and strikingly colored - black with large yellow dorsal spots on the body and wings. There is probably no injury to agricultural crops caused by this leafhopper (det. by R. Gill).

***

NEW COUNTY RECORDS

Carob Moth (*Ectomyelois ceratoniae*) -(Q)- The collection of this moth at San Marino, Los Angeles County on January 19 by Adams and Penrose marks a new record for that county. Further collections from Los Angeles County as well as other counties have been made during this period as is indicated by the following list (det. by T.D. Eichlin and R.E. Somerby).

County	Localities	Hosts	Collectors
Los Angeles	Norwalk Pasadena San Marino Los Angeles Glendale Downey Whittier	carob *Brachychiton populneus* *Brachychiton acerifolius* sweet acacia	Moreo Adams Penrose Garfield
San Diego	Lemon Grove National City San Ysidro	dates carob	Parisek Anderson
San Bernardino (Quarantine from Indio)	Chino	cull dates	Dearmin Lambert
Imperial	Calexico	dates	Flock Orfiano

Fuchsia mite (*Aculops fuchsiae*) -(B)- First collections of this destructive mite were made in Sacramento County by D. Pratt and P. Bone on March 4 on fuchsias at a private residence. Other collections which are not new county records have been made during this period. They include Kensington, Contra Costa County on April 28 by C. O'Hara; San Jose, Santa Clara County in April by J. Hoogesteger; Oakland, Alameda County on March 18 by W. Proctor and Half Moon Bay, San Mateo County on March 22 by F. Sampson (det. by T.Kono).

Miscellaneous Finds of Significance

Pickleworm (*Diaphania nitidalis*) -(B)- all stages of this Lepidopterous cucurbit pest were found to be infesting banana squash from Mexico which were being stored in warehouses in Fillmore and Santa Paula, Ventura County. The squash were to be used for rearing natural enemies of scales and mealybugs at various Ventura County insectaries. Specimens were submitted by Deb Israel from collections made on April 14 (det by T.D. Eichlin and R.E. Somerby).

Saddleback caterpillar (*Sibine stimulae*) -(C)- larvae of this unusual species were collected on *Chamaedorea* palm at Bakersfield, Kern County on March 3 by Kern County Farm Advisor Walt Bentley (det. by T.D. Eichlin).

NAME CHANGE FOR AN APHID, *Brachycaudus tragopogonis* for *Brachycaudus schwartzi*

An aphid, *Brachycaudus schwartzi* (Borner), was reported as a new North American record in the "Cooperative Economic Insect Report" volume 25, page 350, in 1975. The aphid was collected on peach and plum. According to Dr. V.F. Eastop of the British Museum (Natural History), who made the determination, "in Europe, this aphid occurs on peach, plum, apricot, and salsify (*Tragopogon*) which may be an alternate host. This aphid occurs on peach all year in Europe and South America."

Dr. Manya Stoetzel (USDA) mailed California specimens from peach and plum and recently collected Illinois specimens from *Tragopogon* to Dr. V.F. Eastop for his determination. According to Dr. Eastop, "The California specimens from peach and the Illinois specimens from *Tragopogon* are the same species and both look like what is called *Brachycaudus tragopogonis* (Kaltenbach) that alternates between peach and *Tragopogon* in southern Europe."

Brachycaudus tragopogonis (Kaltenbach) will be used instead of *Brachycaudus schwartzi* (Borner). Recent literature shows that *tragopogonis* and *schwartzi* refer to the same species of aphid. The name of the aphid is *tragopogonis*, because it was described under that name before *schwartzi*.

In California, this aphid has been collected in the counties of Alameda, Butte, Contra Costa, Orange, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Shasta, and Tulare.

It has been collected on peach, plum, and nectarine. All collections were made because of severe leaf curls.

Quarantine and Exclusion
Pest Interceptions - Insects

Efficient Orange County Inspectors Discover New Fruit Fly In Hawaii

Malaysian fruit fly (*Dacus latifrons* (Hendel)) -(Q)- Part of the following article about a new Hawaiian fruit fly is revised from a CDFA Pest Exclusion Alert dated March 25, 1983:

