

# CALIFORNIA PLANT PEST and DISEASE REPORT

What's Inside:  
Vol. 9 Numbers 3-4  
June to September, 1990

Botany Highlights .....	73
Weed Maps .....	74-125
New Weed Records .....	126
Entomology Highlights .....	130
Significant Finds .....	130
New Records .....	136
Pest Exclusion .....	140
Blitzes .....	142
Significant Finds in Other States and Countries ..	154
Border Stations .....	155
Plant Pathology Highlights .	157

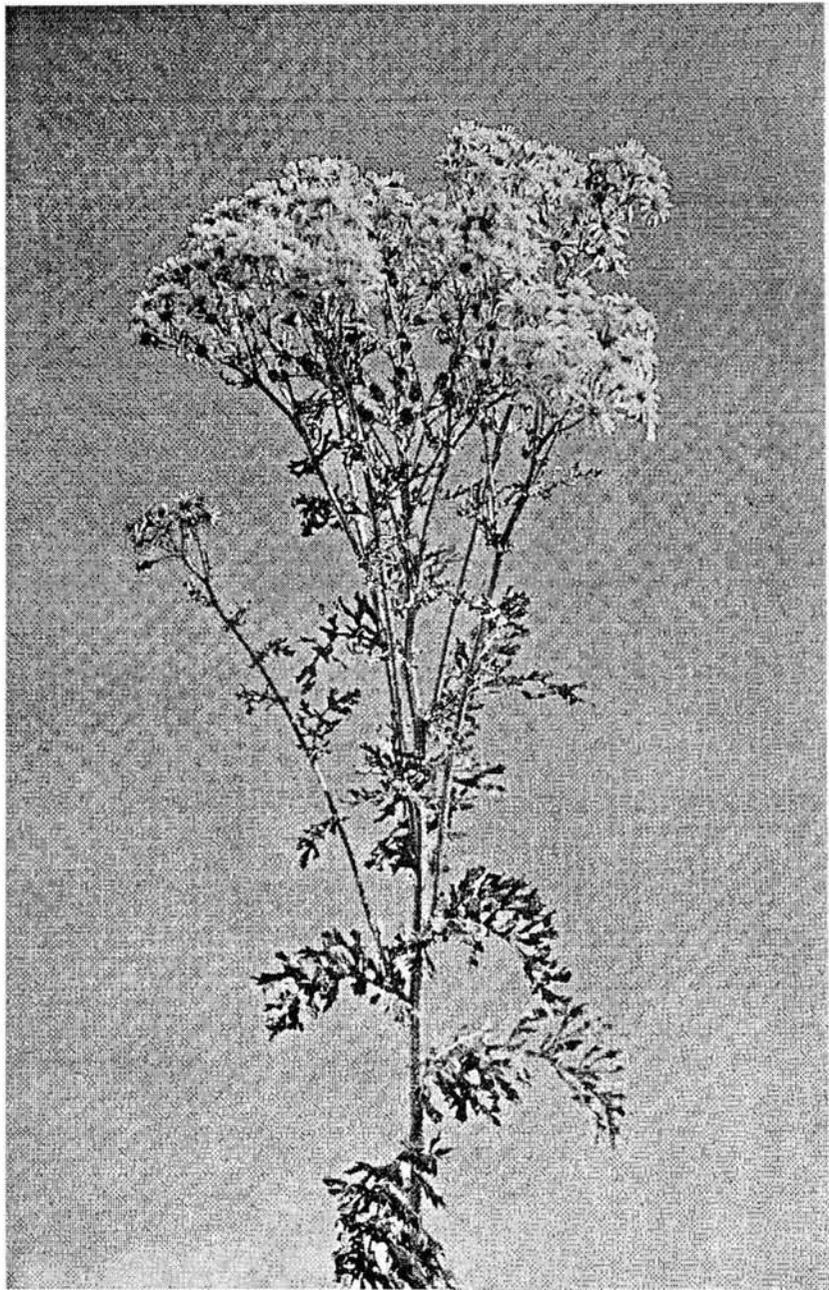
California Department of Food and Agriculture 1220 N Street, Sacramento, California 95814

# NOXIOUS WEEDS OF CALIFORNIA



PART 2: DISTRIBUTION MAPS

B-RATED WEEDS



Correspondence should be addressed to the editorial staff of the California Plant Pest and Disease Report (see address below).

California Plant Pest and Disease Report

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Production Assistance: Lily Mallare

The editor acknowledges the contributions of numerous individuals within the department, without whose cooperation and assistance this project would not be possible.

Correspondence to the CPPDR should be addressed to:

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1220 N Street  
P.O. Box 942871  
Sacramento, CA 94271-0001

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## BOTANY HIGHLIGHTS

The last issue of CPPDR featured an article and distribution maps for the "A"-rated noxious weeds of California. The following article supplies similar information but the maps will cover the California distribution of all of the "B"-rated weeds.

The California Department of Food and Agriculture is required, among other things, to prevent the introduction and spread of noxious weeds. To fulfill this mandate CDFA botanist Tom Fuller, now retired, designed an elegantly simple and efficient method of keeping records. It is still used by the Botany Laboratory to keep track of each of over 97 species of noxious weeds in the state, going back to the earliest recorded occurrence in California of each species.

These permanent records let detection biologists know precisely whether a weed they encounter in the field is a new introduction or one spreading from an established population.

For more than 35 years Tom Fuller dreamed of having these records printed and in the hands of field biologists. He also envisioned maps that could be quickly and accurately updated to show the distribution of the noxious weeds and where a new find fit into the overall picture.

Fifteen years ago such maps were prepared by hand and the records compiled, printed and issued to all county and state Plant Pest Detection Personnel and Cooperators as a section of Part III (D.T. 6: series) of the Division of Plant Industry Plant Pest Detection Manual. Revising and updating the maps and data sheets was impossible to do by hand with a very limited work force, until the small and efficient personal computer became available.

Tom Fuller retired in 1982 but his dream is being realized by his successor in the Botany Laboratory, Doug Barbe, using a personal computer to electronically draw the maps and plot the locations of each "A"- and "B"-rated noxious weed in the state.

The data for each weed occurrence, showing the township, range, and section, other locality information, collection date, collector's name, the net and gross acreage of the infestation, and other pertinent information are being compiled and will be issued separately in a future issue of CPPDR.

Complete sets of maps of all "A"- and "B"-rated weeds are available from the  
California Department of Food and Agriculture  
Botany Laboratory, Analysis and Identification,  
P.O. Box 942871,  
Sacramento, CA 94271-0001.