> Orange County Department of Agriculture personnel, aware of the potential of a major pest infestation due to plant material imported by their large Indo-Chinese community, have been working closely with local Postal Service personnel to inspect incoming plant material, particularly from Hawaii.
>
> When a package from Hawaii broke open at the Post Office, an alert and informed Postal Service employee observed the high risk plant material and ensured that the package was set aside and held for agricultural inspection. The joint cooperative efforts of the Orange County Department of Agriculture (both prior to and after the interception), the U.S.D.A., the U.S. Postal Service, and the Hawaii Department of Agriculture resulted in a significant pest interception in California and the detection of an infestation of a species of fruit fly not previously known to occur in Hawaii.
>
> The undetermined Tephritidae larvae were reared in Hawaii and were identified as *Dacus latifrons* (Hendel). The hosts of this fruit fly are chili peppers, eggplant, other Solanaceous plants, and Euphorbias. The known distribution of this fruit fly is Formosa, Laos, Taiwan, and the Malaysian Peninsula. This is a new species to Hawaii and three locations in Oahu are known to be infested.
>
> This interception and the related follow-up efforts provide evidence of the results which may be achieved when maximum cooperative efforts are made.
>
> Report by Barbara Hass, Pest Exclusion

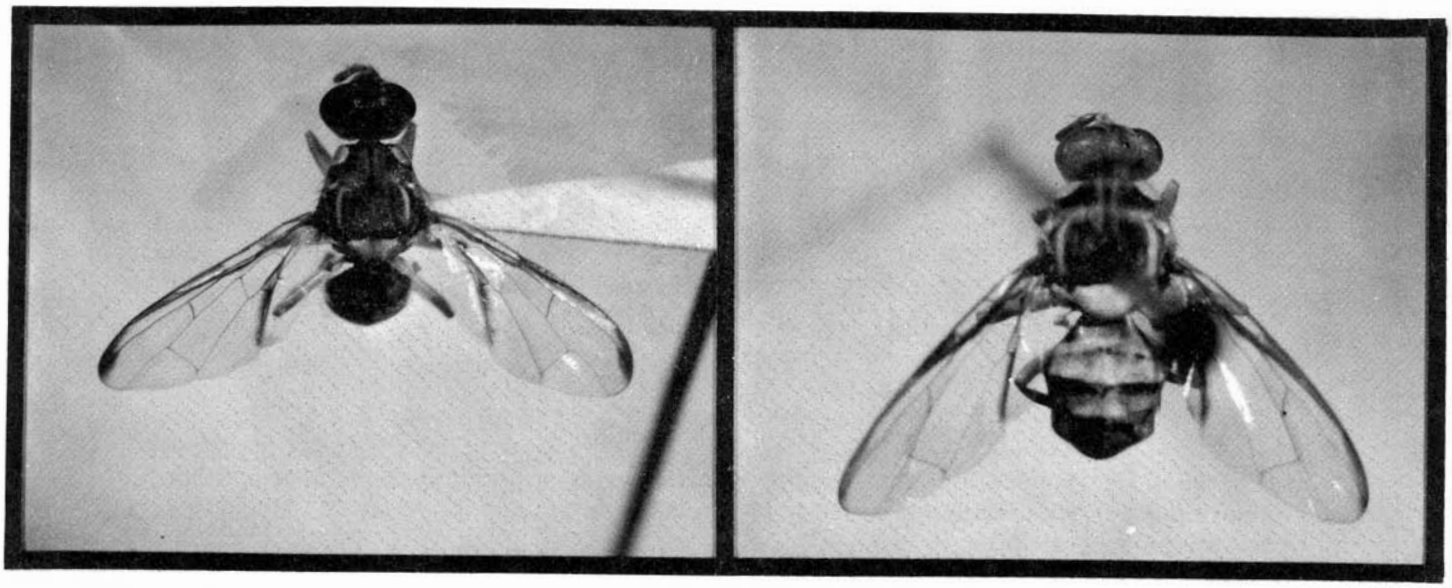
This original collection of *D. latifrons* larvae was made from pepers and other solanaceous fruits from an unmarked air mail package. The collection was made by Travis Mc Roberts on March 2, 1983. The fruit also contained miscellaneous Diptera larvae and pepper weevil larvae. According to Hawaii entomologists it has been found infesting chili peppers only in Lanakila Housing, Kukui Gardens and Pearl City on Oahu.

Both green and ripe chili pepper fruits are susceptible to attack by this new fruit fly. However, ripening fruits appear to be preferred. Fruits that are attacked may be distinguished by the presence of a small pin-hole, sometimes referred to as an "air-hole," on the skin. Damage is caused by maggots feeding on the soft tissue, or pulp, just beneath the skin of a fruit creating a "windowing" effect. The maggots rarely enter the cavity of the fruit where seeds are formed.

In size and appearance, this new pest resembles the oriental fruit fly, *Dacus dorsalis*.

Hawaii agriculture officials are currently conducting surveys to determine the degree and extent of the infestation on Oahu and the possible presence of the fruit fly on the neighbor islands. Also, studies are being carried out jointly by officials of the State Department of Agriculture and the USDA-Tropical Fruit and Vegetable Research Laboratory to determine the effect of chemical lures and baits on this new pest.

Comparison of Malaysian fruit fly and oriental fruit fly



D. latifrons *D. dorsalis*

Gypsy moth (*Lymantria dispar*) -(A)- was intercepted 23 times from October 4 to April 18 on outdoor household items from the following states: Massachusetts, Pennsylvania, New York, Connecticut, New Jersey, and New Hampshire (det. by T.D. Eichlin and R.E. Somerby).

Mexican fruit fly (*Anastrepha ludens*) -(A)- larvae of this Tephritid were found in pink grapefruit from Pharr, Texas in a grocery store at Fairfax, Marin County. The collection was made by Phil Economon on April 12 (det. by K.S. Corwin).

Tephritid larvae (*Anastrepha* sp.) -(A)- were collected from mangos in a grocery store at Sonoma, Sonoma County by Jim Sallee on January 1. Origin of the mangos is unknown (det. by K.S. Corwin).

A rice moth (*Corcyra cephalonica*) -(Q)- this pyralid moth is a major pest of stored rice in Asia. Specimens were intercepted on board a ship of Panamanian registry with an origin apparently of Japan. The collection was made by S. Brown of San Francisco County on December 22, 1982 (det. by T.D. Eichlin).

European Corn Borer (*Ostrinia nubilalis*) -(A)- larvae and pupae of this corn pest were collected by Eisenhart of Los Angeles County in corn arriving from Missouri. The collection was made on April 6 (det. by T.D. Eichlin).

Tent Caterpillars (*Malacosoma americanum* and *Malacosoma* sp.) -(Q)- specimens have been collected from the following locations: Aptos, Santa Cruz County on January 14 by M. Morgan from Cincinnati, Ohio; Blue Lake Springs, Calaveras County on January 21 by K. Kerstan from Farmingdale, New York; Agoura, Los Angeles County on March 18 by M. Kainu from Brookhaven, Pennsylvania (det. by T.D. Eichlin).

A Noctuid moth (*Chrysodeixis chalcites*) -(Q)- all stages of this moth were intercepted from *Anthurium* and ti leaves from Hawaii. The collection was made by D. Van Epp of Ventura County on December 21, 1982 (det. by T.D. Eichlin).

A Tussock moth (*Orgyia leucostigma*) -(Q)- a pupa was collected from lawn furniture by E. Storm and C. Devancy at Beale Air Force Base, Yuba County on March 22 (det. by T.D. Eichlin).

A Noctuid moth (*Euxoa* sp or near) -(Q)- intercepted at Redway, Humboldt County on ornamental trees from Scottville, Michigan. Collections were by P. Halzberger on March 16 (det. by T.D. Eichlin).

A Tiger moth (Arctiidae) -(Q)- this moth was found by D. Keshmiry on outdoor household goods from Connecticut on January 19 (det. by R.E. Somerby).

Raspberry root gall worm (*Diastrophus* sp.) -(Q)- intercepted larvae were found in raspberries moving from New York to Fortuna, Humboldt County. The collection is the work of R. Spadoni on February 4 (det. by M.S. Wasbauer).

A snail (*Subulina octona*) -(Q)- these snails were intercepted on *Areca* and *Chamaedorea* palms from Florida at the following locations: Los Angeles on March 16 by Kellam; Compton on March 23 by Sulentich (det. by T. Kono).

A snail (possibly *Lamellaxis* sp.) -(Q)- was collected from Florida shipments at the following locations: Walnut, Los Angeles County on *Ficus benjamina* by D. Papilli on January 31; Los Angeles on *Areca* palm by Kellam and Smice on January 31 (det. by T. Kono).

The following Q-rated ants were collected in quarantine (det. by M.S. Wasbauer and F.G. Andrews):

Paratrechina fulva - Los Angeles County: Panorama City, March 21, on Areca palm from Florida (K. Cornett), October 4, on Areca palm from Florida (Miller, Shimoda), Compton, March 18, on *Schefflera* from Florida (S. Rawald), January 12, on *Chamaedorea* from Florida (D. Sulentich); Los Angeles, January 31, on Areca palm from Florida (Kellam, Smice).