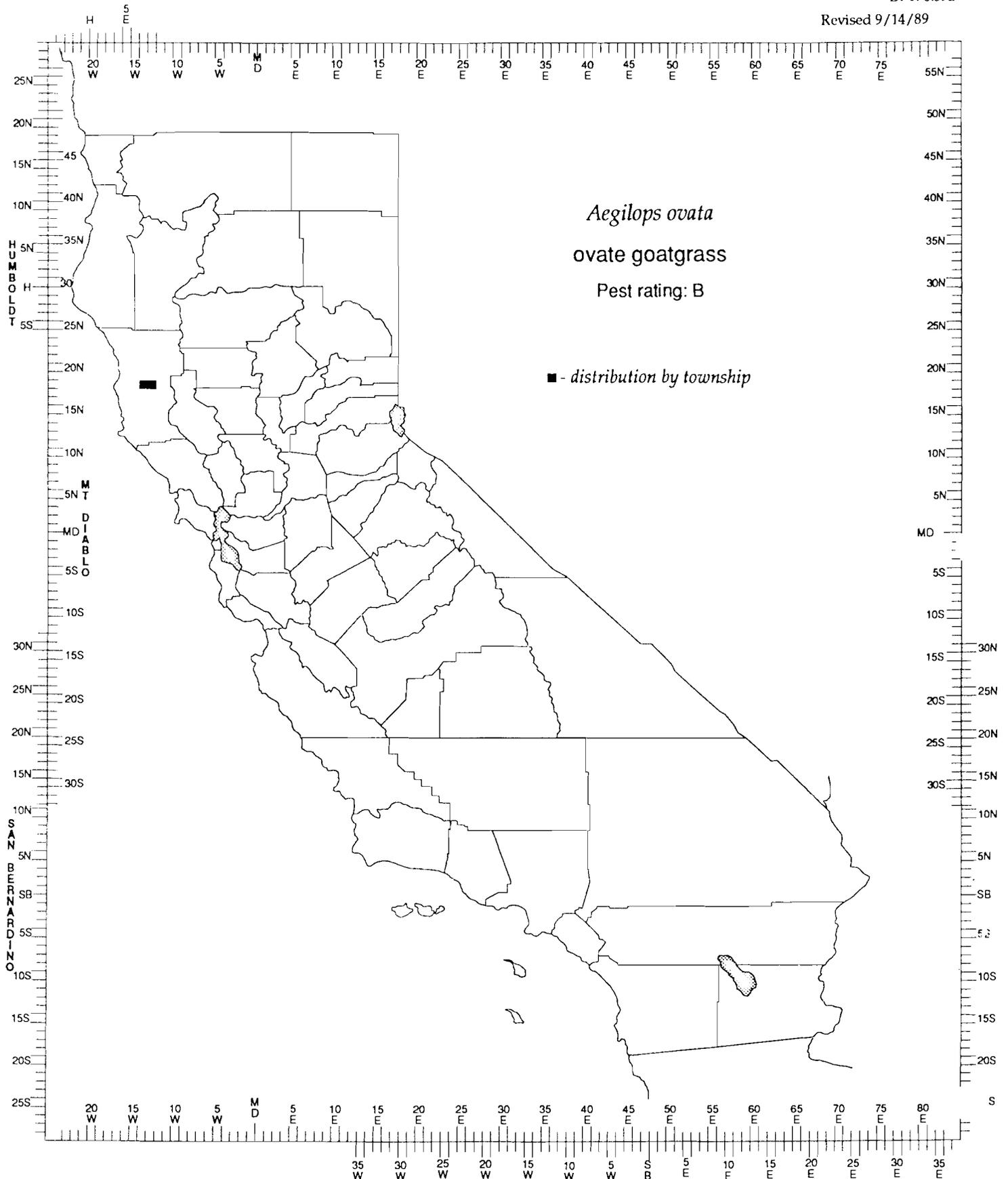


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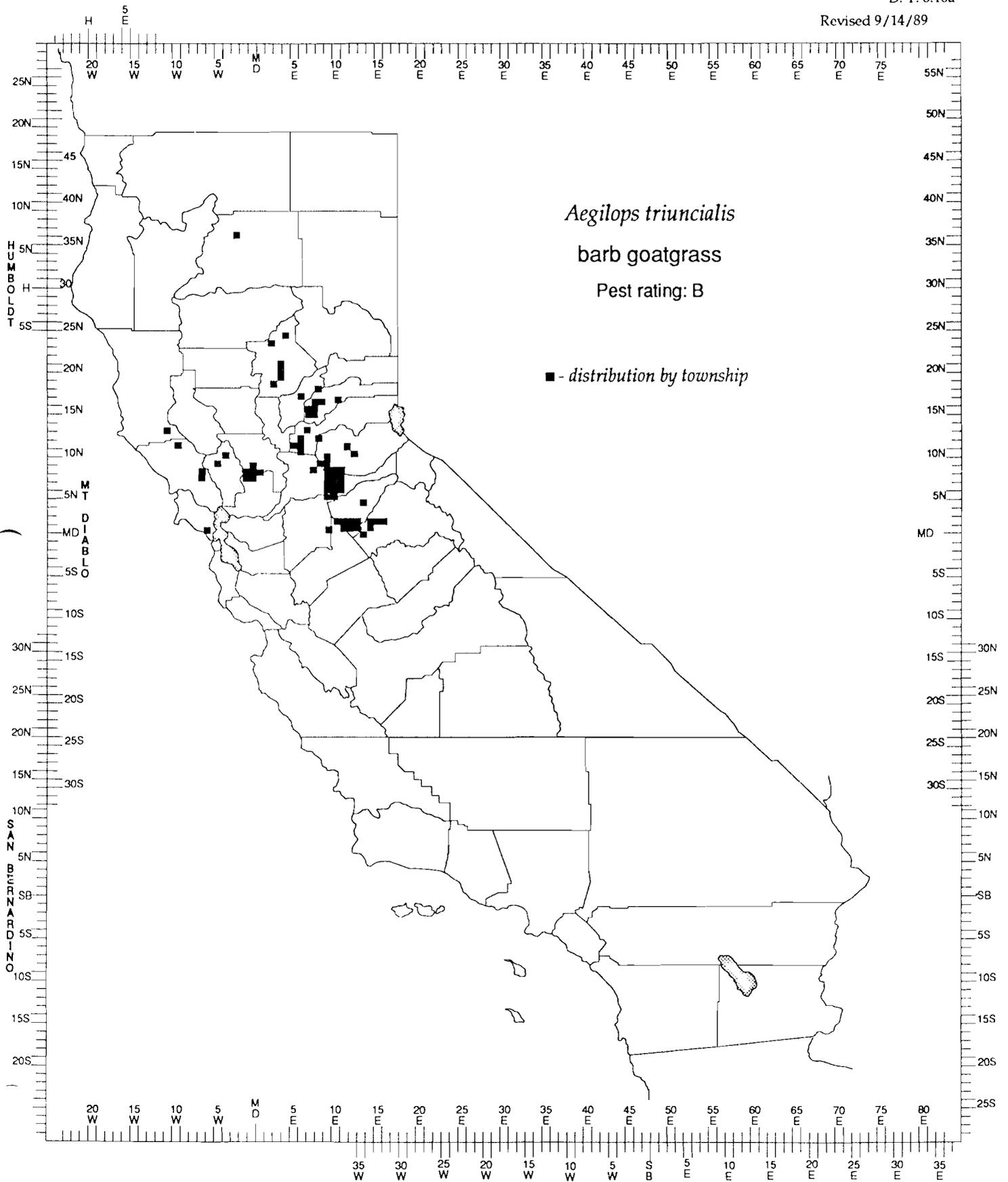
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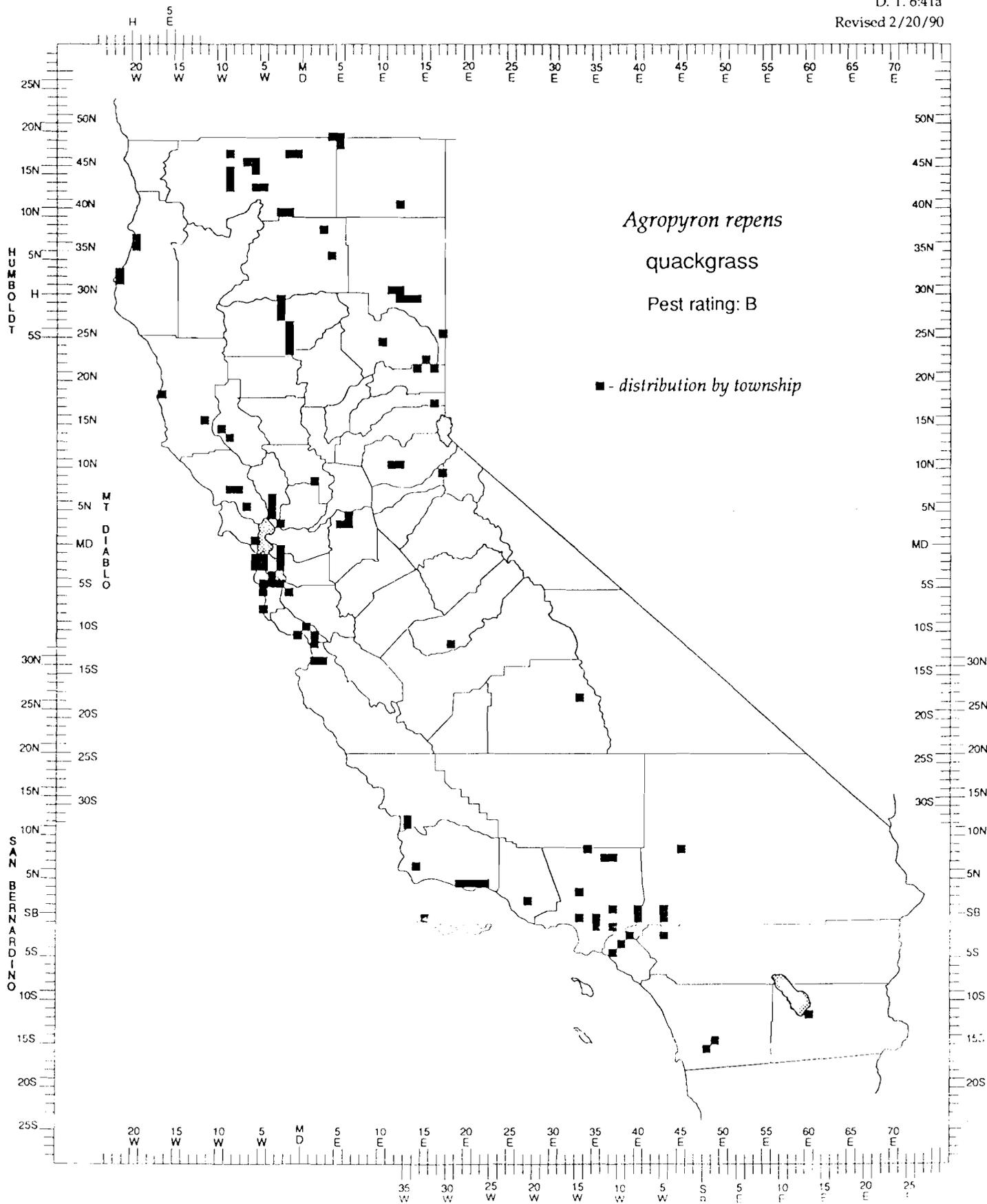
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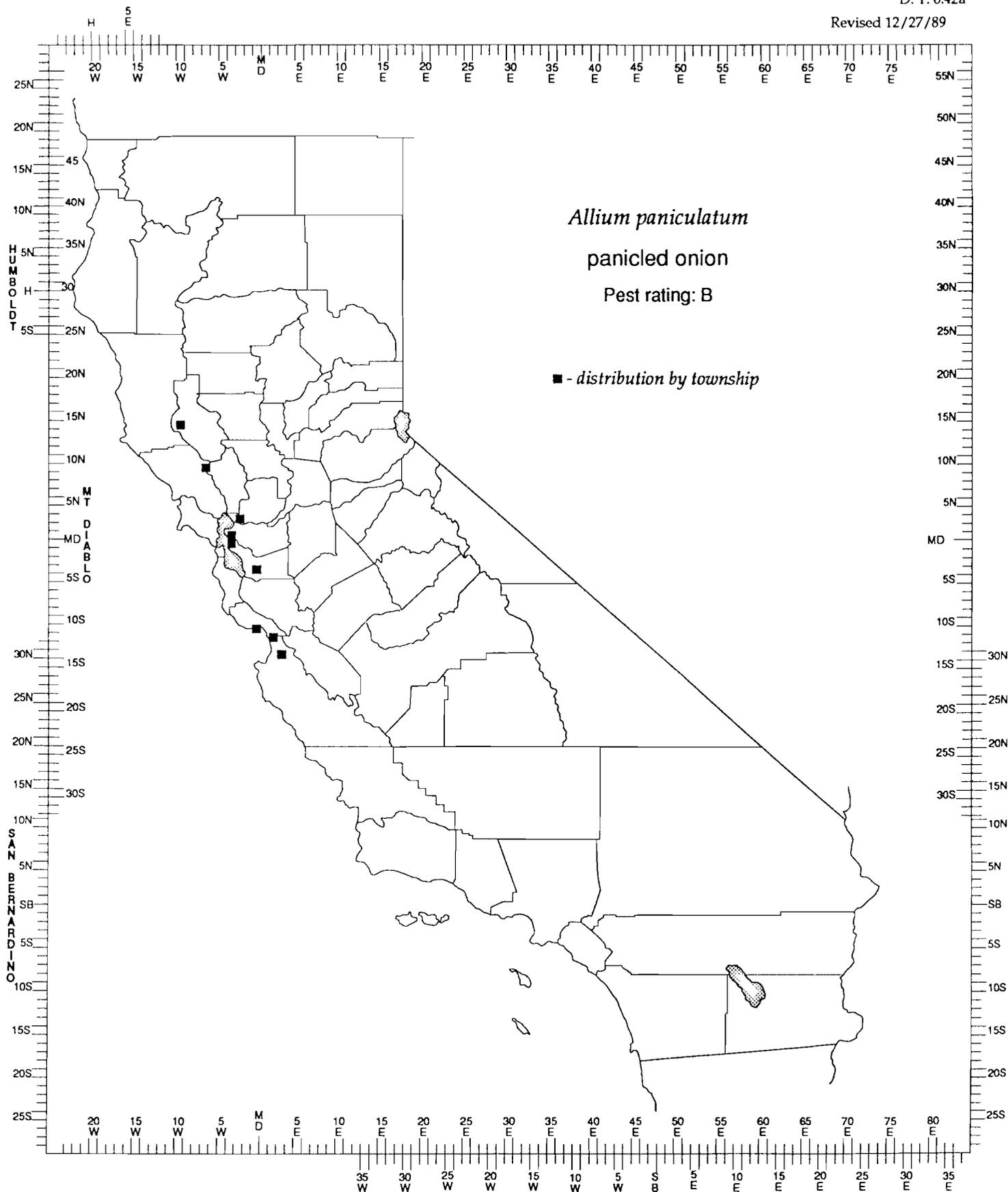
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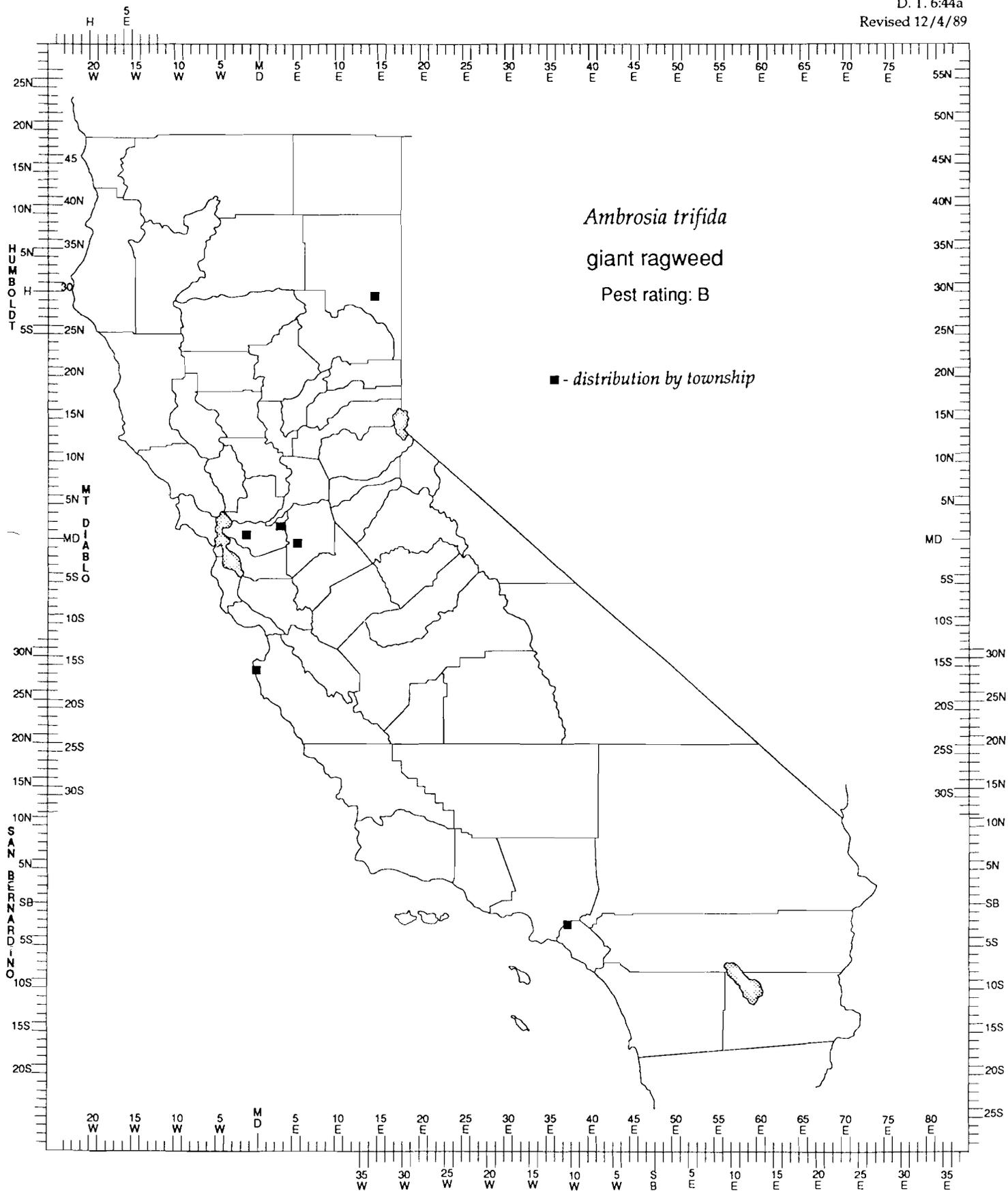
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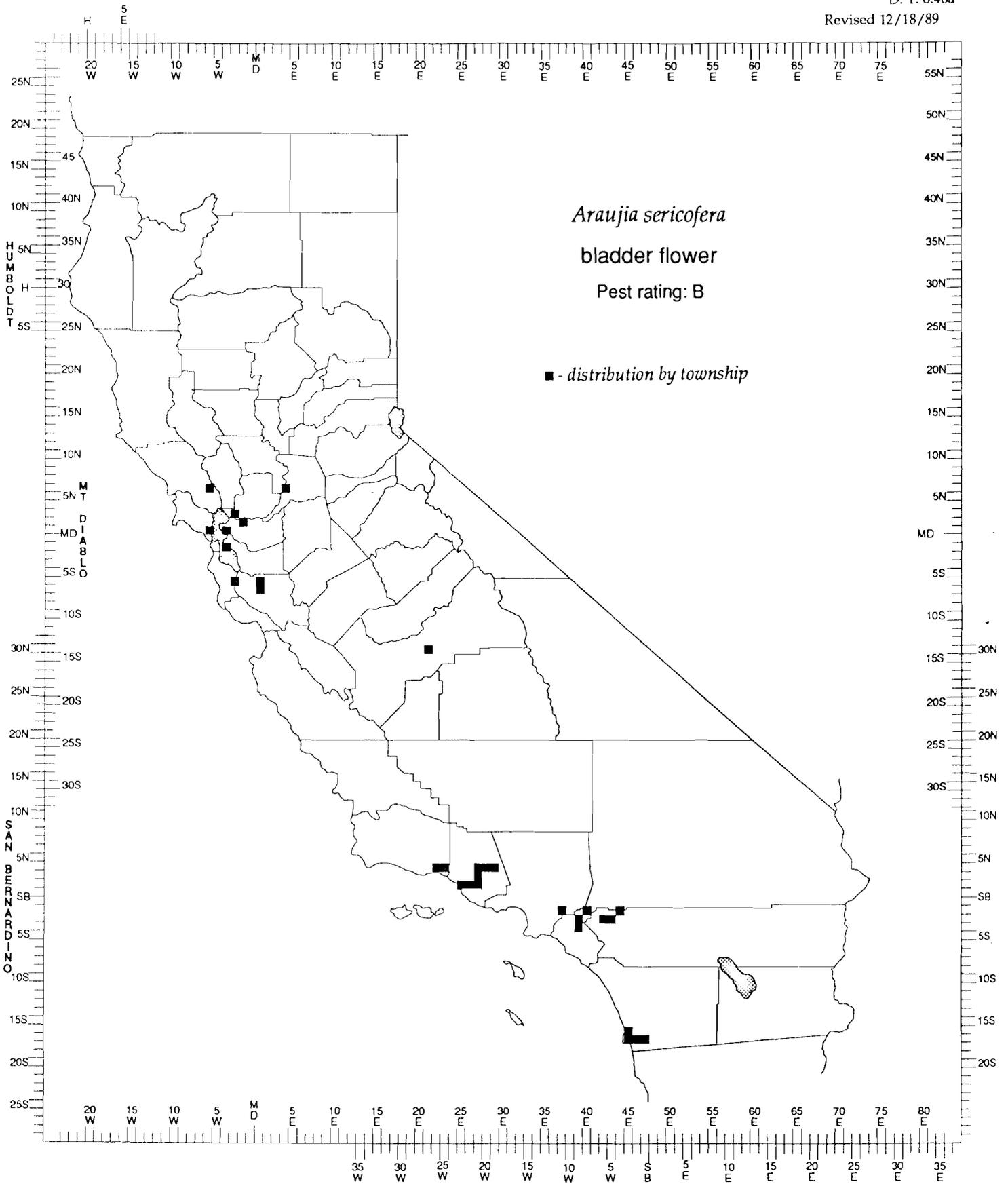
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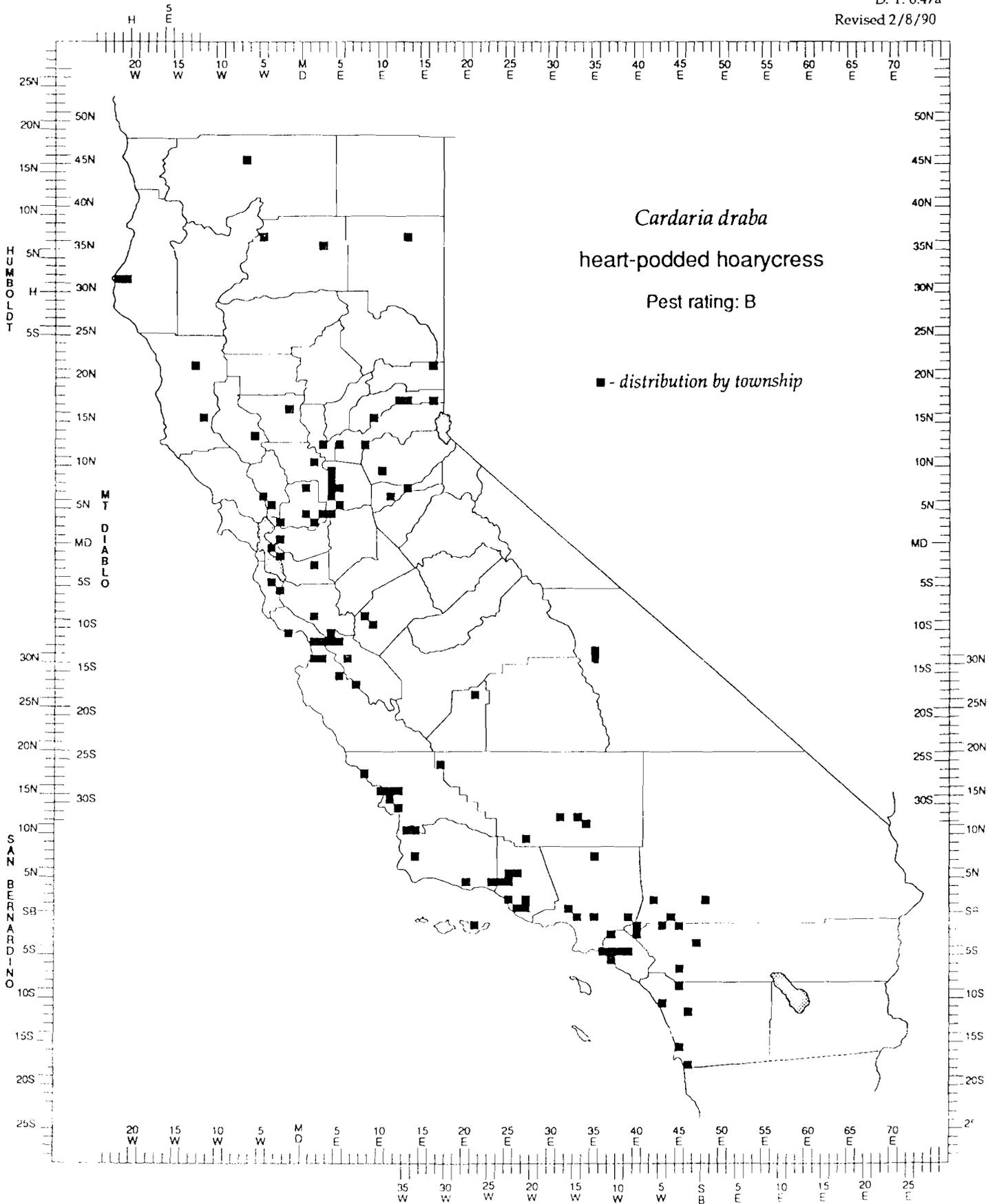
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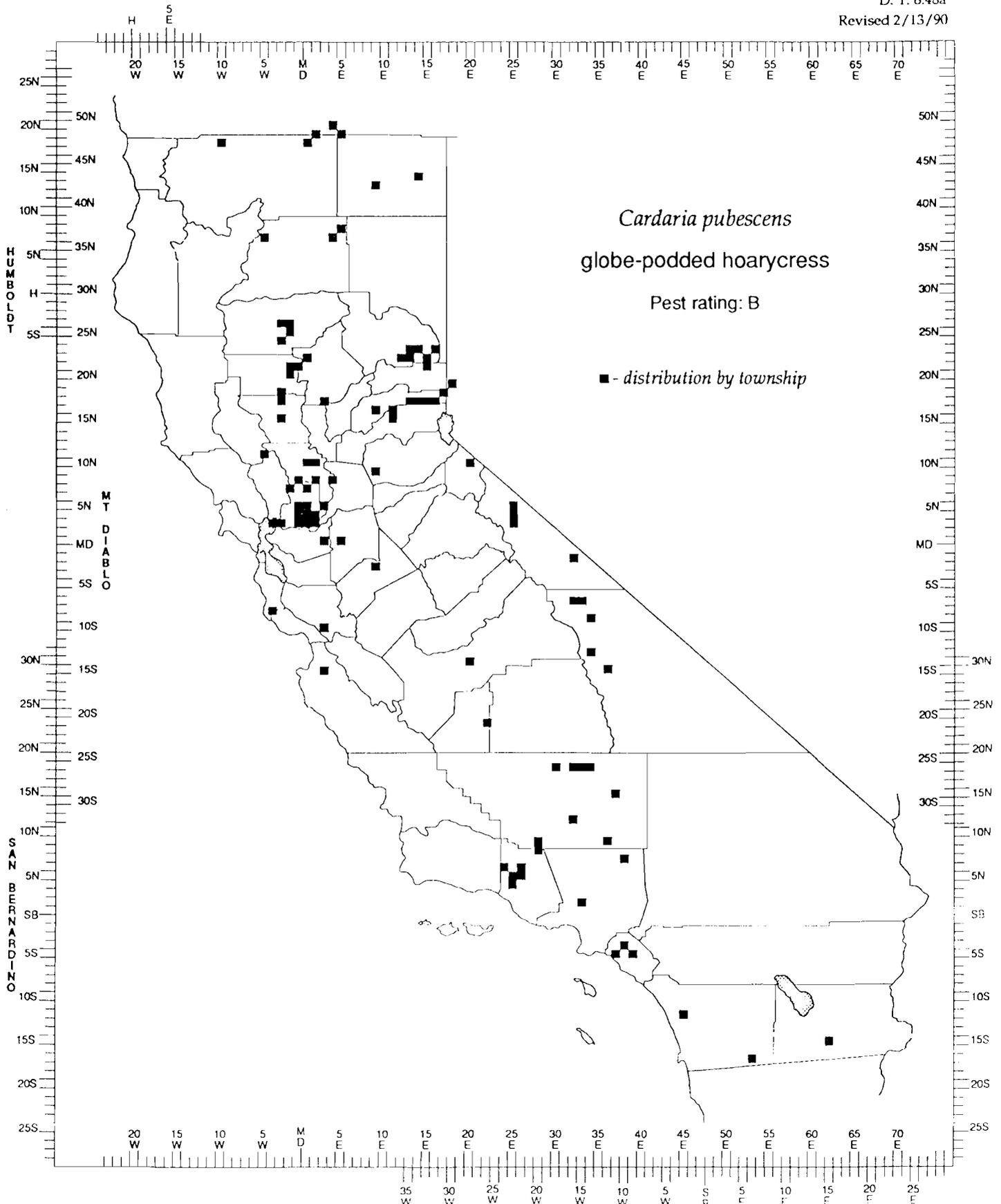
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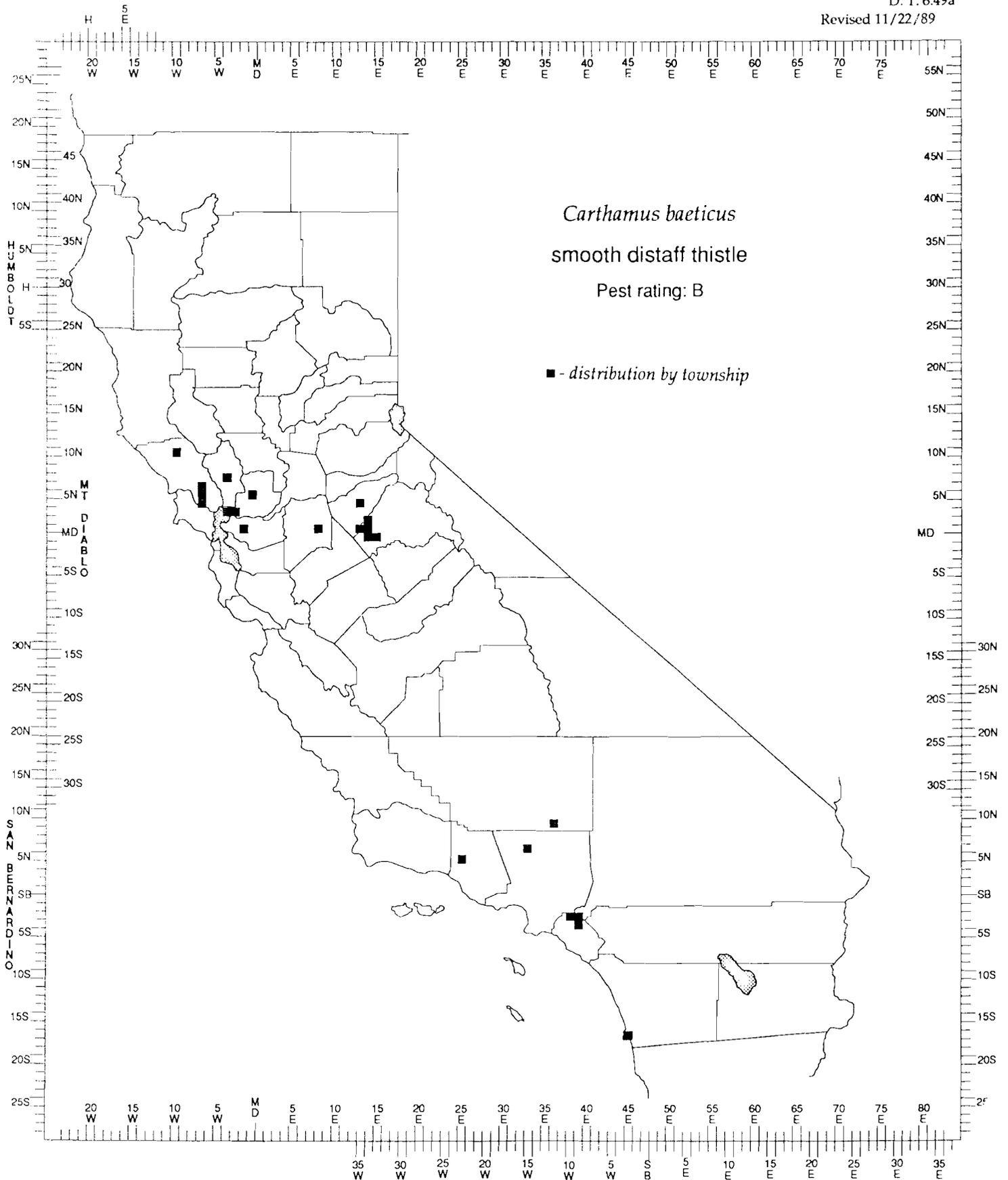
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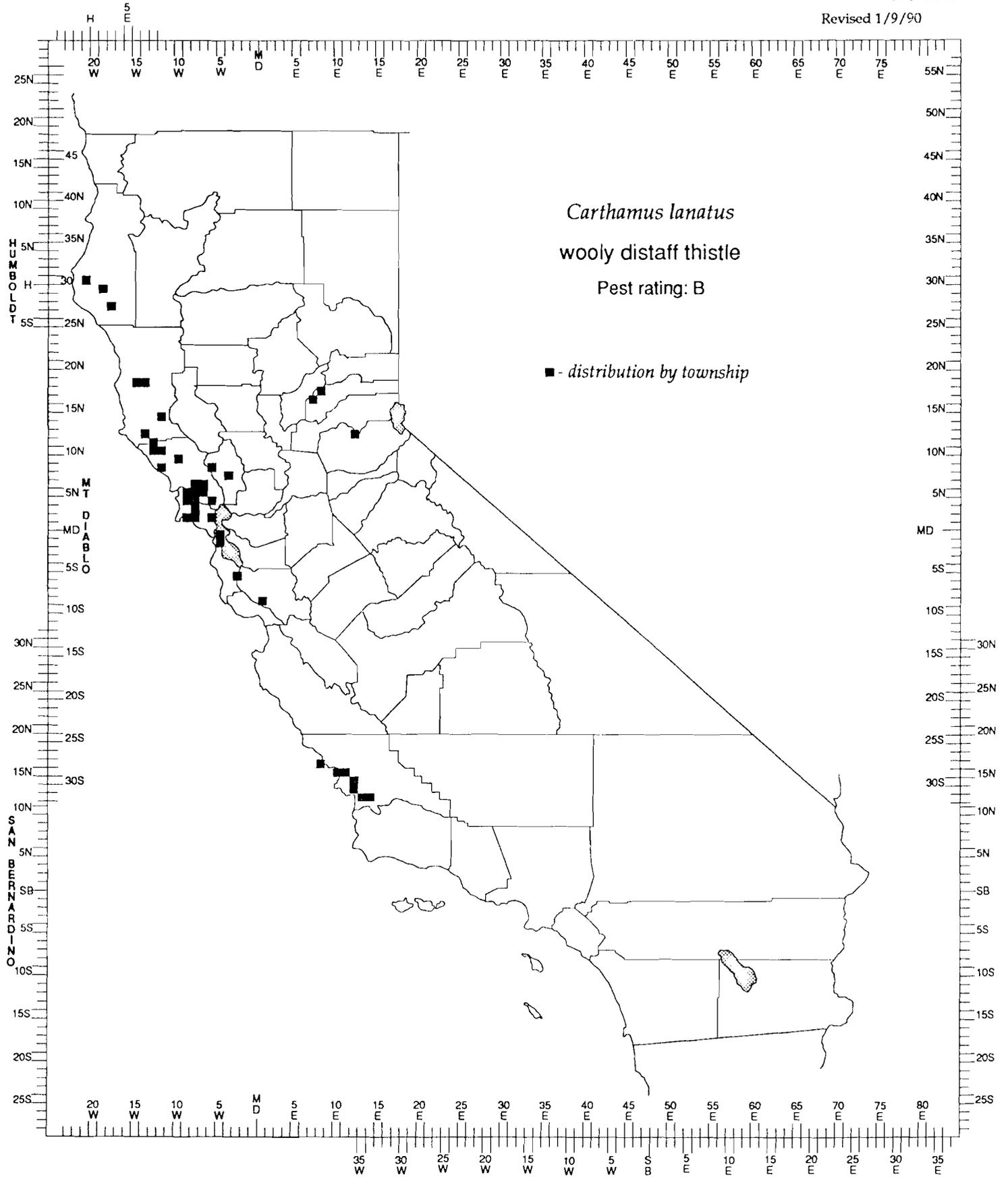
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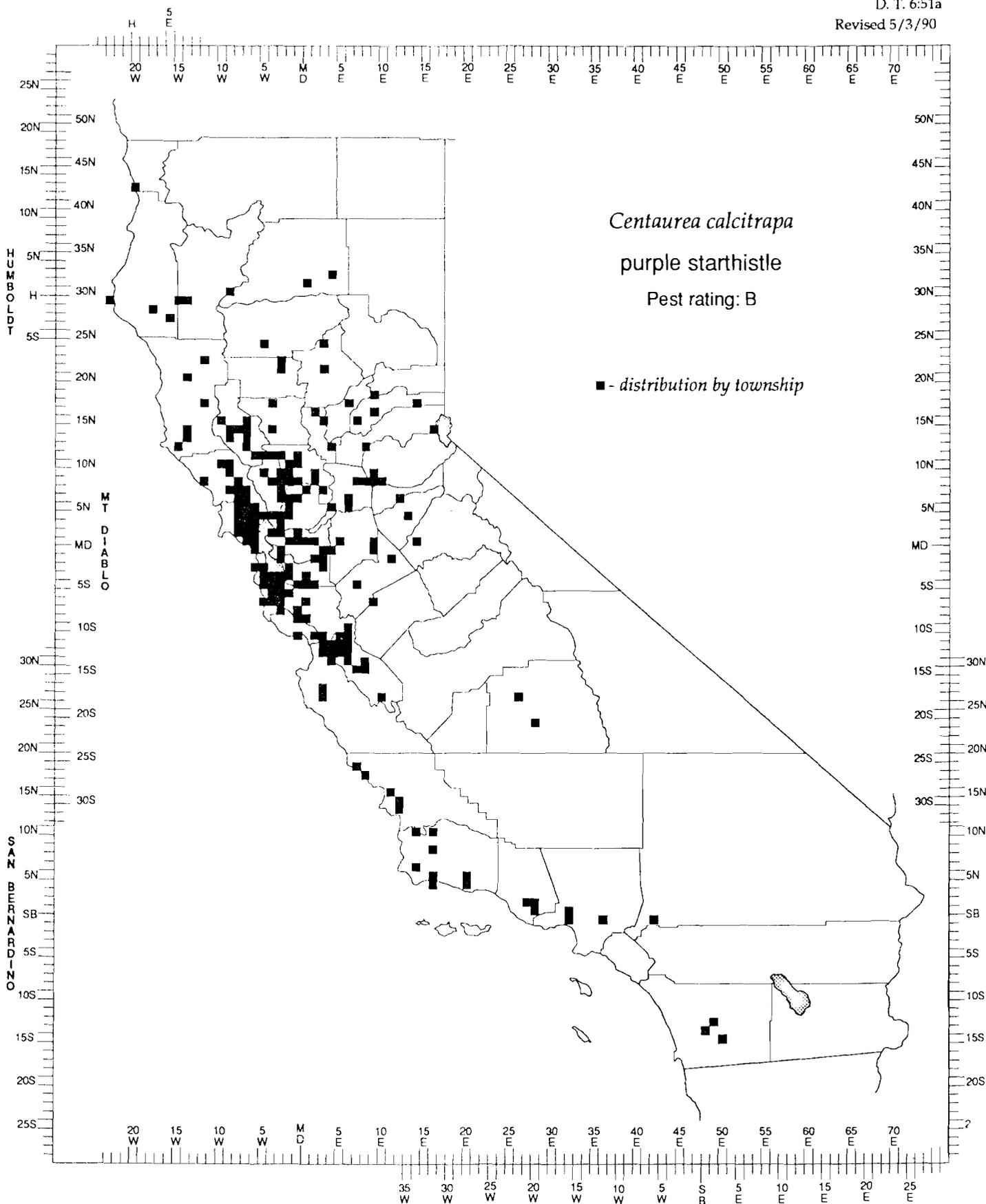
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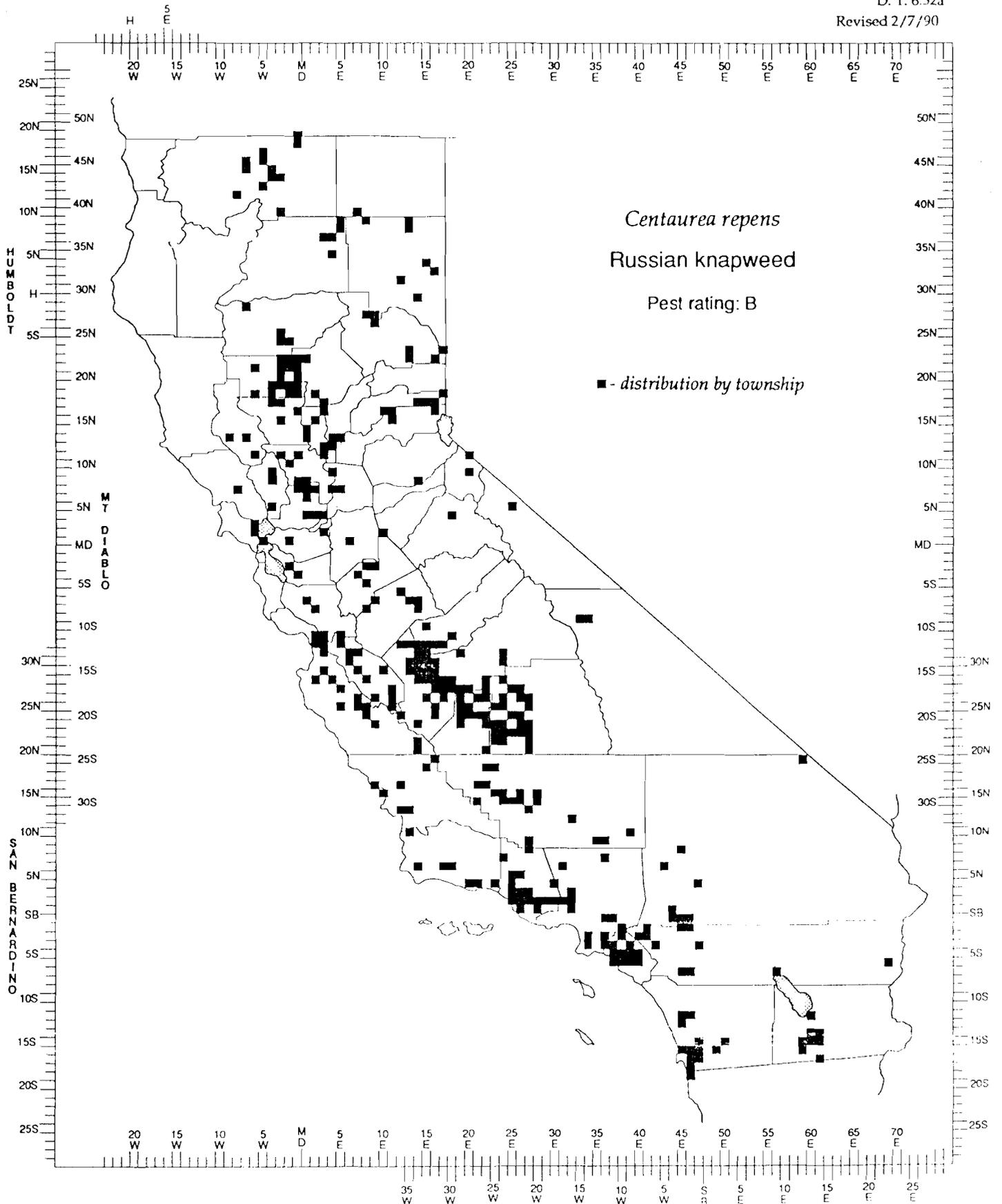
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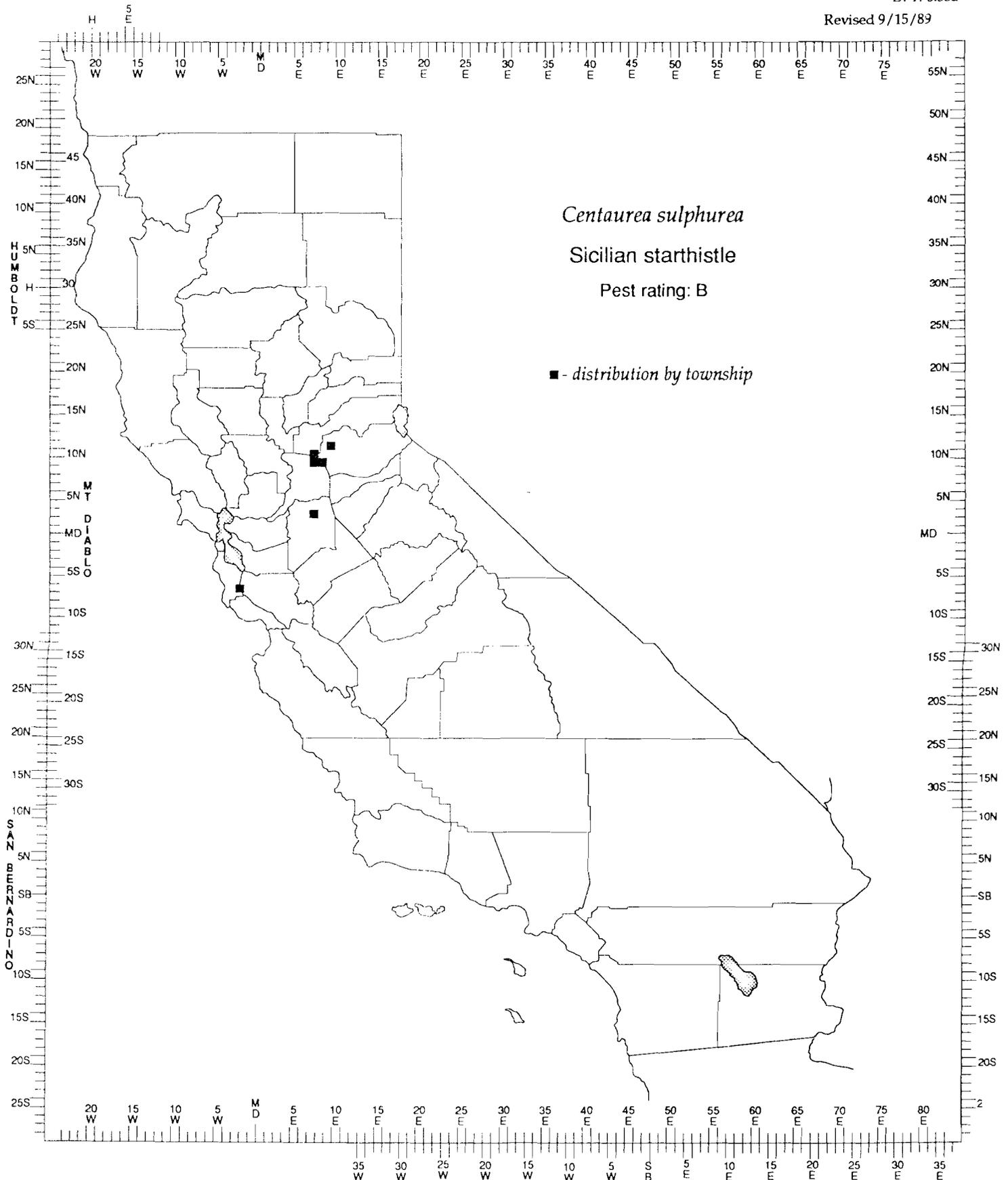
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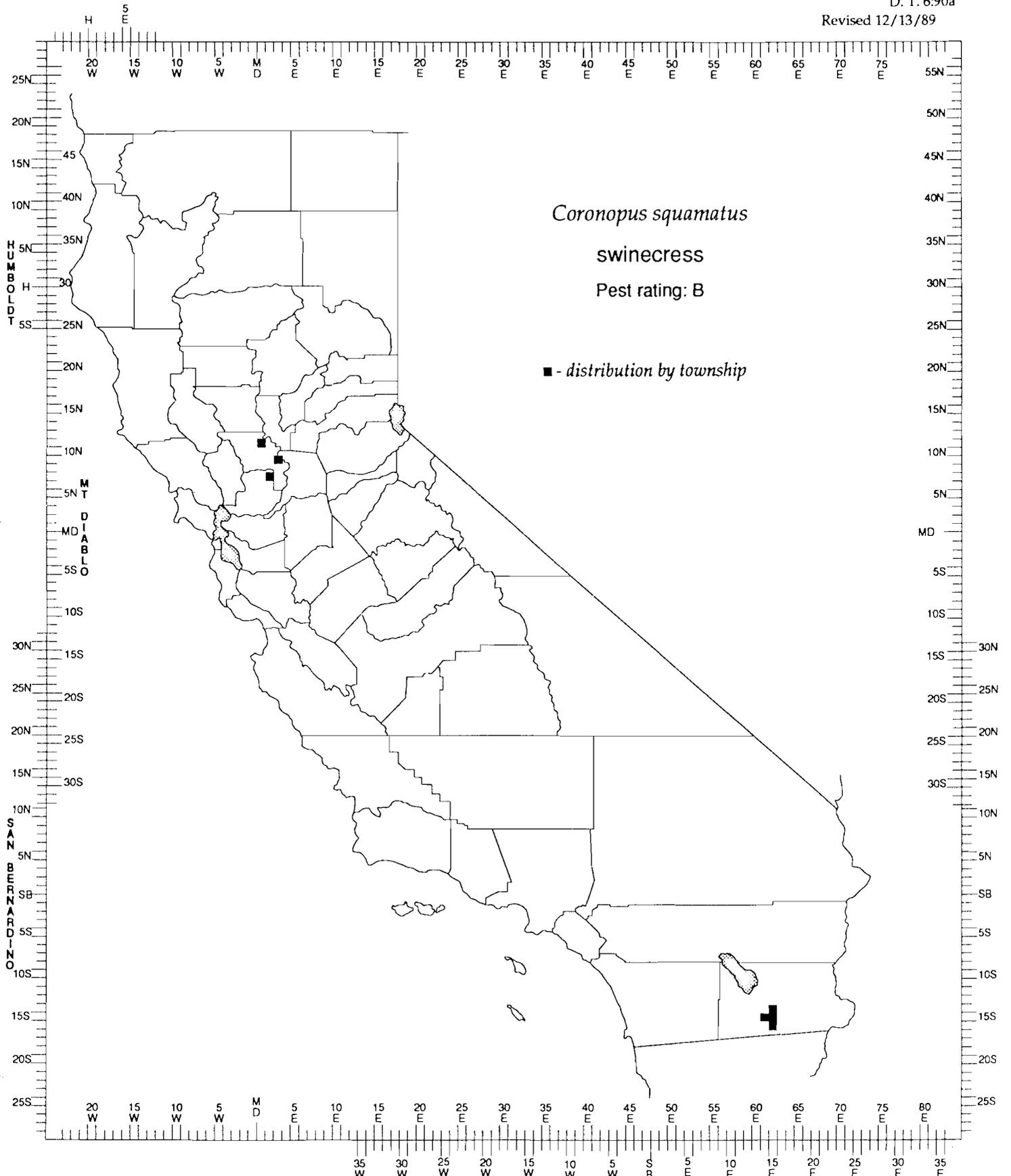
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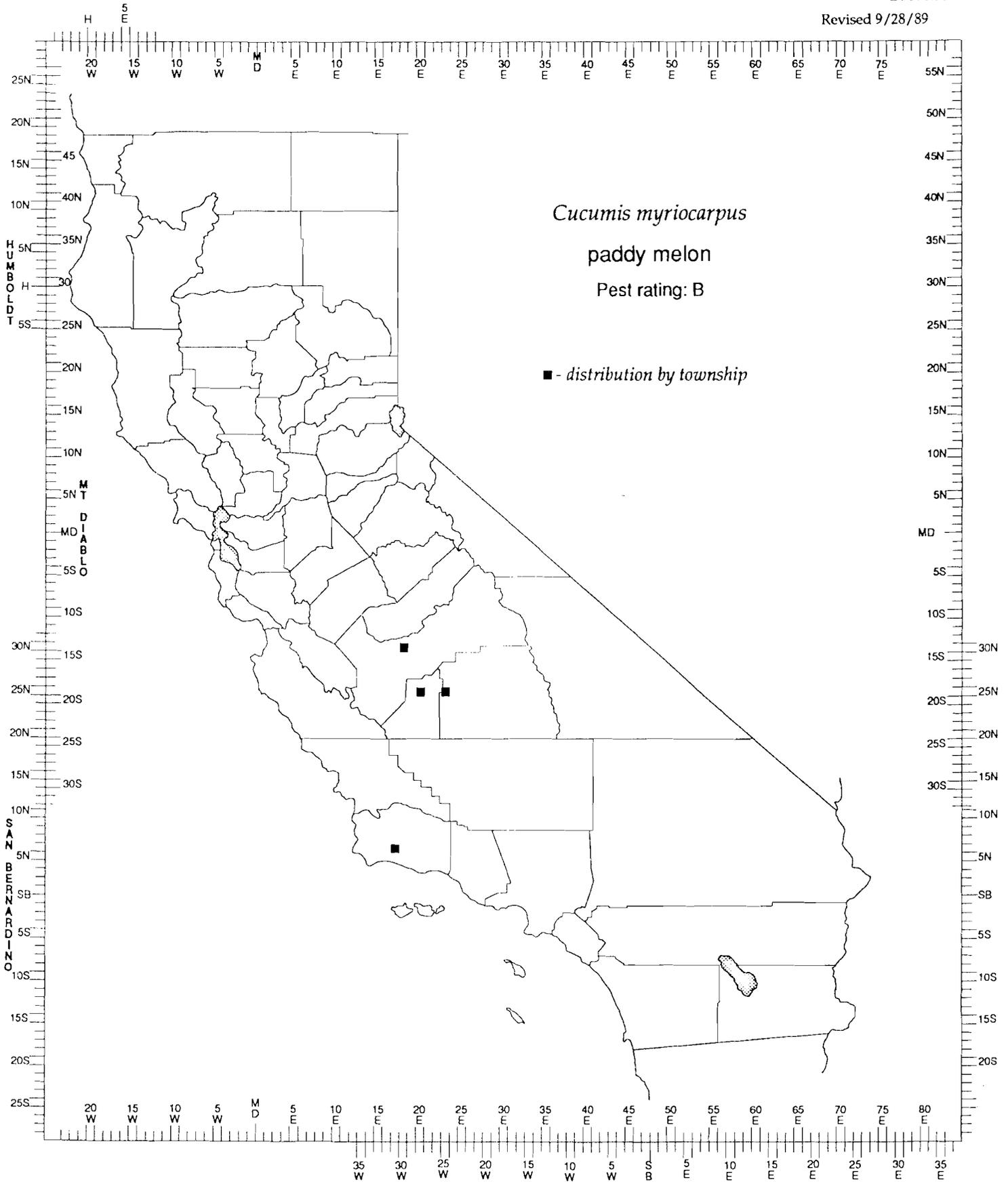
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94

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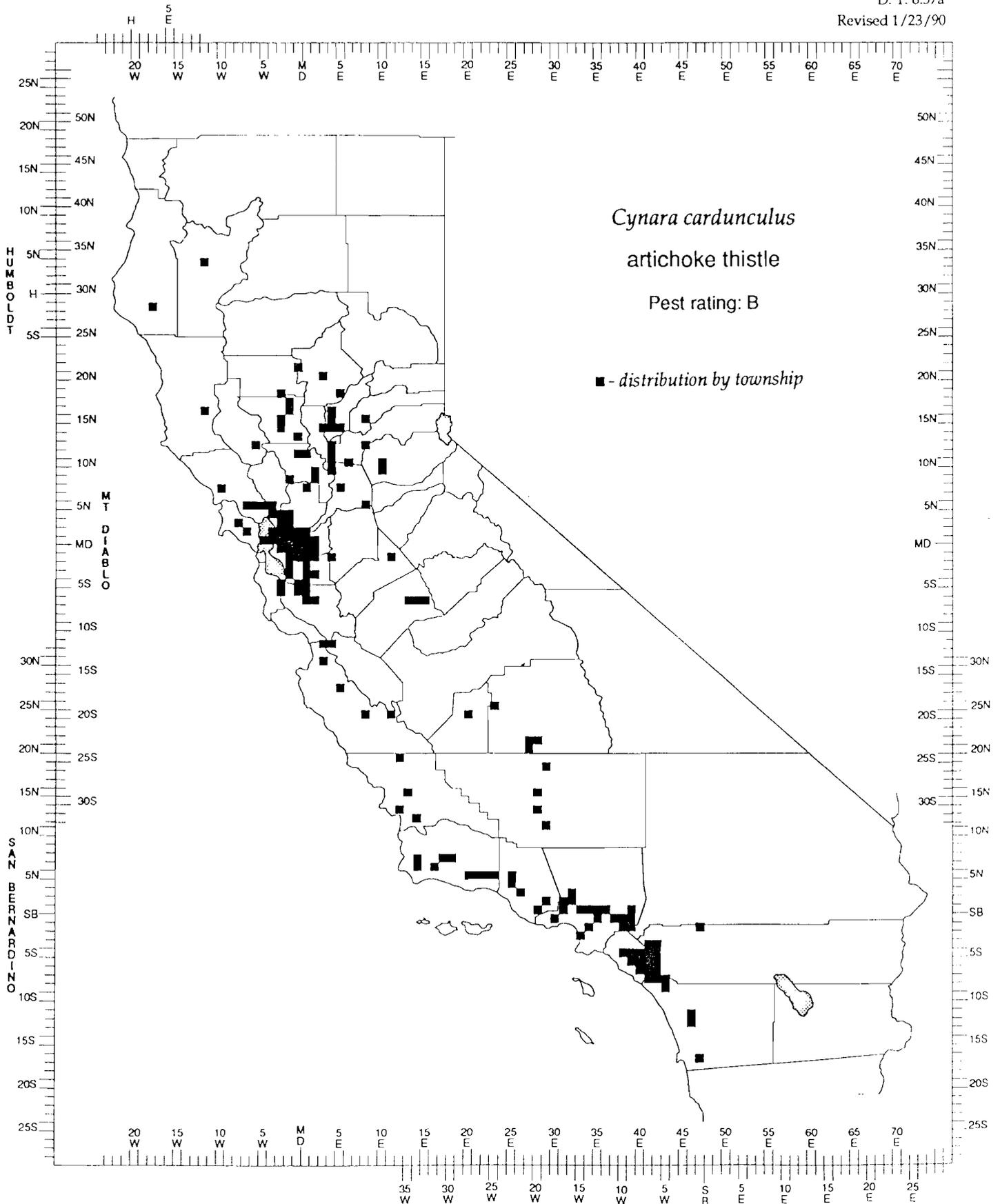
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95

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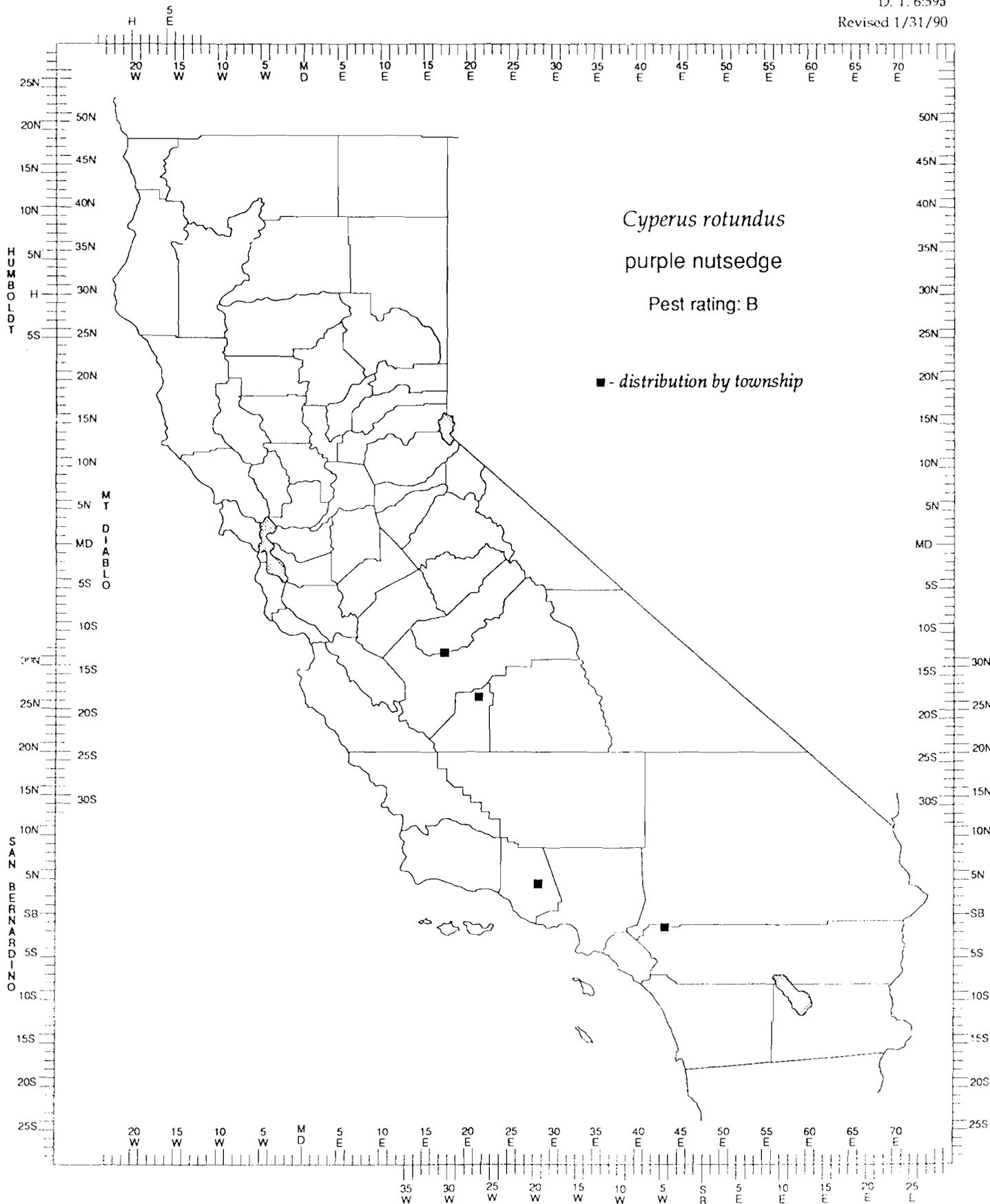
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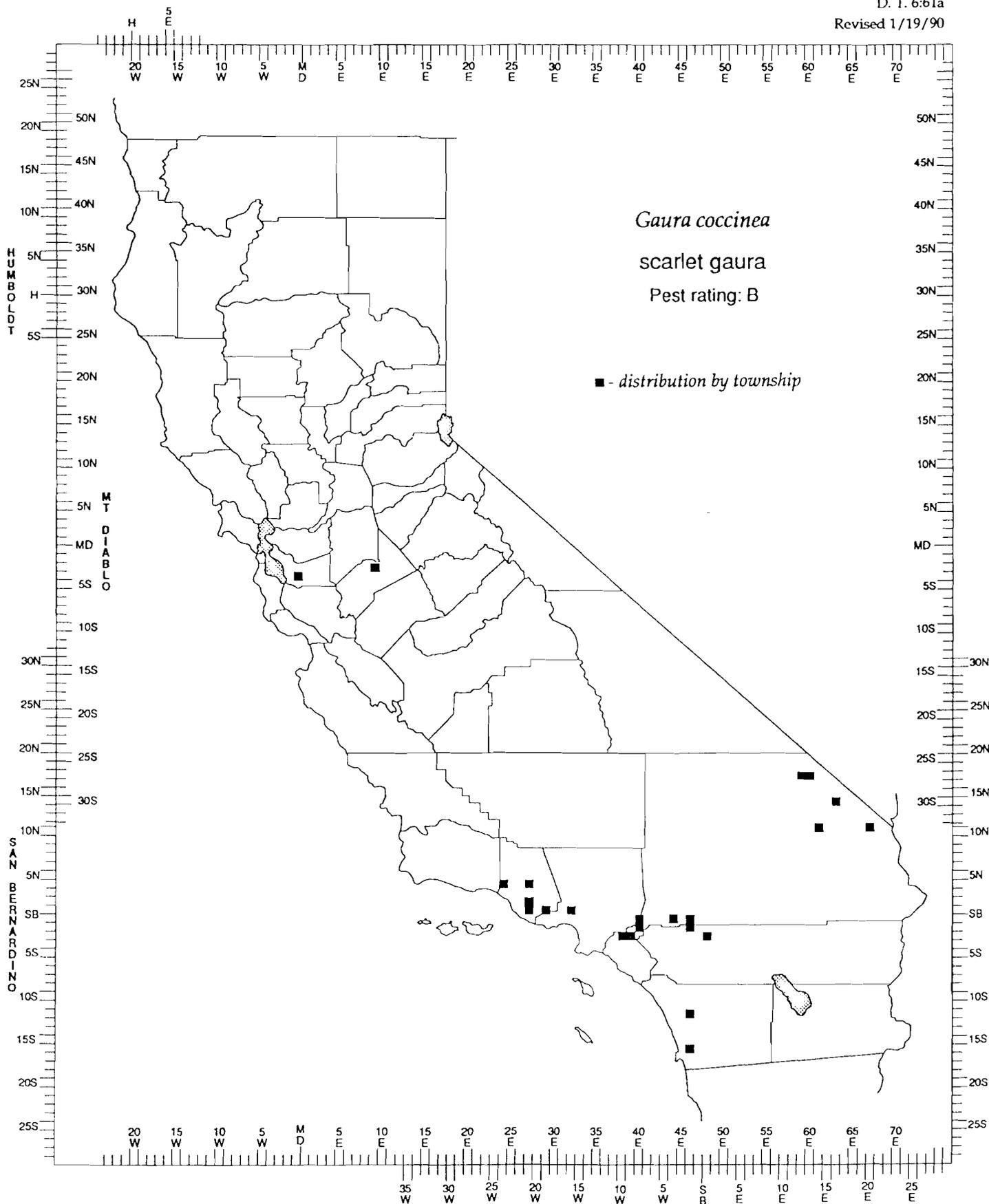
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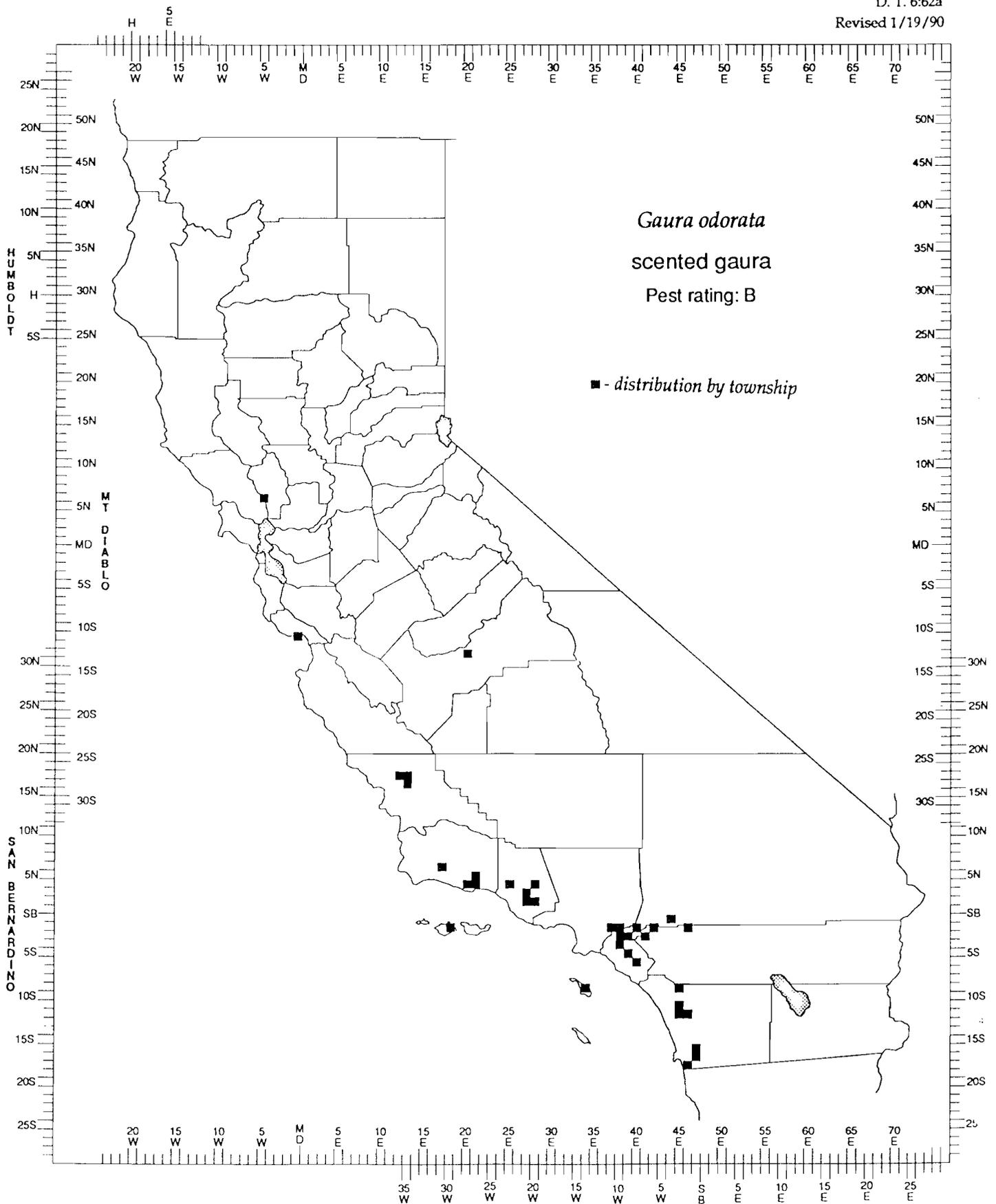
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100