Bigheaded ant (*Pheidole megacephala*) - Los Angeles County: Los Angeles, March 16, on Areca palm from Florida (Kellam). Orange County: Tustin, March 28, on bamboo from Hawaii (T. Mc Roberts, B. Lyman).

Wasmannia auropunctata - Los Angeles County: Walnut, January 31, on *Ficus* from Florida (D. Papilli).

Anoplolepis longipes - Ventura County: Port Hueneme, March 21, on cut ginger from Hawaii (D.L. Mitchell).

Paratrechina longicornis -(B)- Orange County: Irvine, March 16, on various plants from Hawaii (T. McRoberts).

The following scale insects were intercepted on cut flowers and foliage shipped from Hawaii (det. by R.J. Gill):

Green shield scale (*Pulvinaria psidii*) -(A)- Ventura County: Port Hueneme, March 21 (D.L. Mitchell); Oxnard, October 4 (M. Hixson); Camarillo, January 11 (M. Hixson).

Magnolia white scale (*Pseudaulacaspis cockerelli*) -(A)- San Mateo County: So. San Francisco, December 22 (L. Buerer).

Boxwood scale (*Pinnaspis buxi*) -(Q)- Ventura County: Simi Valley, February 4 (D. Van Epp).

Green scale (*Coccus viridis*) -(Q)- San Joaquin County: Stockton, April 20 (T. Watkins).

The following scale insects and mealybugs were intercepted in Quarantine (det. by R.J. Gill):

Rating	Species	Common Name	Origin	County	Host	Collector
A	*Pulvinaria psidii*	Green shield scale	Hawaii*	SBO	*Syngonium*	Cohen
	*Two separate collections - April 7, 14 (same data)					
			Florida	LA	*Ficus*	Papilli
			Florida	LA	*Ficus*	Shimoda, Hurley
Q	*Pseudococcus elisae*	Elisa mealybug	Costa Rica	LA	banana	Cornett
A	*Pseudaulacaspis cockerelli*	magnolia white scale	Hawaii	B	coconut	Bengke
			Hawaii	H	coconut	Spadoni
			Hawaii	SM	coco palm	Struffenegger
			Florida	LA	*Areca* palm	Kellam
			Florida	O	*Areca* palm	Park
			Hawaii	SLO	*Cocos*	Bise
			Hawaii	R	coconut	Nash, Mitchell
A	*Ischnaspis longirostris*	Black thread scale	Hawaii	B	coconut	Bengke
			Costa Rica	LA	*Dracaena*	Papilli
			Costa Rica	SD	*Dracaena*	Desserich
			Costa Rica	SD	*Dracaena*	Boch
Q	*Dysmicoccus alazon*	Alazon mealybug	Ecuador	CC	banana	Case, Kean
			Ecuador*	LA	banana	Eisenhart
	*Three separate collections - January 14, 19, 21 (same data)					
A	*Kilifia acuminata*	Acuminate scale	Hawaii	STB	*Schefflera*	Pitchard
			Florida	SM	*Philodendron*	Buerer
Q	*Rhizoecus americanus*	A soil mealybug	Florida*	LA	*Areca* palm	Sulentich
	*Three separate collections - January 12, 18, March 22 (same data)					
			Florida	LA	*Areca* palm	Vinopal, Rawald
			Florida	LA	*Areca* palm	Cornett
			Florida	LA	*Areca* palm	Miller
A	*Pinnaspis strachani*	lesser snow scale	Hawaii	LA	*Areca* palm	Cornett, Murase
			Hawaii	LA	*Chamaedorea*	Sulentich
			Hawaii	SAC	coconut	Jensen
Q	*Geococcus coffeae*	A soil mealybug	Hawaii	LA	*Areca* palm	Cornett, Murase
			Hawaii	SD	*Areca* palm	Cardiff
B	*Ferrisia virgata*	Striped mealybug	Colombia	SM	*Croton*	Buerer
A	*Chortinaspis subcortina*	An armored scale	Ecuador	LA	banana	Eisenhart
Q	*Acutaspis umbonifera*	An armored scale	Panama	LA	banana	Eisenhart
Q	*Palmicultor palmarum*	Palm mealybug	Hawaii	SON	coconut	Nelson, Burges
Q	*Malleolaspis* sp.	An armored scale	Costa Rice	SLO	*Dracaena*	Bise, Darling
Q	*Velataspis* sp.	An armored scale	Honduras	SM	*Croton*	Buerer
Q	*Planococcus* sp.	A mealybug	-	MAD	bromeliads	Carlsen
Q	Pseudococcidae	A mealybug	Costa Rica	LA	banana	Eisenhart
			Ecuador	LA	banana	Eisenhart