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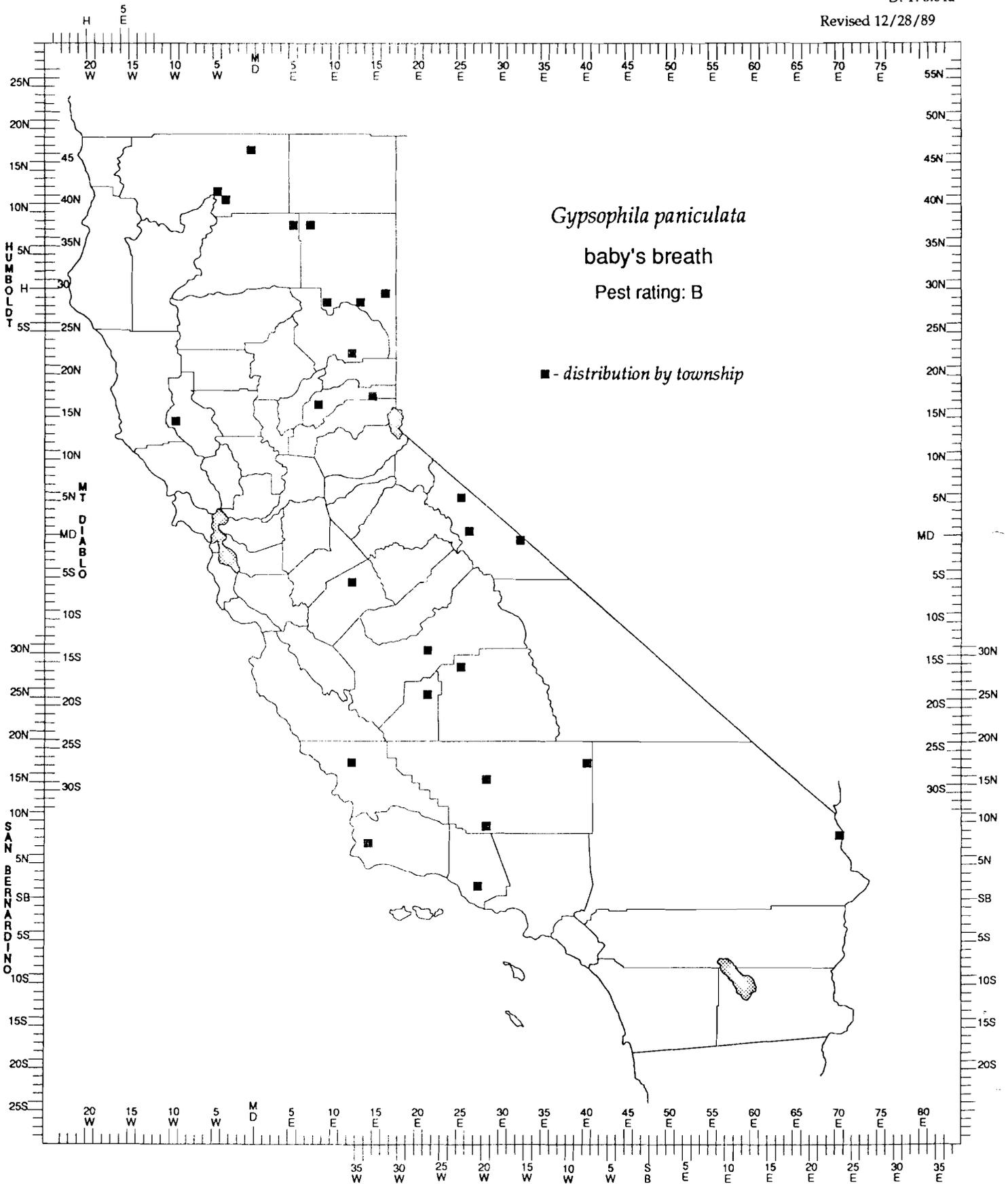
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102

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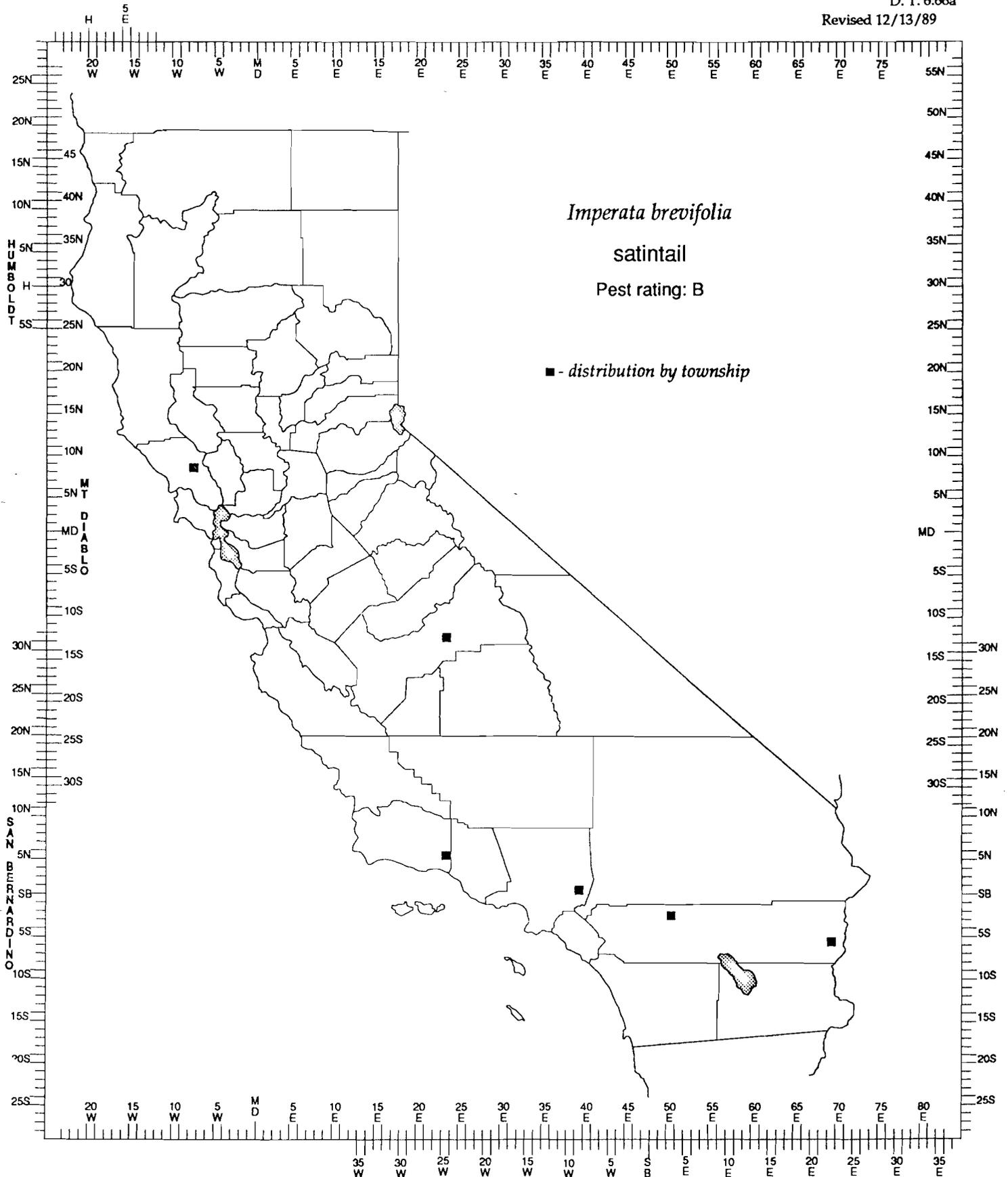
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103

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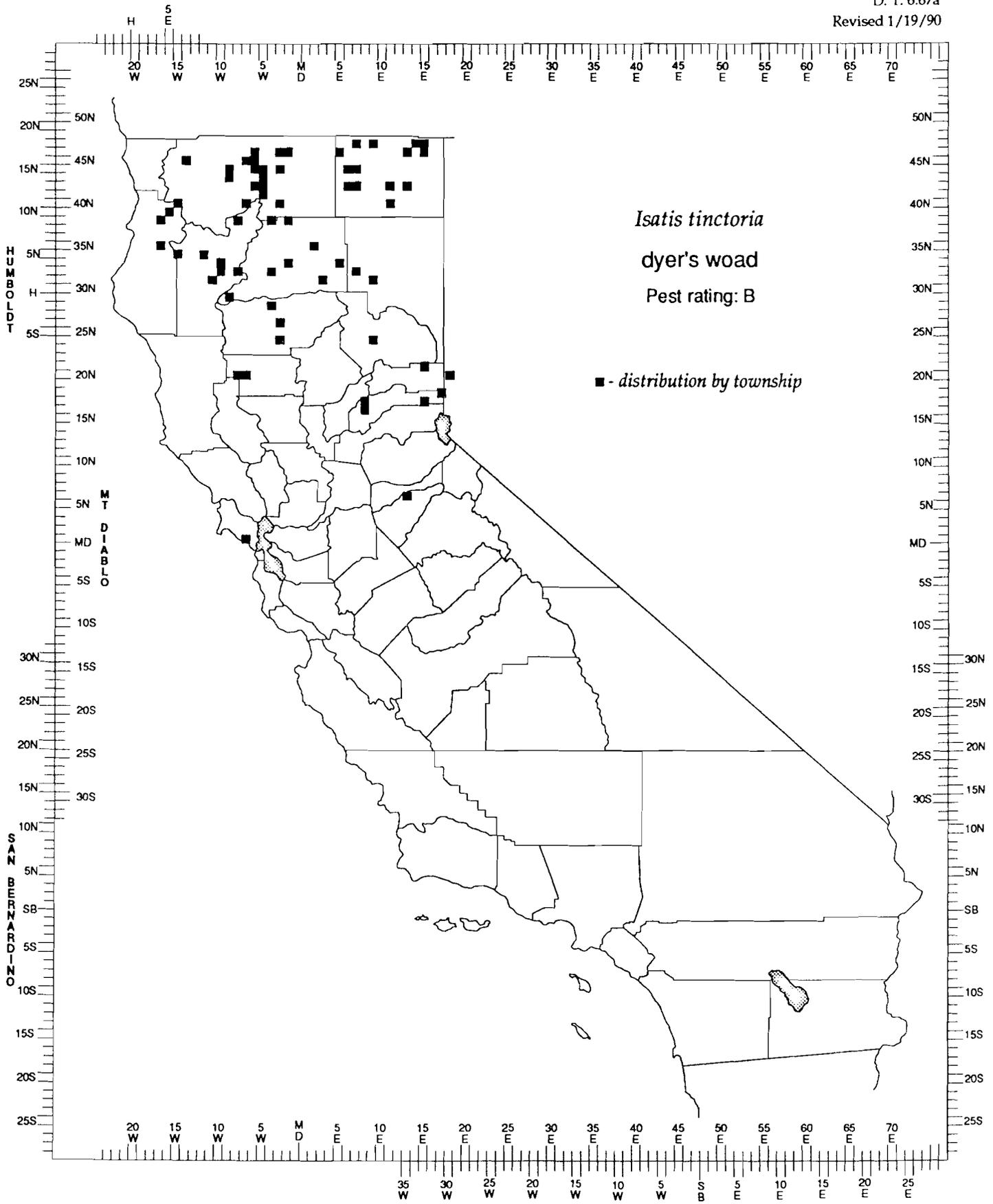
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104

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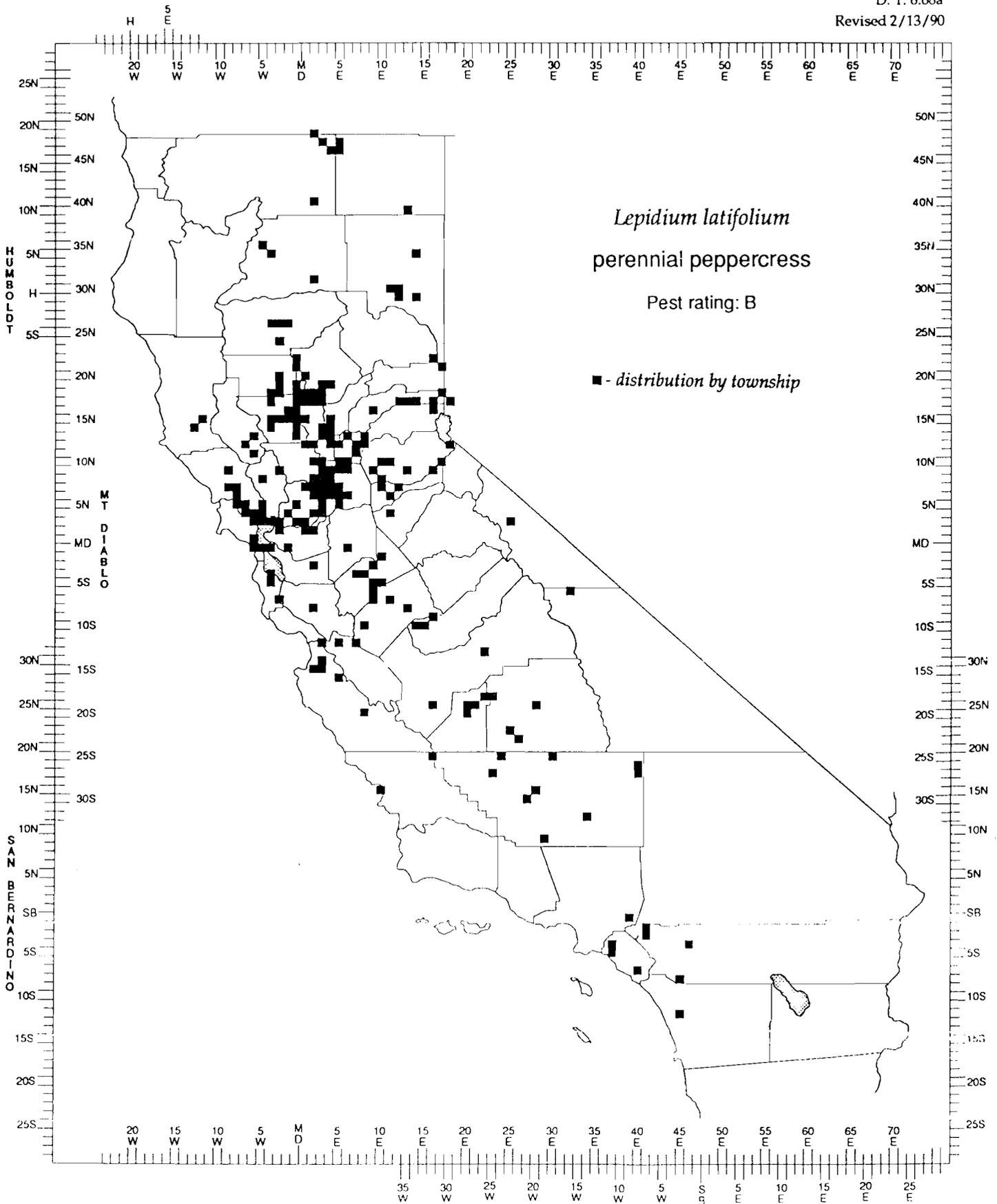
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105

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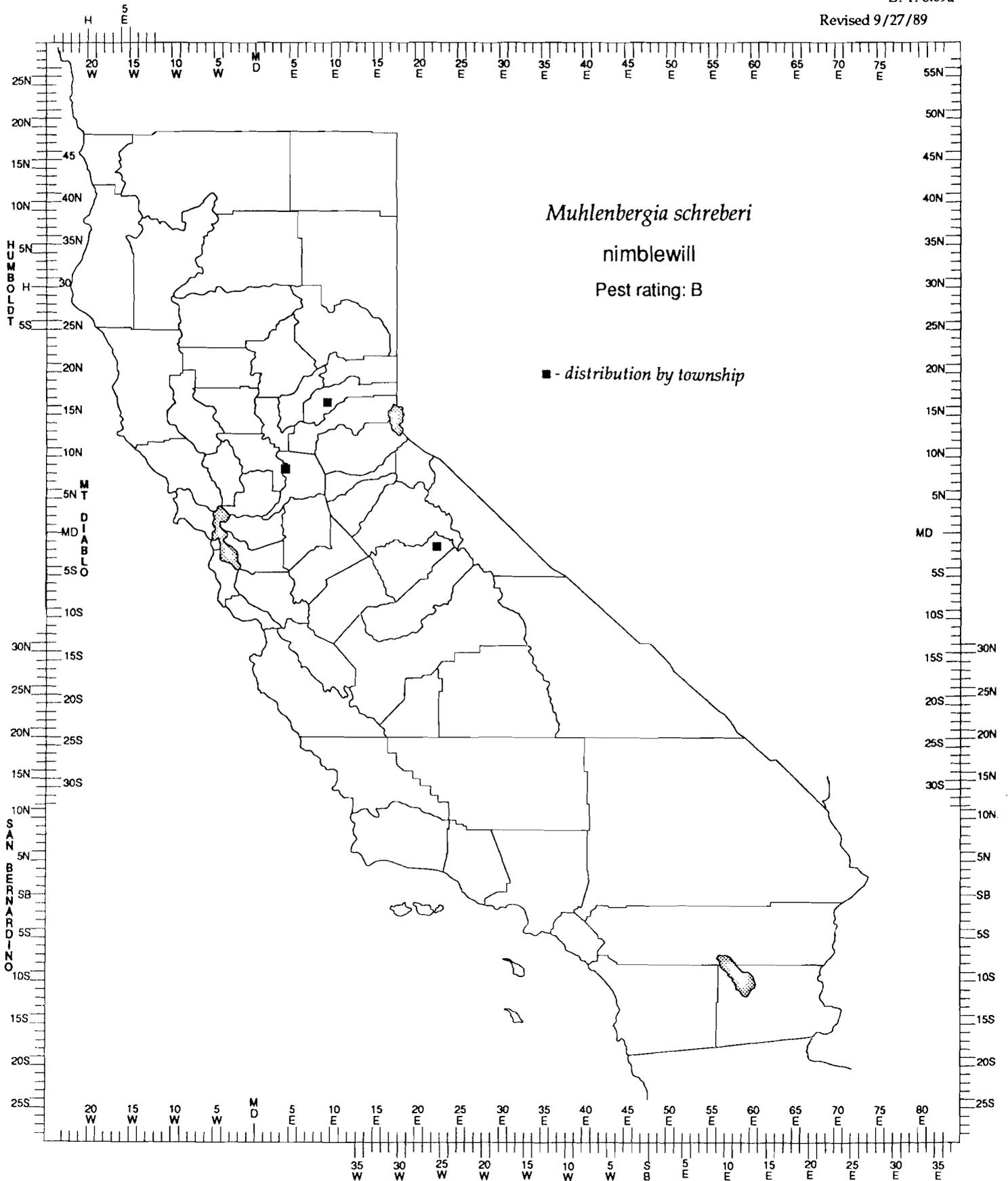
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107