BORDER STATION INTERCEPTIONS
(Since January 1983)

TEA SCALE (*Fiorinia thea*)	-A-	1
PYRIFORM SCALE (*Protopulvinaria pyriformis*)	-B-	1
CLOUDY-WINGED WHITEFLY (*Dialeurodes citrifolii*)	-A-	1
YANON SCALE (*Unaspis yanonensis*)	-Q-	1
PINK BOLLWORM (*Pectinophora gossypiella*)	-A-	9
EASTERN TENT CATERPILLAR (*Malacosoma* sp.)	-Q-	2
A TENT CATERPILLAR (*Malacosoma* sp.)	-Q-	5
CALIFORNIA RED SCALE (*Aonidiella aurantii*)	-B-	23
HICKORY SHUCKWORM (*Laspeyresia caryana*)	-A-	1
CHAFF SCALE (*Parlatoria pergandii*)	-B-	62
COCONUT SCALE (*Aspidiotus destructor*)	-A-	1
BOLL WEEVIL (*Anthonomus grandis*)	-A-	3
COCKERELL SCALE (*Lopholeucaspis cockerelli*)	-A-	1
PURPLE SCALE (*Lepidosaphes beckii*)	-B-	43
A WASP (*Solenopsis* sp.)	-Q-	1
GYPSY MOTH (*Lymantria dispar*)	-A-	15
A TUSSOCK MOTH (*Orygia* sp.)	-Q-	1
A WHITEFLY (*Dialeurodes* sp.)	-A-	1
ORIENTAL SCALE (*Aonidiella orientalis*)	-Q-	3
A SNAIL (*Subulina octona*)	-Q-	1
A PYRRHOCORID BUG	-Q-	1
EUROPEAN CORN BORER (*Ostrinia nubilalis*)	-A-	3
GLOVER SCALE (*Lepidosaphes gloverii*)	-B-	7
SQUARE-NECKED GRAIN BEETLE (*Cathartus quadricollis*)	-Q-	1
AN ANT (*Paratrechina fulva*)	-Q-	1
APPLE MAGGOT (*Rhagoletis pomonella*)	-A-	2
A SNAIL (*Bradybaena similaris*)	-B-	1
LITTLE FIRE ANT (*Wasmannia auropunctata*)	-Q-	1
ROUND CONIFER SCALE (*Acutaspis morrisonorum*)	-Q-	1
FLORIDA WAX SCALE (*Ceroplastes floridensis*)	-Q-	1
PINE SCALE (*Chionaspis heterophyllae*)	-Q-	1
CHINCH BUG (*Blissus leucopterus*)	-A-	1
A TEPHRITID FRUIT FLY (*Anastrepha* sp.)	-A-	1
AN ANT (*Tentramorium* sp.)	-Q-	1
A RHOPALID BUG (*Liorhyssus* sp.)	-Q-	1
A LYGAEID BUG	-Q-	1
WHITE MARKED TUSSOCK MOTH (*Orgyia leucosigma*)	-Q-	1
AN ANT (*Crematogaster* sp.)	-Q-	1
A WOOLLY BEAR CATERPILLAR (Arctiidae)	-Q-	1
A NOCTUID MOTH	-B-	1
LESSER SNOW SCALE (*Pinnaspis strachani*)	-A-	1

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	2-21-83	2-20 to 2-22-83	2-27-83	3-4-83	3-6-83	3-6-83
LOCATION	Bellota	Roberts Island	Bellota	Manteca	Bellota	Roberts Island
TEMPERATURE						
ALFALFA LOOPER *Autographa californica*	3	1	6		7	1
ARMYWORM *Pseudaletia unipuncta*	1		1	1		
BEET ARMYWORM *Spodoptera exigua*						
BLACK CUTWORM *Agrotis ipsilon*						
CABBAGE LOOPER *Trichoplusia ni*						
CLOVER CUTWORM *Scotogramma trifolii*						
CODLING MOTH *Laspeyresia pomonella*						
CORN EARWORM, (ETC.) *Heliothis zea*						
FALSE CELERY LEAFTIER *Udea profundalis*						
GRANULATE CUTWORM *Feltia subterranea*						
GREEN FRUIT WORM *Orthosia hibisci*	2	1	4		1	1
NAVEL ORANGEWORM *Amyelois transitella*						
OMNIVOROUS LEAFROLLER *Platynota stultana*						
PEACH TWIG BORER *Anarsia lineatella*						
ROUGH SKINNED CUTWORM *Proxenus mindara*						
SALTMARSH CATERPILLAR *Estigmene acrea*						
SPOTTED CUTWORM *Amathes c-nigrum*						
SUGARBEET WEBWORM *Loxostege sticticalis*						
TOBACCO BUDWORM *Heliothis virescens*						
VARIEGATED CUTWORM *Peridroma saucia*		3	5		2	1
W.YELLOWSTRIPED ARMYWORM *Spodoptera praefica*	1	1				
A NOCTUID MOTH *Xylomyges hiemalis*	4			2		
A NOCTUID MOTH *Xylomyges rubrica*			5			