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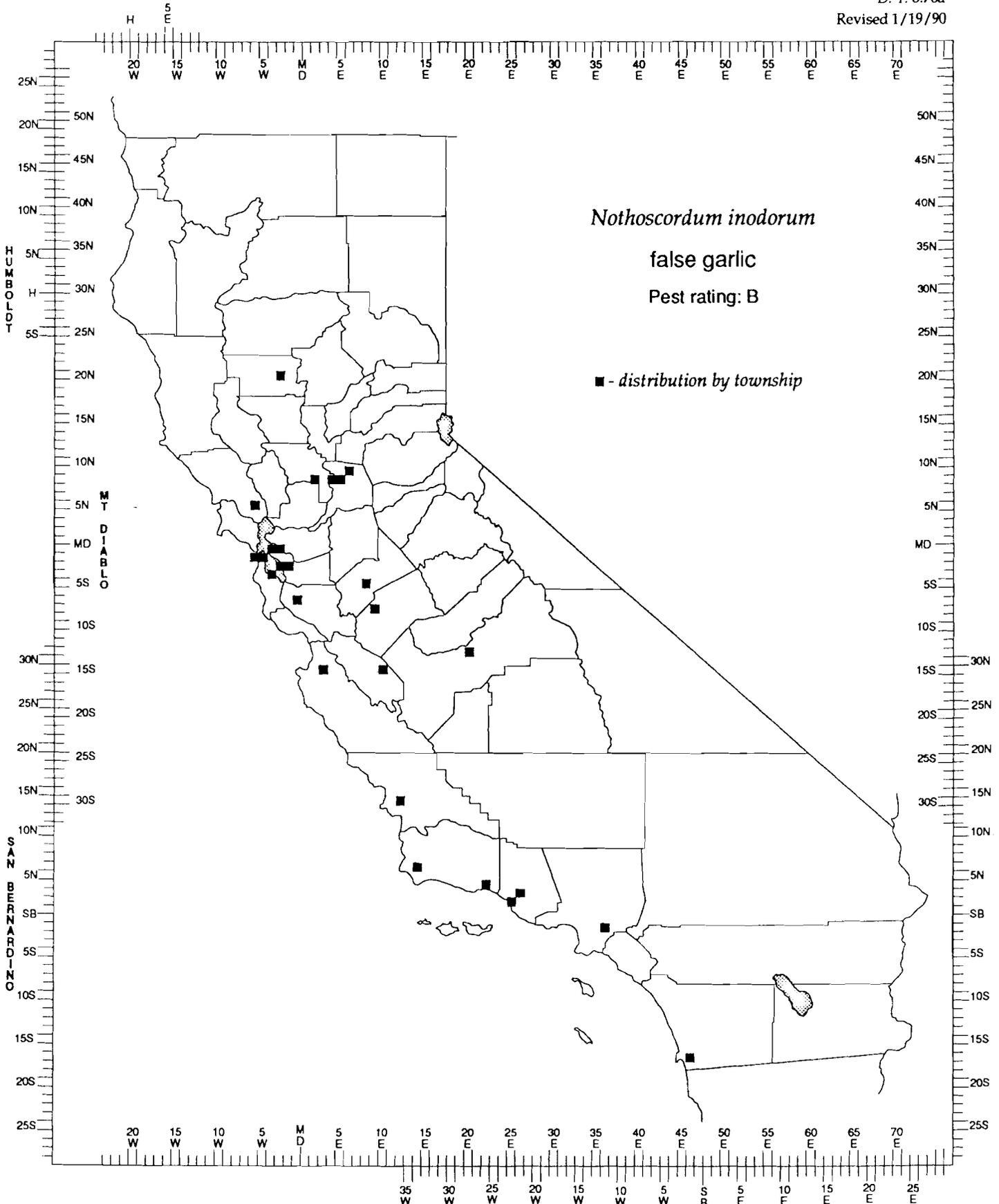
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108

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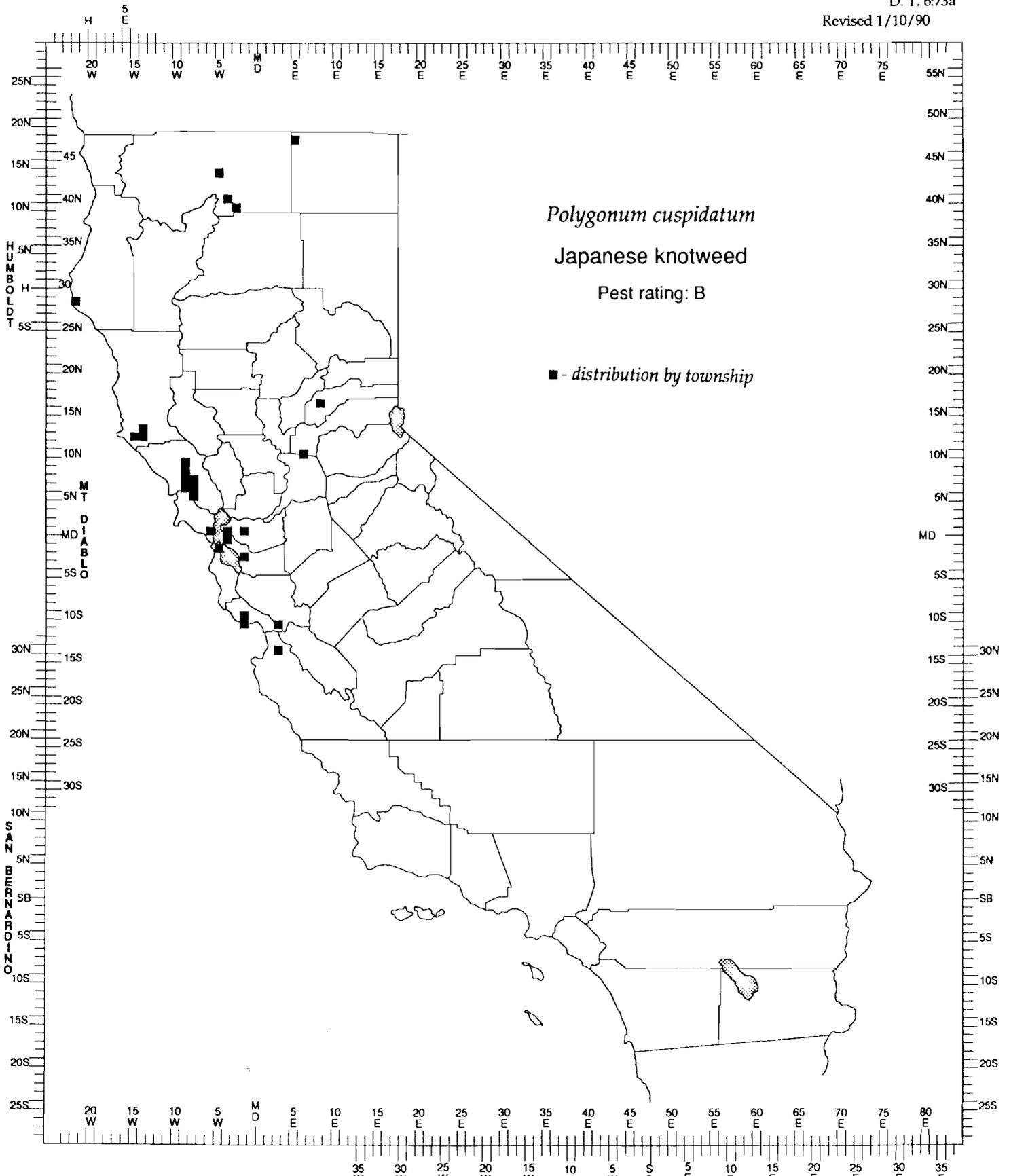
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112

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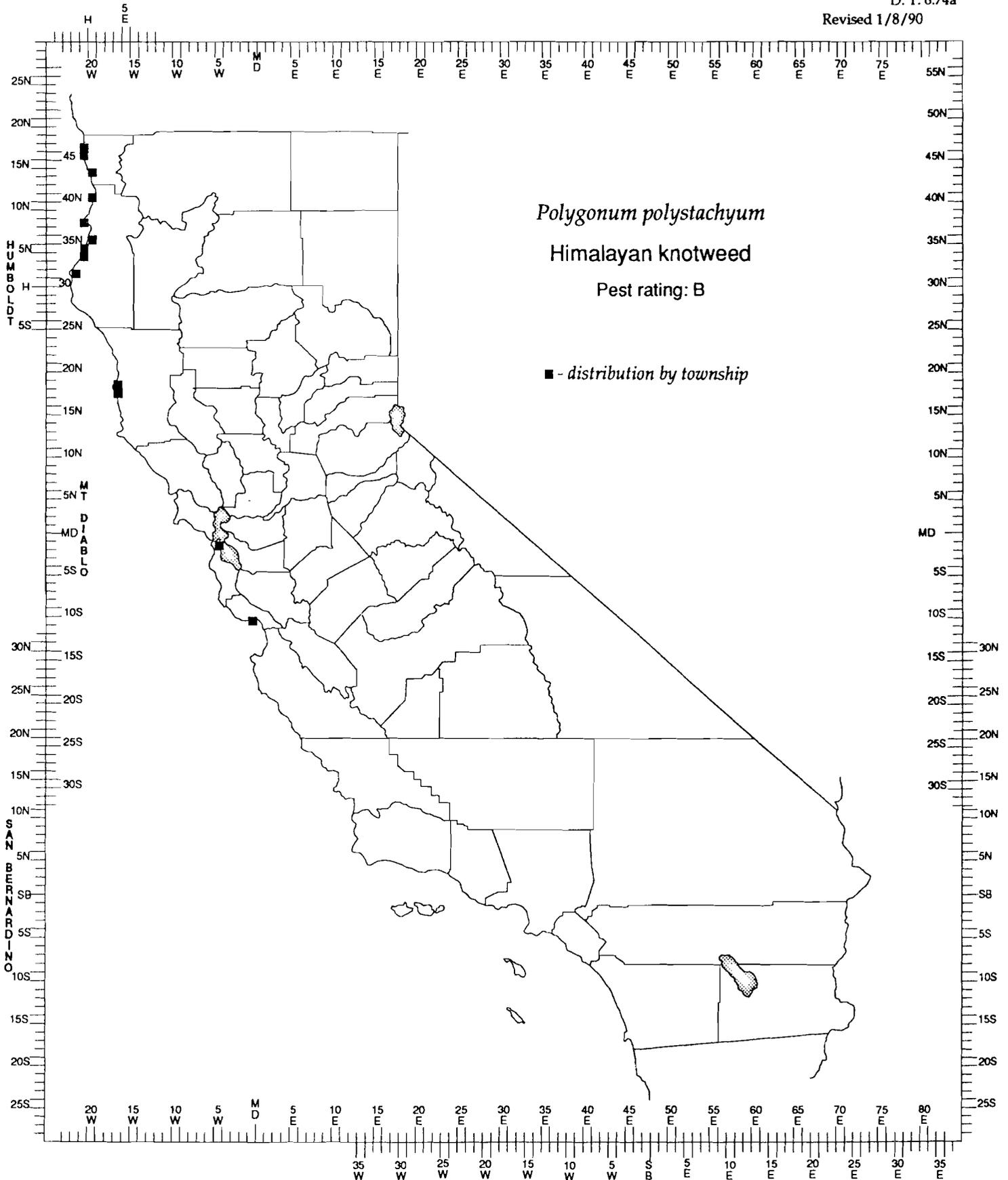
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113

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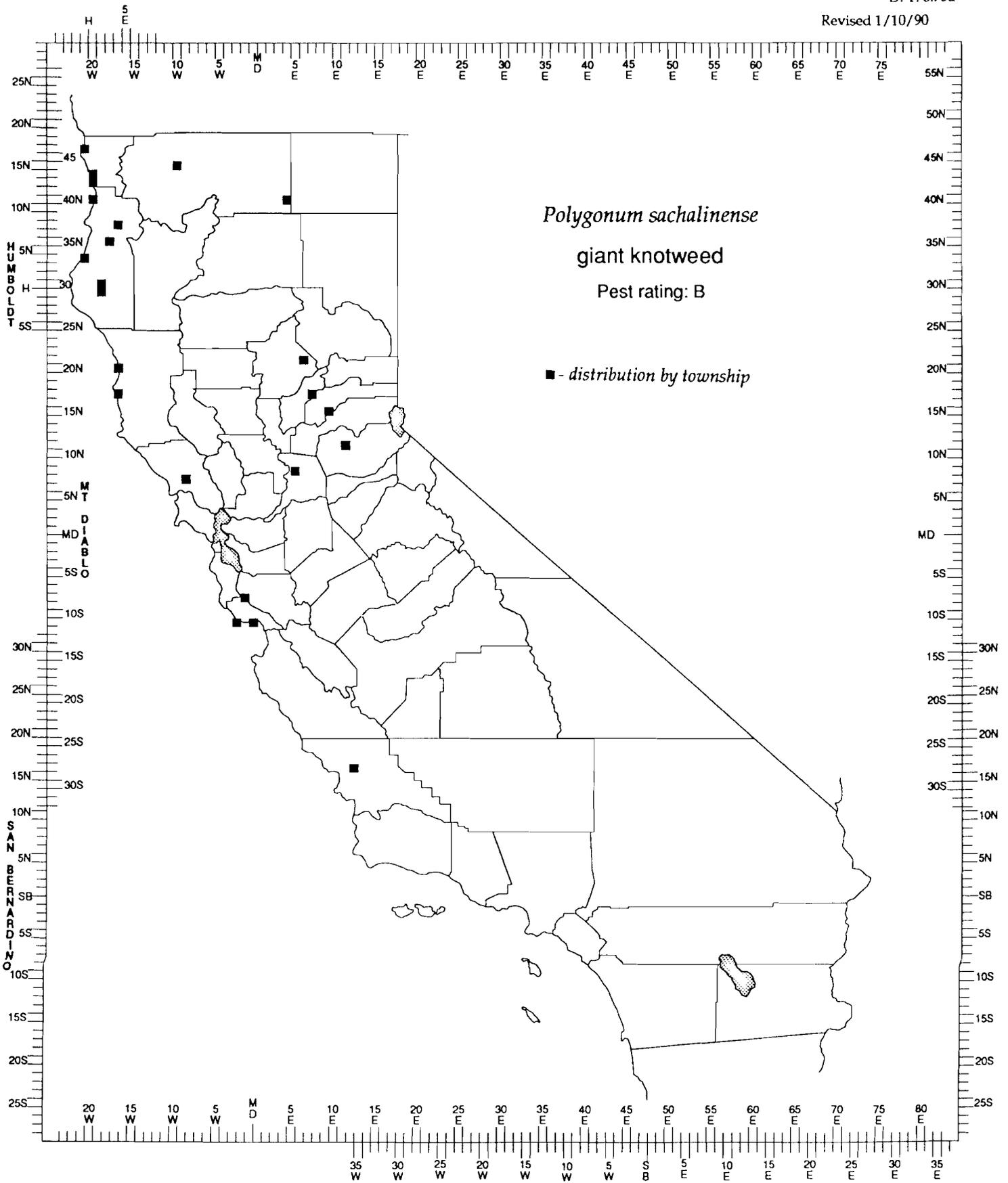
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114

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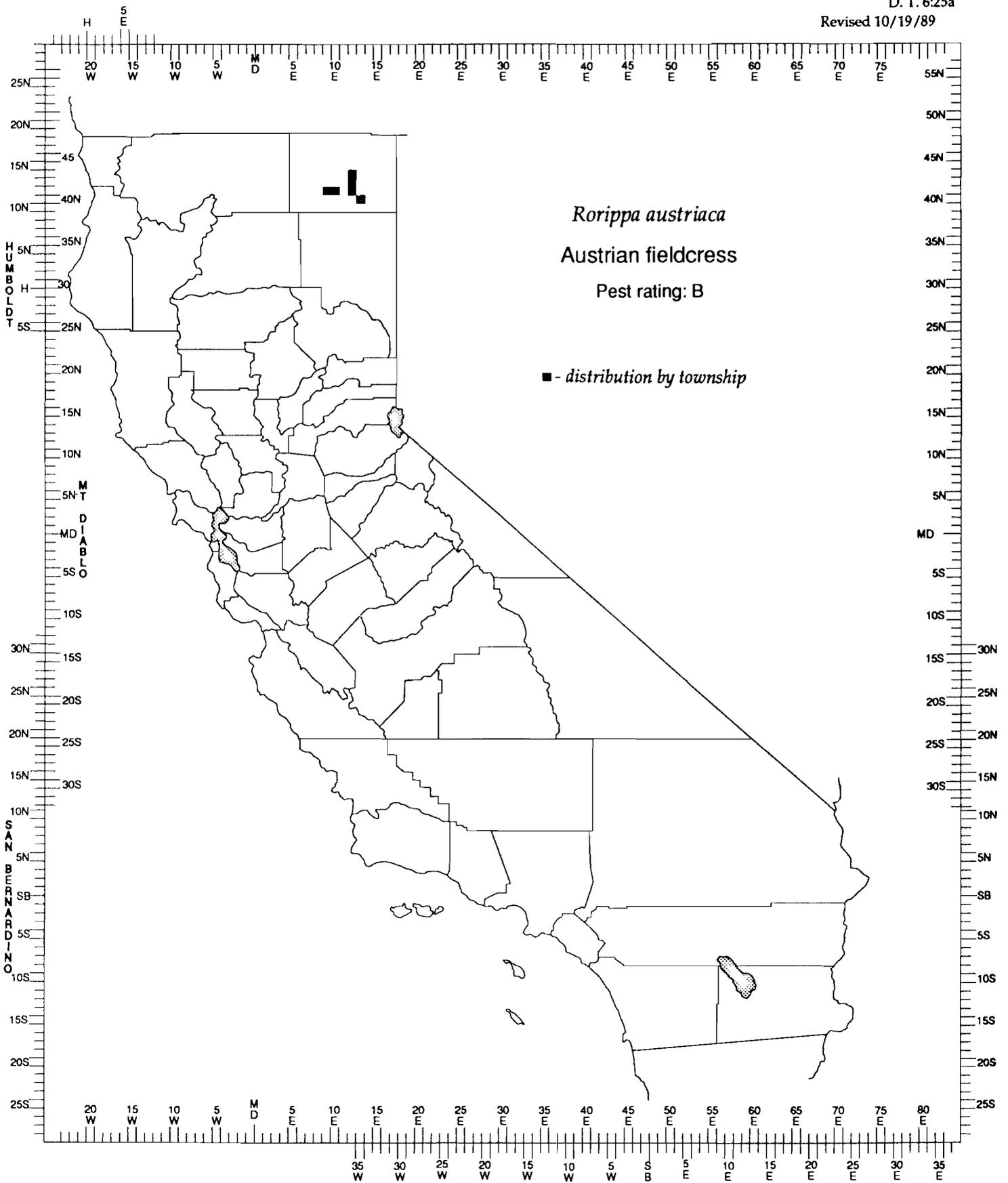
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115

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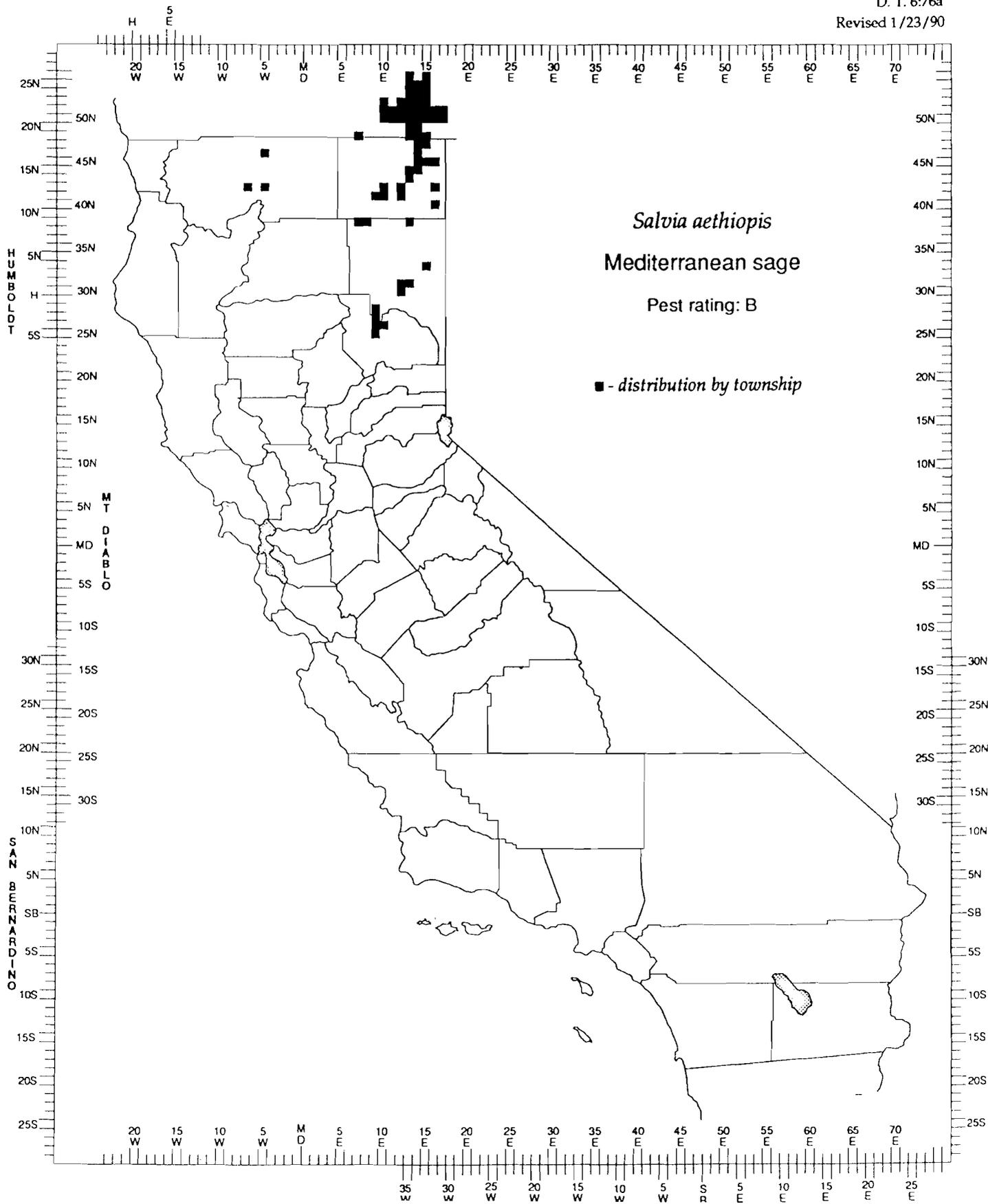
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116

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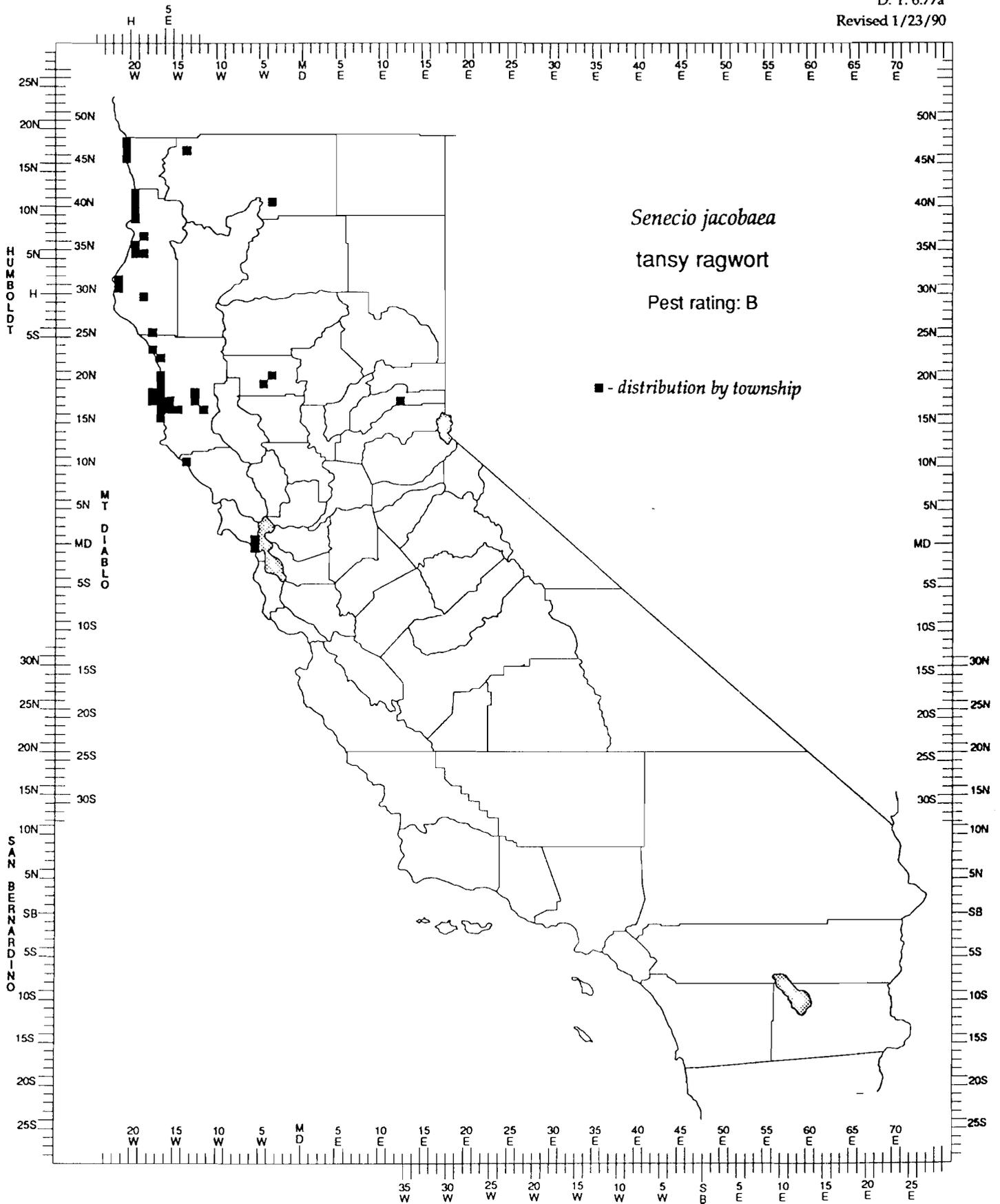
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117