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	3-8-83	3-10-83	3-14 to 3-17-83	3-20-83	3-27-83	3-27-83
LOCATION	Manteca	Bellota	Roberts Island	Bellota	Bellota	Manteca
TEMPERATURE	53°-70°	45°-67°		Rain 40°-50°	41°-69°	47°-67°
ALFALFA LOOPER Autographa californica	1		4		1	
ARMYWORM Pseudaletia unipuncta						
BEET ARMYWORM Spodoptera exigua						
BLACK CUTWORM Agrotis ipsilon						
CABBAGE LOOPER Trichoplusia ni						
CLOVER CUTWORM Scotogramma trifolii						
CODLING MOTH Laspeyresia pomonella						
CORN EARWORM, (ETC.) Heliothis zea						
FALSE CELERY LEAFTIER Udea profundalis	1				3	1
GRANULATE CUTWORM Feltia subterranea						
GRAPE LEAFFOLDER Desmia funeralis						
NAVEL ORANGEWORM Amyelois transitella						
OMNIVOROUS LEAFROLLER Platynota stultana						
PEACH TWIG BORER Anarsia lineatella						
ROUGH SKINNED CUTWORM Proxenus mindara						
SALTMARSH CATERPILLAR Estigmene acrea						
SPOTTED CUTWORM Amathes c-nigrum						
SUGARBEET WEBWORM Loxostege sticticalis						
TOBACCO BUDWORM Heliothis virescens					1	
VARIEGATED CUTWORM Peridroma saucia	3	1	1	1		1
W.YELLOWSTRIPED ARMYWORM Spodoptera praefica						
A NOCTUID MOTH Xylomyges hiemalis	2	1				1
A NOCTUID MOTH Xylomyges rubrica		1				

SAN JOAQUIN COUNTY BLACK LIGHT TRAP REPORT

DATE	4-3-83	4-3-83	4-3 to 4-4-83	4-11-83	4-10-83	4-11 to 4-12-83
LOCATION	Manteca	Bellota	Roberts Island	Bellota	Manteca	Roberts Island
TEMPERATURE				Rain		Cloudy
ALFALFA LOOPER *Autographa californica*						
ARMYWORM *Pseudaletia unipuncta*	3					3
BEET ARMYWORM *Spodoptera exigua*					2	
BLACK CUTWORM *Agrotis ipsilon*						
CABBAGE LOOPER *Trichoplusia ni*						
CLOVER CUTWORM *Scotogramma trifolii*	2	1	1	1	8	7
CODLING MOTH *Laspeyresia pomonella*						
CORN EARWORM, (ETC.) *Heliothis zea*						
FALSE CELERY LEAFTIER *Udea profundalis*	2				1	1
GRANULATE CUTWORM *Feltia subterranea*						
GRAPE LEAFFOLDER *Desmia funeralis*						
NAVEL ORANGEWORM *Amyelois transitella*						
OMNIVOROUS LEAFROLLER *Platynota stultana*						
PEACH TWIG BORER *Anarsia lineatella*						
ROUGH SKINNED CUTWORM *Proxenus mindara*						
SALTMARSH CATERPILLAR *Estigmene acrea*						
SPOTTED CUTWORM *Amathes c-nigrum*	2		1	2	7	1
SUGARBEET WEBWORM *Loxostege sticticalis*						
TOBACCO BUDWORM *Heliothis virescens*	4		2		2	2
VARIEGATED CUTWORM *Peridroma saucia*						
W.YELLOWSTRIPED ARMYWORM *Spodoptera praefica*						
A NOCTUID MOTH *Dargida procinta*			3			