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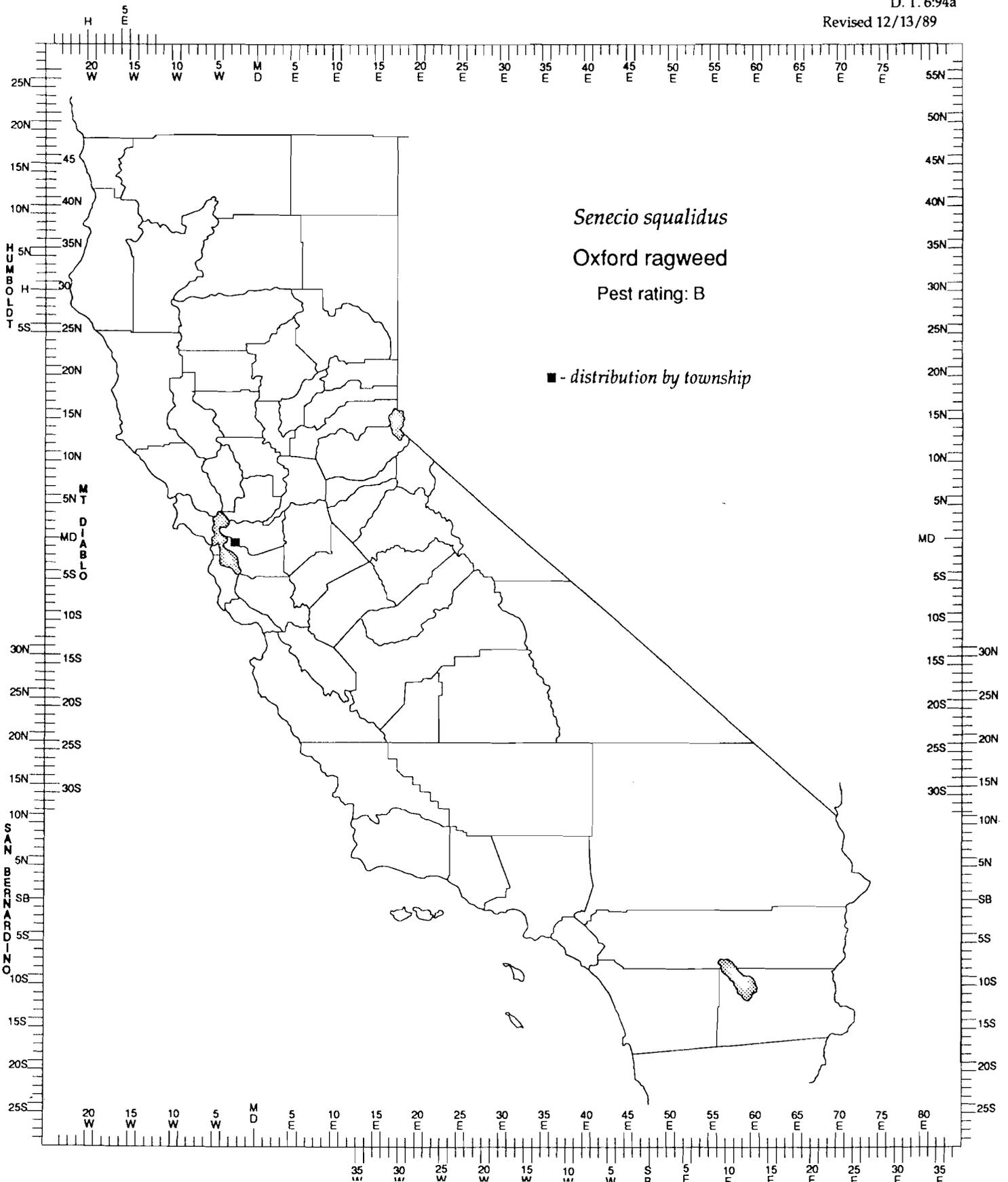
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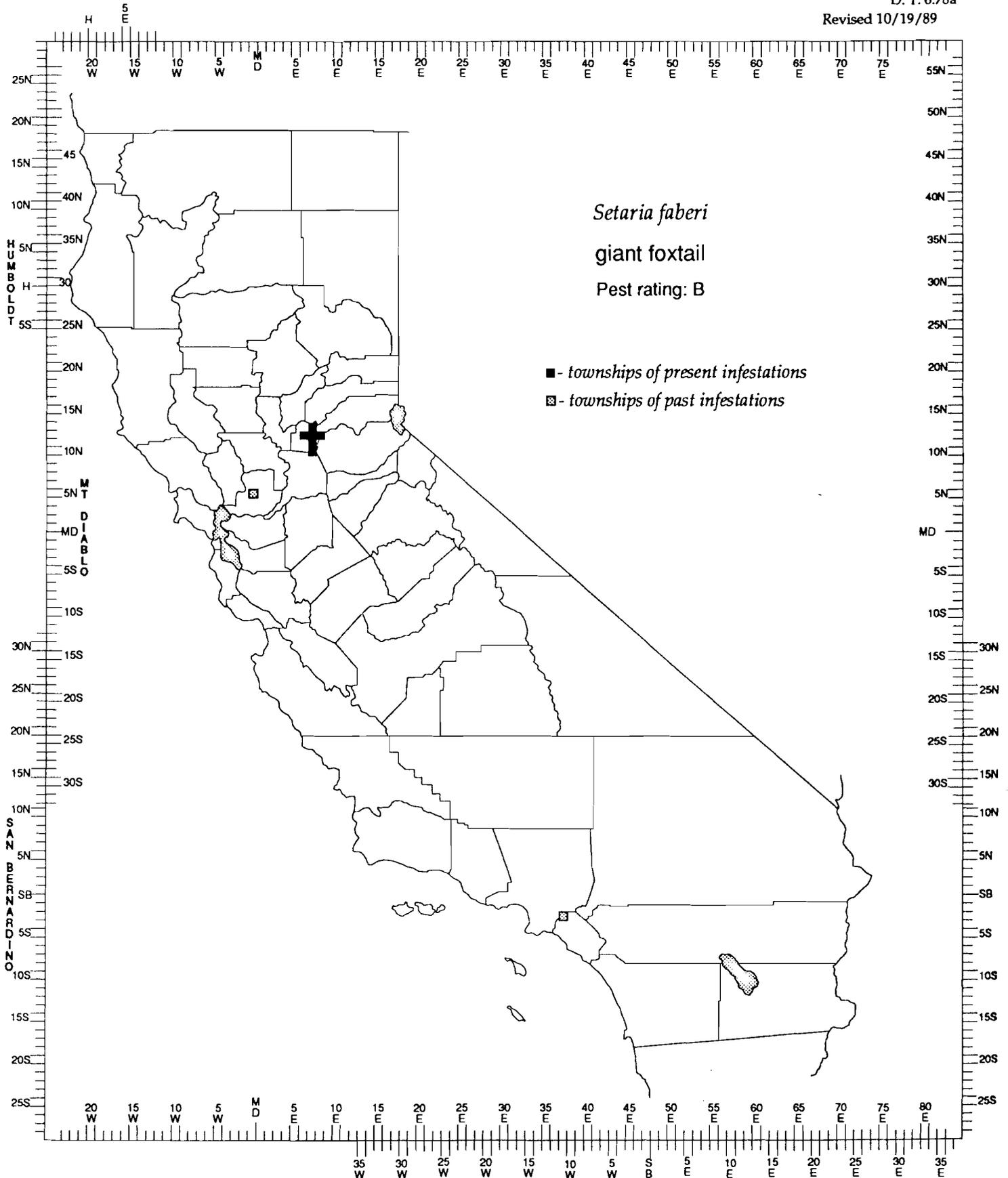
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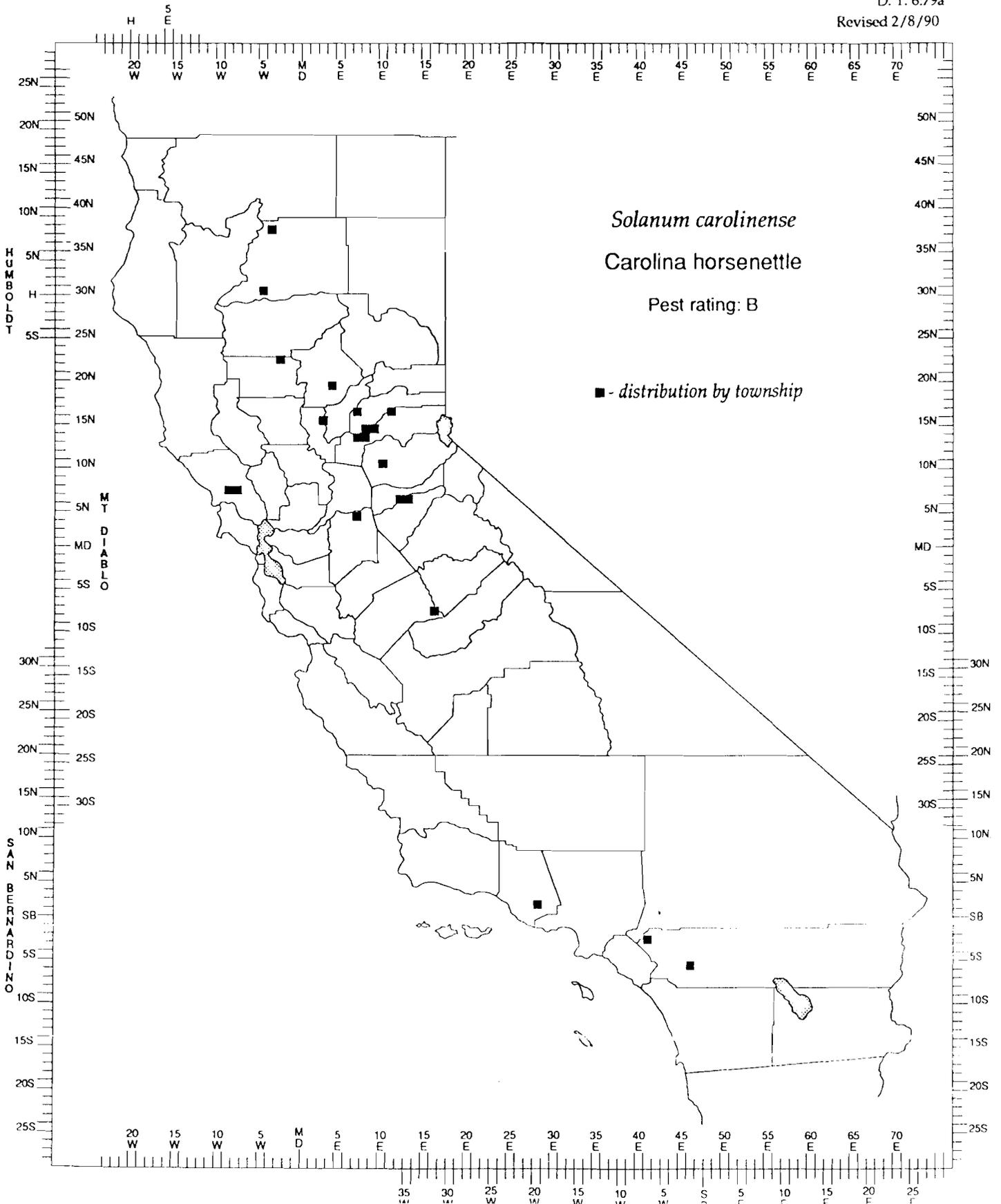
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120

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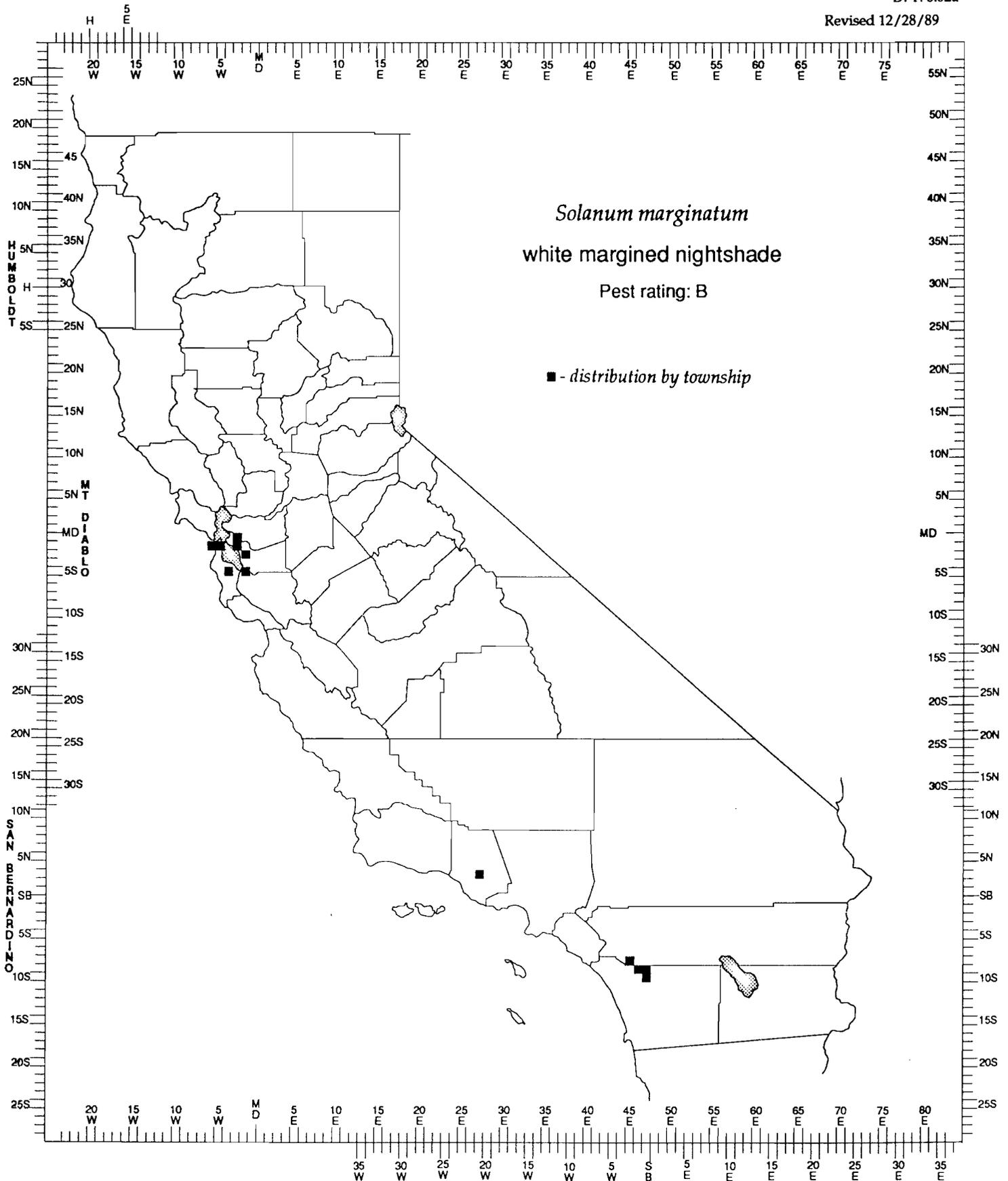
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121

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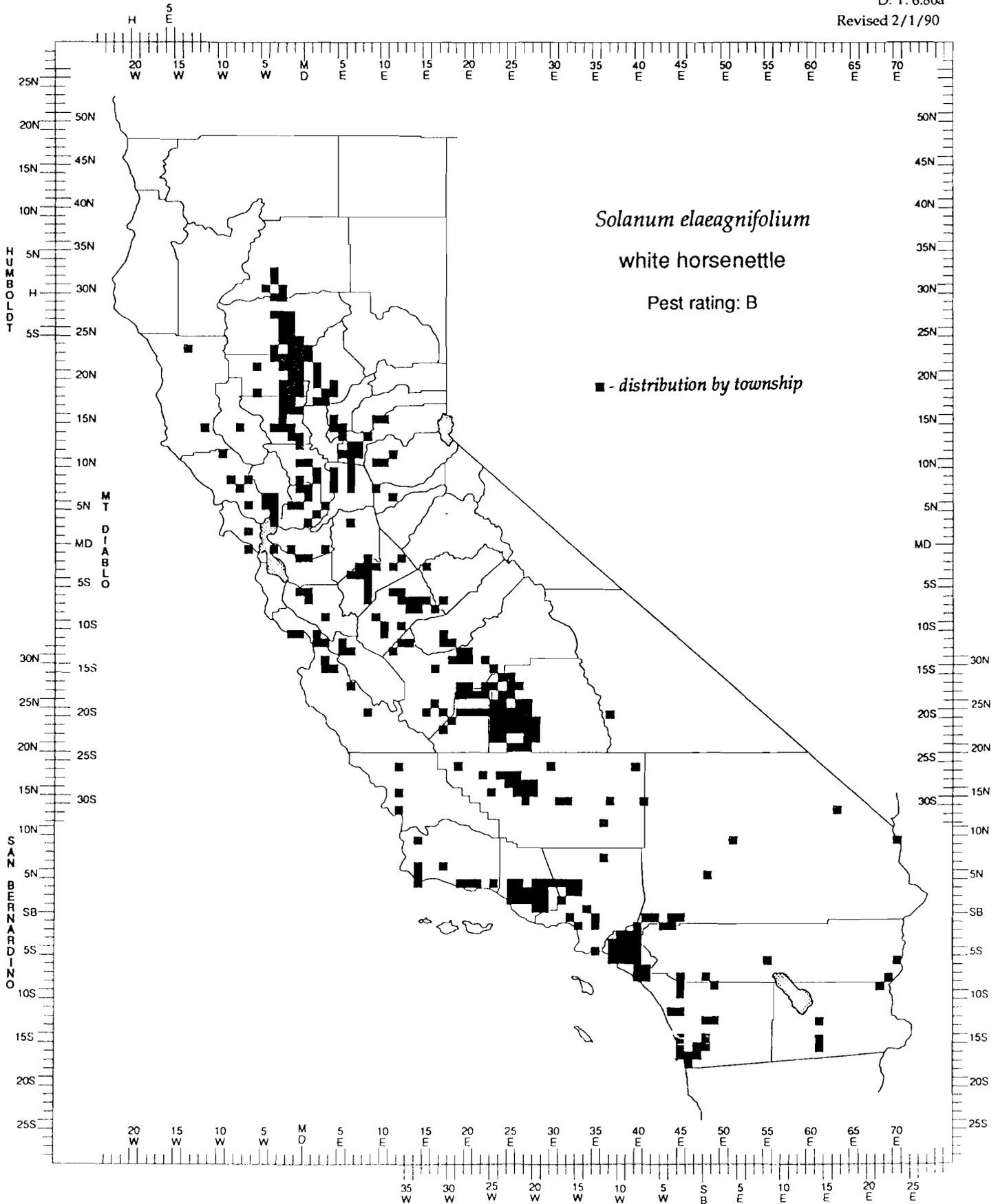
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122

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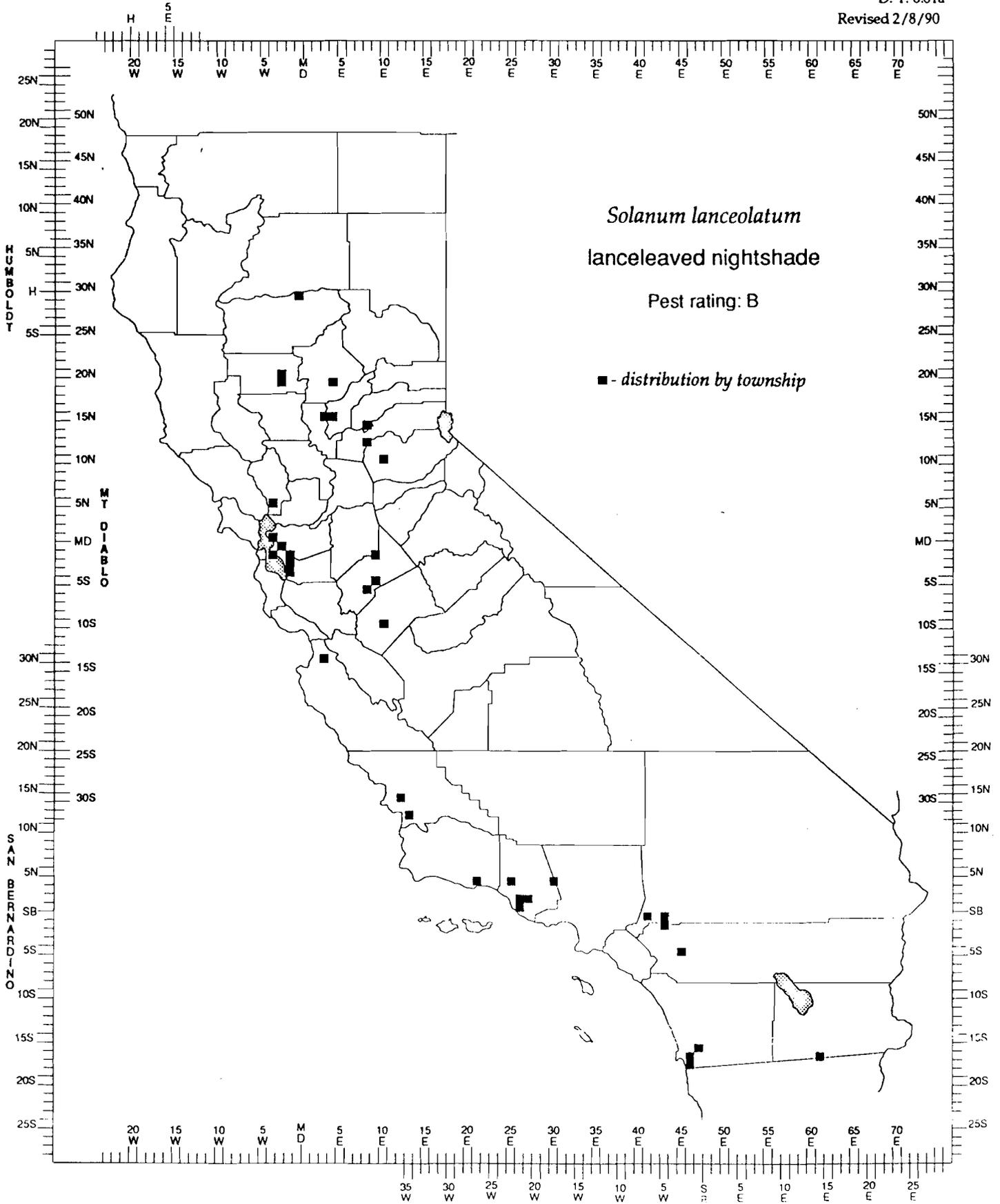
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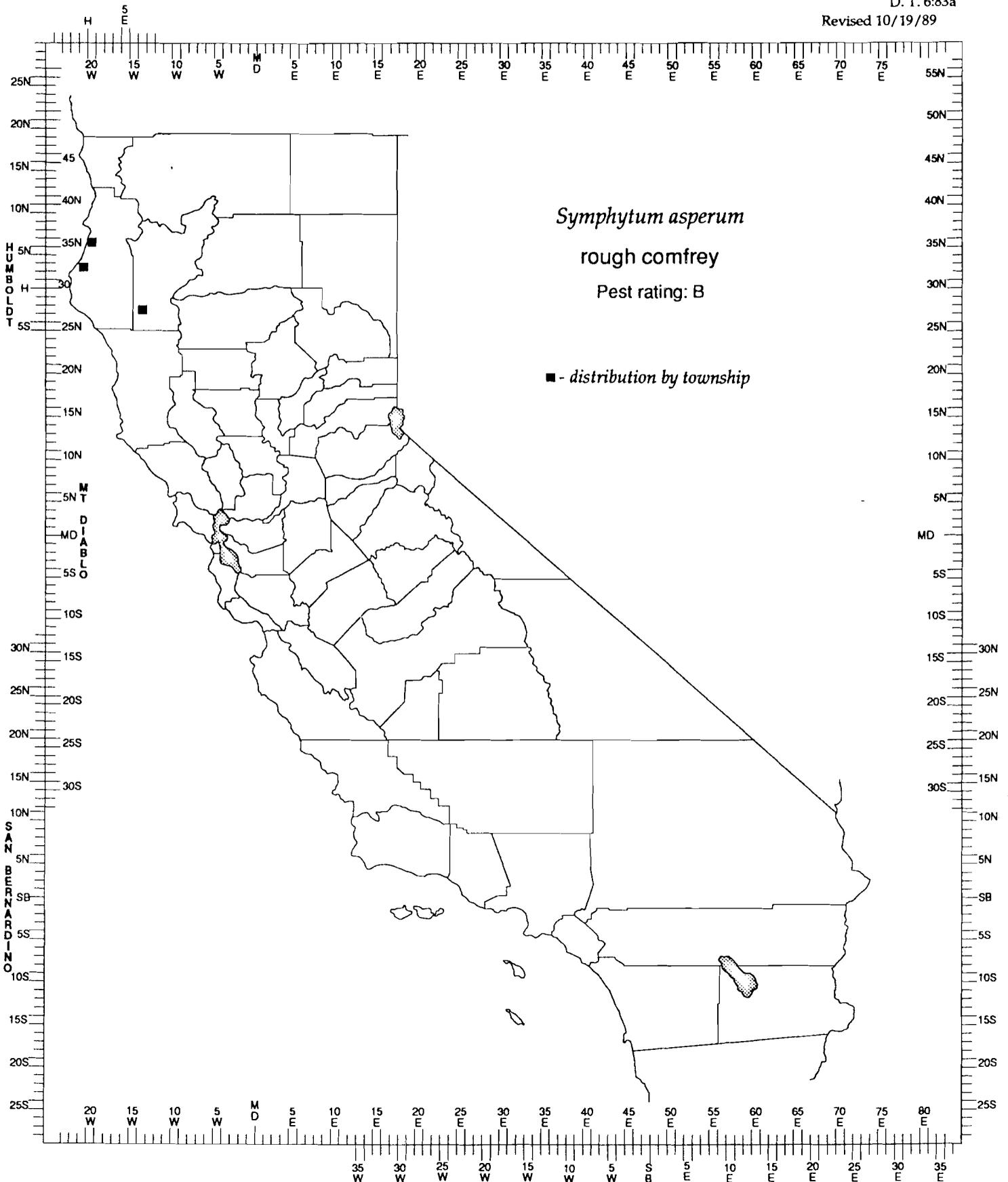
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124

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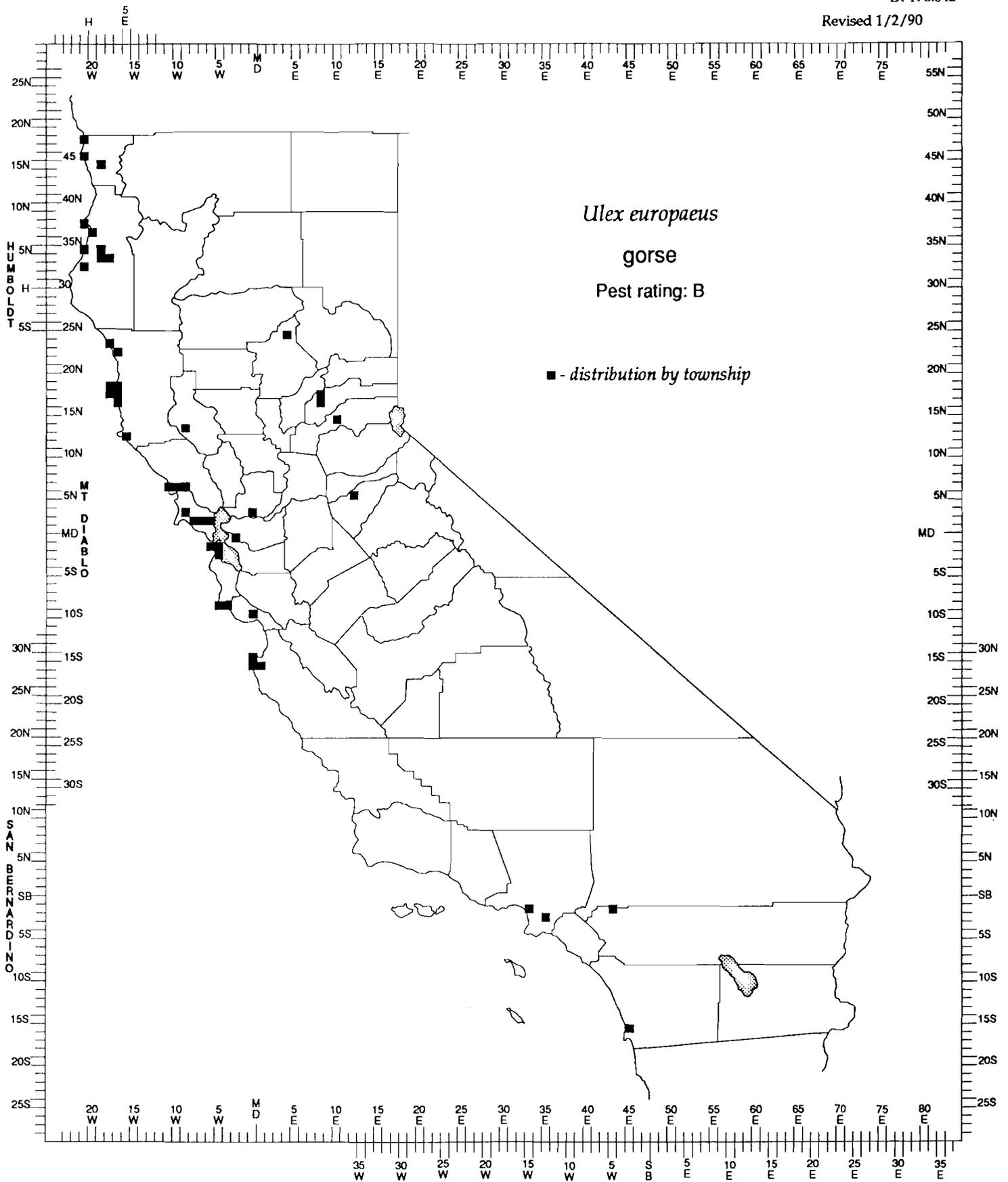
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125

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## NEW STATE RECORDS

ROUGH JOINTVETCH, *Aeschynomene rudis*, -(Q)- This is a new genus to the flora of California and a new annual weed for the state.

It was first brought to the attention of Steven Scardaci, Cooperative Extension Farm Advisor in Colusa County, by the grower, George Costa. The field, which is currently in rice, is located 3.5 miles southwest of Princeton.

Upon first examination and comparison with specimens at the UC Berkeley herbarium, there appeared to be two species of *Aeschynomene* involved. The most abundant plants seemed to be *Ae. virginica* except for the presence of a critical taxonomic character that would place them in *Ae. indica*. However, after further study by Botanist Doug Barbe, it was determined to be *Ae. rudis*. This determination was confirmed by Dr. Velva E. Rudd, Senior Research Fellow at California State University, Northridge and specialist in this plant species complex.

*Ae. rudis* has a very limited distribution in the U.S. (Catahoula Lake, Louisiana and Mobile, Alabama). It ranges south through Mexico and Central America to Paraguay and Argentina. *Ae. virginica* is the common species in Arkansas while *Ae. indica* is more common in Louisiana and the Gulf States.

There is no doubt about the seriousness of this weed and its potential for damage to the rice industry in the Sacramento Valley. The above species reduce yields 10 to 15 percent in dense infestations, and cause dockage and additional expenses in cleaning the same-size seed from milled rice. Jointvetches are also a problem in soybeans in southeastern states. The seeds remain dormant in soil for 15 to 20 years.

With these considerations in mind, this weed is assigned a "Q" pest rating.



Fig. 1: Rough Jointvetch, *Aeschynomene rudis*, electronically redrawn from "Illustrated Flora of the Northeastern United States and Adjacent Canada," by H.A. Gleason, New York Botanical Garden, 1952. Map, redrawn from "The American species of *Aeschynomene*" by V.E. Rudd, 1955. Contrib. U.S. Nat. Herb. 32:57, shows general World distribution.

## NEW COUNTY OR TOWNSHIP RECORDS

CAMELTHORN, *Alhagi maurorum*, -(A)- On July 18, camelthorn was found in Barstow, San Bernardino County. This is a new township record for camelthorn. It is next to a township from which camelthorn has been eradicated. The nearest previously known occurrence was recorded in 1959 at Hillside and Dillingham Drives, Barstow T9N, R2W, SB. County Agricultural Biologist Peter Lounsbury is credited with the find.

SPOTTED KNAPWEED, *Centaurea maculosa*, -(A)- On August 23, spotted knapweed was detected in several sites located in Del Norte County. This is a new county find for spotted knapweed. County Biologist Glenn Anderson and CDFA Associate Agricultural Biologist Rick Keck found ten plants three miles west of Patricks Creek, six plants less than half of a mile east of Knopki Creek Road, and twenty plants less than half of a mile east and west of mile post 28.63.

The nearest previously known occurrences are to the east in Siskiyou County.

SKELETONWEED, *Chondrilla juncea*, -(A)- Skeleton weed has been found for the first time in Napa and Shasta Counties.

On July 25, Deputy Agricultural Commissioner Mike Dannenberg found skeletonweed on Solano Avenue near Napa. The nearest previous record was a single plant in the center divider of I-80 at Vallejo, Solano County.

Skeletonweed has been found for the first time in Shasta County. Two plants were found, one on each side of northbound I-5 at each end of the bridge over the Sacramento River arm of Lake Shasta. Don Joley, CDFA Associate Environmental Research Scientist with Environmental Monitoring/Biological Control, found the plants.

The nearest previously known location was found in Red Bluff, Tehama County in 1985. It was also reported along I-5 north of Red Bluff in 1986 but the plants could not be located for confirmation.

YELLOW SPINE THISTLE, *Cirsium ochrocentrum*, -(A)- This weed has been found for the first time in the township of Tulelake located in Siskiyou County rangeland. The nearest previously known occurrence was recorded in 1979 approximately 14 airline miles southwest near Tecnor, Sec 19, T45N, R2E, MD. County Inspector Greg Herman is credited with this find.

HYDRILLA, *Hydrilla verticillata*, -(A)- On August 3, hydrilla was found infesting a six-acre pond near Dobbins. A previous location in the county was found in Ellis Lake in Marysville in 1976.

Yuba County Department of Agriculture Biologist Charles Devaney and a local Pest Control Advisor Ken Bumgarner responded to the property caretaker's request to identify the weed infesting the pond. CDFA Pest Detection personnel are conducting an extensive survey of ponds and waterways in the area.

Also, this aquatic weed pest was intercepted during a routine pet store survey in Irvine. Orange County Agricultural Inspector Jana Gibbs made the detection while examining a bundle of anacharis that was in an aquarium at the pet store. A supplier in Ontario had furnished the plants for the pet shop, and in turn the supplier had received the plant stock from a Florida shipper who was operating under a Florida Department of Natural Resources Hydrilla Certificate. Further shipments from the Florida company are to be rejected until the infestation problem is resolved.

HARMEL, *Peganum harmala*, -(A)- On June 29, one harmel plant was found for the first time in Kern County by Collector David Charlton. This is the second record of harmel in the state.

The only previously known occurrence in California is near Dagget in San Bernardino County. It has also been established south of Fallon, Nevada, for several years.

PURPLE LOOSESTRIFE, *Lythrum salicaria*, -(B)- Purple loosestrife has been detected in three new counties during June-September 1990.

#### Santa Cruz County

On August 6, purple loosestrife, *Lythrum salicaria*, was found for the first time in Santa Cruz County by County Deputy Commissioner, Richard Bergman. The collection was made just one quarter mile north of the county line near the town of Aromas.

The nearest previously known occurrence was recorded at Princeton Marsh, San Mateo County in 1978, but the plants could not be located for confirmation.

#### Placer County

On August 14, Placer County Agricultural Inspector Ken Stark found purple loosestrife on the roadside between I-80 and county frontage a quarter of a mile west of Colfax. This is the first occurrence in Placer County.

The nearest previously known location was recorded at Spring Hill between Grass Valley and Nevada City, Nevada County in 1965. Those plants could not be found in August 1982 and the infestation was presumed eradicated by urban development.

The nearest active occurrence of this weed is in Butte County, south of Oroville near the Feather River. There is also an infestation along a canal in Sparks, Washoe County, Nevada.

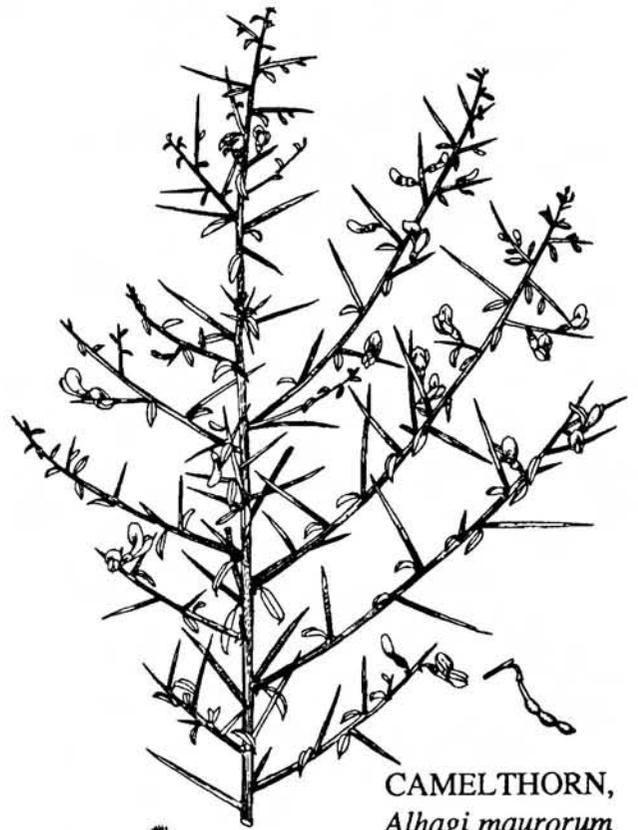
#### Mendocino County

On September 11, purple loosestrife was found for the first time in two sites located at Fort Bragg. State Biologists Breckenridge and Hull found 200 plants in a display garden located in a local nursery. On September 12, they found 30 plants in a ditch next to the entrance of the Botanical Gardens.

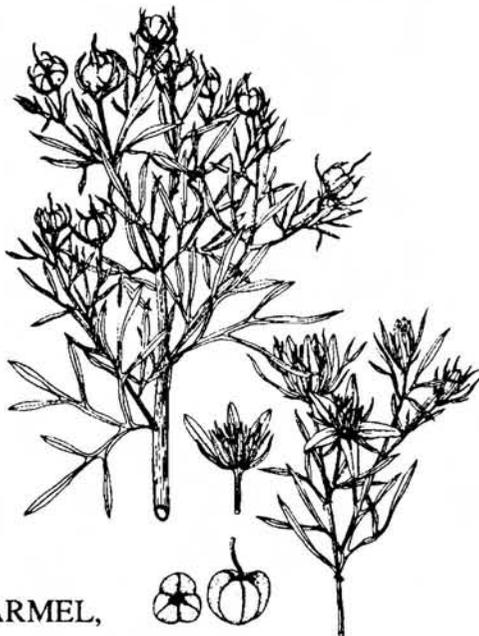
WAVYLEAF THISTLE, *Cirsium undulatum*, -(A)- This thistle has now been found in Placer County. One roadside plant was found along westbound I-80 at Cisco Grove by Ken Stark on June 26. The nearest previous record was west of Verdi, Nevada near Stampede Reservoir in Sierra County.



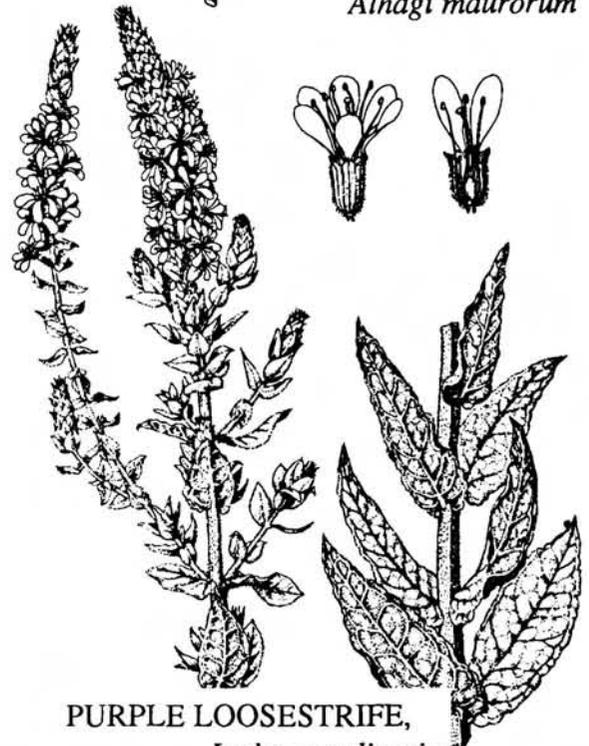
SKELETONWEED, *Chondrilla juncea*



CAMELTHORN,  
*Alhagi maurorum*



HARMEI,  
*Peganum harmala*



PURPLE LOOSESTRIFE,  
*Lythrum salicaria*

## ENTOMOLOGY HIGHLIGHTS

### SIGNIFICANT FINDS

Large numbers of fruit flies are still being trapped in California. While a few Medflies have been trapped during the period June-September, the aerial spraying has been completed and the eradication project is winding down, except for the intensive trapping which is still going on. The following reports and charts cover the recent fruit fly finds as well as finds of other significant and serious pests:

MEDITERRANEAN FRUIT FLY, *Ceratitis capitata*, -(A)- Nine Medflies were collected during June-September 1990. The data for these finds can be found on page 132.

ORIENTAL FRUIT FLY, *Dacus dorsalis*, -(A)- Nineteen Oriental fruit flies have been found in Southern California from June through September 1990. The data for these finds can be found on page 132.

PEACH FRUIT FLY, *Dacus zonatus*, -(A)- This serious fruit fly menace has been collected in California before. The following report by John Pozzi recounts yet another find:

On August 31, County trapper Phil Davis found a single mature male peach fruit fly in **Hollywood, Los Angeles County**. It was recovered from a Jackson trap placed in an oleander tree next to a peach tree.

CDFA Insect Biosystematist Karen Corwin made the determination. In response, CDFA personnel have increased the trap densities to protocol levels as needed.

This peach fruit fly detection is the first since 1987. Six males were found in Los Angeles County at that time.

The first specimen of *Dacus zonatus* found in the Western Hemisphere was discovered in a Jackson trap near Los Angeles International Airport on March 16, 1984. It is ranked with the melon fly and oriental fruit fly as one of the three most damaging fruit flies in India. Hosts of the peach fruit fly include apple, citrus, cucumber, *Eugenia* spp., fig, guava, loquat, mango, orange, peach, pear, and tomato. Peach fruit fly is found in Burma, Ceylon, India, Laos, Mauritius, Moluccas, Nepal, Pakistan, Sri Lanka, Thailand, and Viet Nam.

MELON FLY, *Dacus cucurbitae*, -(A)- This fruit fly pest was last found in California on May 4, 1989 (see CPPDR 8[1-2]:5). The following report by John Pozzi outlines the details of the most recent find of this serious fruit fly invader:

One male melon fly was trapped September 11 near **Los Angeles International Airport**. It was found in a Jackson/CueLure trap in a hibiscus plant on Avion Drive. County trapper Juan Limon inspected the trap. In response, Los Angeles County Department of Agriculture and CDFA personnel have increased the McPhail trap density to 25 traps in the

epicenter square mile. Jackson/CueLure trap densities will be in a 50-25-15-10-5 array over an 81-square-mile area.

MEXICAN FRUIT FLY, *Anastrepha ludens*, -(A)- Eight Mexican fruit flies have been collected in the state this season. The chart on page 135 outlines the current finds.

APPLE MAGGOT, *Rhagoletis pomonella*, -(A)- There were sixty apple maggots detected in Northern California from June through September 1990, including two new county records (see page 135 for further information). The chart on page 133 contains the data for these finds.

WESTERN CHERRY FRUIT FLY, *Rhagoletis indifferens*, -(A)- Eight western cherry fruit flies were detected in Northern California during August 1990. On August 9, County Inspector Richard Spadoni found one male and four female western cherry fruit flies in apple maggot traps in apples in Shively and Scotia, Humboldt County. On August 10, two were found in Placer County at Whitmore Station and Nyack by County Inspector Jim Henderson and another was found at Whitmore on August 30. On August 14, Richard Spadoni found one female western cherry fruit fly in Petrolia, Humboldt County in an apple maggot trap in an apple tree.

GYPSY MOTH, *Lymantria dispar*, -(A)- Twenty-three gypsy moths were found from June through September 1990. In response to these finds, traps have been increased as needed to protocol levels. The chart that follows on page 134 lists the data for each find.

JAPANESE BEETLE, *Popillia japonica*, -(A)- An adult beetle was found in a private insect collection at Fresno, Fresno County. The specimen had been collected from a side walk in Fresno by a Fresno State University student on August 24, 1989.

Sixteen Japanese beetles were trapped in California from July through September 1990. The data for these finds can be found on page 135.

VARROA MITES, *Varroa jacobsoni*, -(A)- Four Varroa mites have been detected in San Joaquin County during August 1990. County Trappers Willson and Groner found three of these mites on August 1 and another one on August 2.

WHITE GARDEN SNAIL, *Theba pisana*, -(A)- White garden snail has been found in San Diego County by County Trapper Fuentes on August 24, 1990.

This snail has last been found in California on June 1987 (see CPPDR 6[3-4]:32-33). An eradication program has been under way in that county for several years.

Mediterranean Fruit Fly, *Ceratitis capitata*, (A)- 1990 Collections (continued)

County	City	Date	#M/F	Trap/Stage	Host	Collectors
Los Angeles	El Serano	6/27/90	0/1	McPhail	orange	Bennett
Los Angeles	Los Angeles	6/27/90	0/1	McPhail	peach	T. Dominguez
Los Angeles	Rosemead	7/05/90	0/1	McPhail	plum	Torres
Los Angeles	Glassell Park	7/10/90	0/1	McPhail	nectarine	Bennett
Los Angeles	Rosemead	7/10/90	0/1	McPhail	nectarine	Hendricksen
San Bernardino	Chino	7/10/90	0/1	McPhail	orange	Martin
San Bernardino	Ontario	7/10/90	0/1	McPhail	orange	Martin
Los Angeles	Sherman Oaks	7/11/90	0/1	McPhail	peach	Austin
Orange	Brea	8/03/90	0/1	McPhail	peach	Ramos

Oriental Fruit Fly, *Dacus dorsalis*, (A)- 1990 Collections

Riverside	Beaumont	6/15/90	1/0	Jackson	apricot	Celano
Riverside	Beaumont	6/18/90	1/0	Jackson	apricot	Celano
San Diego	La Mesa	7/03/90	1/0	Jackson	orange	Metcalf
Los Angeles	Chatsworth	7/09/90	1/0	Jackson	plum	Vingue
Los Angeles	Lynwood	7/09/90	1/0	Jackson	peach	Biazzo
Los Angeles	Lynwood	7/10/90	1/0	Jackson	peach	Davis
Los Angeles	Lynwood	7/11/90	1/0	Jackson	lemon	Diaz
Los Angeles	Lynwood	7/11/90	1/0	Jackson	fig	Volmert
Los Angeles	Lynwood	7/11/90	1/0	Jackson	fig	Volmert
Los Angeles	Lynwood	7/11/90	2/0	Jackson	orange	Volmert
Los Angeles	Lynwood	7/12/90	1/0	Jackson	peach	Davis
Los Angeles	Lynwood	7/12/90	1/0	Jackson	peach	Davis
Los Angeles	Whittier	8/15/90	1/0	Jackson	guava	Quinones
Ventura	Thousand Oaks	8/16/90	1/0	Jackson	apple	Glass
Riverside	Riverside	9/06/90	1/0	Jackson	peach	Aviles
Contra Costa	Antioch	9/17/90	0/1	McPhail	grapefruit	Clark
San Diego	Lakeside	9/19/90	1/0	Jackson	orange	Murray
Los Angeles	El Segundo	9/20/90	1/0	Jackson	lemon	Davis
Orange	Irvine	9/28/90	1/0	Jackson	sapote	Croy

Apple Maggot, *Rhagoletis pomonella*, -(A)- 1990 Collections

County	City	Date	#M/F	Trap/Stage	Host	Collectors
Sonoma	Vacation Beach	7/20/90	1/0	AM	hawthorn	Hsu
Sonoma	Vacation Beach	8/07/90	4/6	AM	-	Hsu
Humboldt	County	8/09/90	1/4	AM	apple	Spadoni
Humboldt	Petrolia	8/10/90	0/1	AM	-	Spadoni
Humboldt	Hoopa	8/14/90	(2)	AM	-	Spadoni
Humboldt	Willow Creek	8/14/90	(2)	AM	-	Spadoni
Humboldt	Rio Dell	8/15/90	-	AM	-	Spadoni
Sonoma	County	8/15/90	0/1	AM	apple	Milligan
Humboldt	Redcrest	8/17/90	(5)	AM	-	Spadoni
Butte	Paradise	8/20/90	0/1	AM	apple	Bert
Sonoma	Vacation Beach	8/20/90	(2)	AM	-	Hsu
Sonoma	Vacation Beach	8/21/90	(5)	AM	-	Hsu
Humboldt	Hoopa	8/27/90	(2)	AM	apple	Spadoni
Humboldt	Miranda	8/27/90	-	AM	apple	Spadoni
Humboldt	Willow Creek	8/27/90	-	AM	apple	Spadoni
Marin	San Rafael	8/27/90	0/1	AM	apple	Mallett
Humboldt	Orleans	8/28/90	0/1	AM	apple	Spadoni
Humboldt	Willow Creek	8/28/90	0/2	AM	apple	Spadoni
Humboldt	Orleans	8/28/90	0/1	AM	apple	Spadoni
Humboldt	Willow Creek	8/28/90	0/2	AM	apple	Spadoni
Humboldt	Willow Creek	8/30/90	1/0	AM	apple	Spadoni
Sonoma	Vacation Beach	9/05/90	(6)	AM	apple	Hsu
Sonoma	Guerneville	9/06/90	-	AM	apple	Hsu
Humboldt	Redcrest	9/07/90	-	AM	apple	Spadoni
Marin	San Rafael	9/10/90	0/1	AM	apple	Cardwell
Humboldt	Eureka	9/13/90	-	AM	apple	Spadoni
Humboldt	Blue Lake	9/17/90	0/1	AM	apple	Spadoni
Sonoma	Villa Grande	9/18/90	0/2	AM	apple	Koenig
Napa	Yountville	9/19/90	0/1	AP	hawthorn	Croxdale
Sonoma	Vacation Beach	9/19/90	1/0	AM	apple	Hsu
Sonoma	Vacation Beach	9/19/90	0/2	AM	hawthorn	Hsu
Humboldt	Scotia	9/24/90	0/3	AM	apple	Spadoni

Gypsy Moth, *Lymantria dispar*, -(A)- 1990 Collections

County	City	Date	#M/F	Trap/Stage	Host	Collectors
Santa Barbara	Santa Barbara	6/26/90	-	Gypsy Moth	-	Morse
Los Angeles	Lynwood	6/27/90	-	Gypsy Moth	-	Lopez
Sacramento	Carmichael	6/27/90	larva	Gypsy Moth	plum	Eichlin
Sacramento	Carmichael	6/27/90	3/0	Gypsy Moth	-	Eastley
Sacramento	Citrus Heights	6/27/90	egg masses	-	RV-wheels	Eichlin
Sacramento	Sacramento	6/28/90	1/0	Gypsy Moth	elm	Saunders
San Diego	La Mesa	7/02/90	-	Gypsy Moth	olive	Hastie
San Diego	Vista	7/02/90	-	Gypsy Moth	-	Vanarelli
Santa Clara	San Jose	7/03/90	-	Gypsy Moth	-	Sanchez
San Diego	La Mesa	7/05/90	1/0	Gypsy Moth	pine	Hastie
Los Angeles	Diamond Bar	7/06/90	1/0	Gypsy Moth	olive	Biazzo
San Diego	La Mesa	7/09/90	-	Gypsy Moth	pine	Hastie
Santa Barbara	Santa Barbara	7/11/90	1/0	Gypsy Moth	oak	Hollahau
San Diego	Vista	7/12/90	1/0	Gypsy Moth	pine	Wube/Mulu
Santa Barbara	Santa Barbara	7/12/90	-	Gypsy Moth	eucalyptus	Murray
Santa Cruz	Santa Cruz	7/13/90	1/0	Gypsy Moth	pine	Johnson
Santa Barbara	Santa Barbara	7/14/90	1/0	Gypsy Moth	cypress	Roggenbuck
Nevada	Grass Valley	7/20/90	-	Gypsy Moth	oak	Bierwagen
Contra Costa	Orinda	7/0?/90	-	-	log cabin	Ziegler
Los Angeles	Long Beach	8/03/90	1/0	Gypsy Moth	juniper	Camacho
Santa Cruz	Aptos	8/03/90	1/0	Gypsy Moth	liquidambar	Steeger
San Diego	Mira Mesa	8/07/90	1/0	Gypsy Moth	mulberry	Wube/Mulu
San Diego	La Mesa	9/21/90	0/1	-	fence	Whitcomb

Mexican Fruit Fly, *Anastrepha ludens*, -(A)- 1990 Collections

County	City	Date	#M/F	Trap/Stage	Host	Collectors
Los Angeles	East Los Angeles	1/12/90	0/1	McPhail	orange	Chow
Los Angeles	East Los Angeles	3/23/90	1/0	McPhail	orange	Weatherby
San Diego	El Cajon	4/25/90	1/0	McPhail	orange	Murray
Los Angeles	Compton	5/3/90	1/0	McPhail	orange	Gonzalez
San Diego	San Diego	5/4/90	0/1	McPhail	sapote	Brandon
San Diego	El Cajon	5/5/90	0/2	McPhail	orange	Legard
Los Angeles	Compton	5/8/90	1/0	McPhail	loquat	Dominquez

Japanese Beetle, *Popillia japonica*, -(A)- 1990 Collections

County	City	Date	#M/F	Trap/Stage	Host	Collectors
Los Angeles	Int. Airport	7/09/90	0/1	JB	-	Ison/Ogoke
Los Angeles	Int. Airport	7/10/90	0/1	JB	-	Ogoke
Los Angeles	Inglewood	7/16/90	1/0	JB	rose/turf	Sauber
Los Angeles	Int. Airport	7/16/90	1/0	JB	-	Hill/Ogoke
Los Angeles	Los Angeles	7/16/90	1/0	JB	garden	Spain
San Bernardino	Ontario	7/17/90	1/0	JB	turf	Harrie
Los Angeles	Los Angeles	7/18/90	0/1	JB	-	Sauber
Los Angeles	Hawthorne	7/24/90	1/0	JB	-	Hill
Los Angeles	Int. Airport	7/30/90	1/0	JB	-	Ison
Los Angeles	Los Angeles	7/30/90	0/1	JB	-	Sauber
San Bernardino	Ontario	8/01/90	0/1	JB	-	Harrie
Los Angeles	Long Beach Airport	8/02/90	1/0	JB	-	Ogoke
Los Angeles	Los Angeles	8/07/90	0/1	JB	-	Ison
Los Angeles	Int. Airport	8/09/90	1/1	JB	-	Hill/Ogoke
San Bernardino	Ontario	8/14/90	0/1	JB	-	Harrie

**NEW STATE RECORDS**

SEVENSPOTTED LADY BEETLE, *Coccinella septempunctata*, -(D)- This Old World species of lady beetle is one of the major predators being used in the battle against Russian wheat aphid. Releases have been made by the USDA in all of the states affected by the aphid and it has been recollected and confirmed as established in most of them. The same is now true of California. Don Dougherty, USDA biologist, made recollections of the beetle at **Lookout, Modoc** County on July 26. Original releases were made by the USDA from April to July of last year.

**NEW COUNTY RECORDS**

APPLE MAGGOT, *Rhagoletis pomonella*, -(A)- This serious apple pest is slowly extending its range southward in California. Two new county records were confirmed this summer and are outlined in the following reports:

The first record for **Butte** County was collected August 20 in **Paradise** by County Agricultural Pest Control Worker Paul Bert. The fly was found in a Pherocon AM trap placed in an apple tree on Bennett Road.

The first find of apple maggot in **Marin** County was recorded by County Trapper J. Mallett. The single female was collected on Moncada Way in **San Rafael** from an all purpose trap hung in an apple tree. Later, on September 10, County Trapper Jackie Cardwell collected another apple maggot from the same trap.

RUSSIAN WHEAT APHID, *Diuraphis noxia*, -(Q)- Four new county records for Russian wheat aphid (RWA) were recorded in the second quarter of 1990. On June 28, RWA was found in **Montague, Siskiyou** County on barley. Benton and Thornhill are credited with this find. On July 12, RWA was found in **Fall River Valley, Shasta** County by D.B. Marcum. On July 17, RWA was found in **Milford, Lassen** County by D. Dougherty. RWA was also found in **Inyo** County on June 11, by Rhonda Gildersleeve. The distribution map on page 138 shows the current RWA infested counties in California.

ASH WHITEFLY, *Siphoninus phillyreae*, -(C)- This serious pest of suburban ash trees is developing large populations and producing massive adult flights in Sacramento this fall. It was first found in this city in October, 1989, and this extremely rapid buildup has been completely typical of its explosive biotic potential that was witnessed in southern California. It has also extended its range to a number of other counties since the last issue of CPPDR. For a distribution map see page 139. The new county records include:

<u>County</u>	<u>City</u>	<u>Date</u>	<u>Host</u>	<u>Collector</u>
Contra Costa	Walnut Creek	7/2/90	Raywood Ash	Cruikshank
San Joaquin	Stockton	7/16/90	Raywood Ash	O'Neil et al.
Merced	Merced	8/10/90	Ash	Aquilar et al.
Madera	Madera	8/23/90	Ornamental pear	Leavitt et al.
El Dorado	Placerville	8/26/90	Ornamental pear	Ball

Several new host records have been made for ash whitefly also. These include: *Pyrus gharbiana*, western hawthorn - *Crataegus douglasii*, California buckeye - *Aesculus californica*, red horse chestnut - *Aesculus carnea*, and big leaf maple - *Acer macrophyllum*.

EUGENIA PSYLLID, *Trioza eugeniae*, -(C)- This psyllid pest of eugenia hedges and trees was first found in California and the New World in May, 1988 (see CPPDR 7[1-4]: 12-13, 1988 for more information on this psyllid). A recent find at Stockton by a property owner on June 25 constitutes a new record for San Joaquin County. It also occurs in the following counties: Alameda, Los Angeles, Orange, Sacramento, San Diego, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, and Ventura.

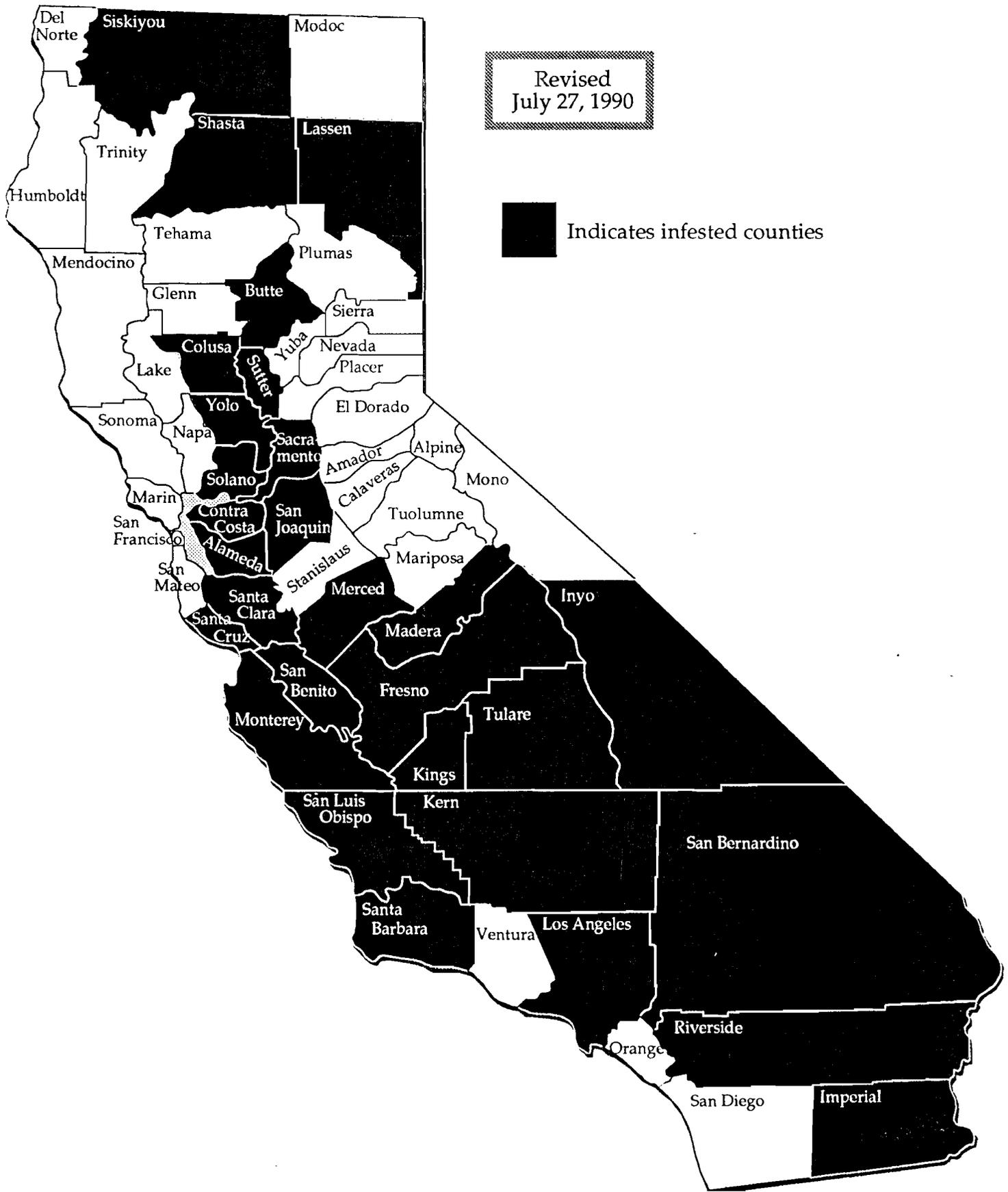
AN ASH PSYLLID, *Psyllopsis fraxinicola*, -(C)- This psyllid has been in California since the 1920's although it is rarely collected (see CPPDR 67[1-2]: 9, 1987 for more information). In recent years it has been found in Solano County and now for the first time in Alameda County. The collection was made by Agricultural Extension Specialist Richard Molinar from raywood ash in a shopping mall in San Leandro in July.

EHRHORN'S OAK SCALE, *Mycetococcus ehrhorni*, -(C)- This native scale insect is considered by some to be one of the most serious pests of oak trees in southern California. It is a tiny red species which associates with the white *Septobasidium* fungi, which completely envelop the scales on the trunks of the host. The scale is known from coastal California from Mexico to San Francisco. A recent find in Kneeland is a new Humboldt County record and is a considerable northward range extension for the species. The collection was made on June 26 from tan bark oak by Dennis Poore.

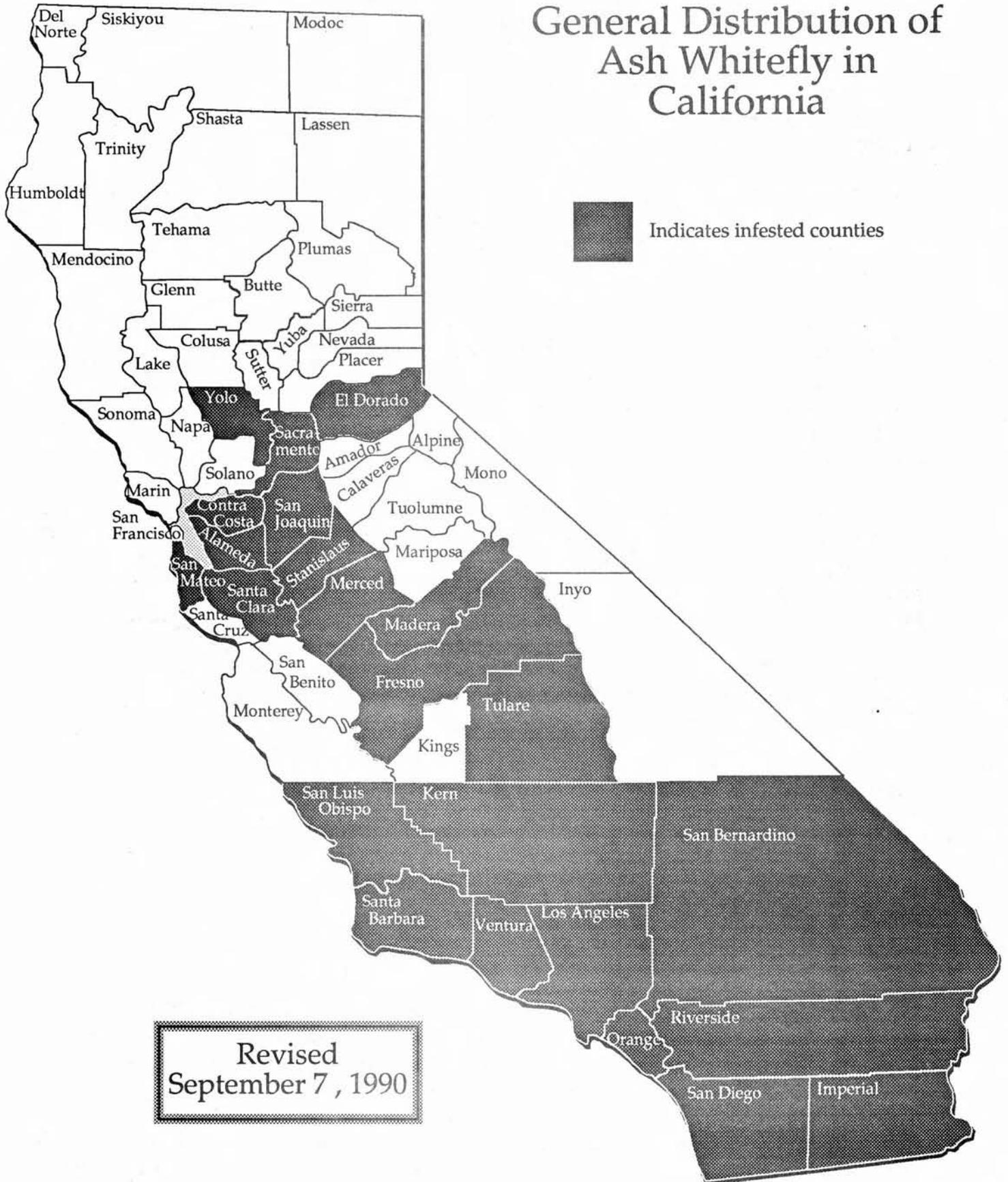
BARRETT'S LEAFHOPPER, *Agallia barretti*, -(C)- This is a black, rare leafhopper species that is collected occasionally in southern California where it is associated primarily with dichondra lawns. Specimens collected from Lodi on June 28 constitute a new San Joaquin County record and a dramatic northward extension of the range of this species. The collection was made by a home owner from radicchio, a lettuce-like vegetable related to chickory.

A SPITTLEBUG, *Clastoptera arizonana*, -(C)- This spittlebug is probably native to western North America on leguminous hosts such as mesquite and palo verde. It is occasionally found in southern California on *Acacia baileyana*, *Acacia decurrens* and other 'feather-leaved' acacia species. A recent collection of this species in Lodi is a new San Joaquin County record and is a considerable northward range extension. The original collection was by a home owner who submitted the sample to the Agricultural Commissioner's office. The population level was high and it was producing troublesome amounts of honeydew. Large amounts of nymphal 'spittle' were also causing problems.

### CALIFORNIA DISTRIBUTION OF RUSSIAN WHEAT APHID



# General Distribution of Ash Whitefly in California



## PEST EXCLUSION

A large number of important insect pests were discovered in quarantine situations within the state during the time period of June 1 to September 30. The following account covers the detection of a serious lepidopterous pest:

EUROPEAN CORN BORER, *Ostrinia nubilalis*, -(A)- A live larva of this serious corn pest was found in chopped corn stalks by San Bernardino County Agricultural Biologist John Snodgrass. The corn was moving by rail to San Bernardino from a mill in Fresno County. The source of the corn is being traced.

Large numbers of Japanese beetles (JB), both dead and alive, have been intercepted on airplanes with flights originating from the eastern U.S. The California Department of Food and Agriculture finds the number of beetles intercepted to be unacceptable. Apparently most of the problem flights have originated from Standiford Field at Louisville, Kentucky. To address this problem, State and USDA-PPQ personnel met with industry and airport officials in Louisville.

The group meeting made accomplishments in four major areas: (1) development of a plan to reduce JB populations at Louisville, (2) development of procedures for monitoring and declaring an airport hazardous [for] the spread of JB, (3) development of action plans to increase destination activities and communication with all parties, and (4) identification of the need for methods development studies.

JAPANESE BEETLE, *Popillia japonica*, -(A)- The following chart outlines the Japanese beetle finds on incoming aircraft for the period of July 5 to August 24:

<u>County</u>	<u>Airport</u>	<u>Number of Airport Interceptions</u>		
		<u>Alive</u>	<u>Dead</u>	<u>Total</u>
Alameda	Oakland	42	282	324
Los Angeles	Los Angeles	26	128	154
Sacramento	Sacramento	0	8	8
San Bernardino	Ontario	64	229	293
San Mateo	San Francisco	0	7	7
Santa Clara	San Jose	<u>0</u>	<u>22</u>	<u>22</u>
		132	676	808

Several important Homoptera pests not presently known as established in California have been found in post-quarantine nursery stock. These infestations are still classified as a quarantine situation since they have been found only on the original imported nursery plants. Eradicative measures are currently underway.

MISCANTHUS MEALY BUG, *Miscanthicoccus miscanthi*, -(Q)- This grass mealy bug was found for the first time in California in a nursery in Los Angeles County. On August 15, this pest of miscanthus grass was found in Azusa by County Agricultural Inspector Bill Calicchia. On

August 30, recollections were made in Azusa by County personnel Chet Olson and Rosser Garrison. On September 12, County Inspector John Cervantes found the mealybug in another nursery in San Marino.

On September 21, the mealybug was found in a San Diego County nursery at San Marcos by County Agricultural Inspectors Worchester and Devery.

This mealybug was first found in the U.S. in February 1989 in nurseries in Virginia and Maryland (for further information see CPPDR 8[1-2]:16, 1989). Since that time, it has been determined that the mealybug will probably attack only grasses in the genus *Miscanthus* and is probably of little economic concern. Therefore, the USDA has decided not to pursue eradication measures against the pest. The grass genus *Miscanthus* contains several species of tall, bunch-type forms used in garden landscaping. Some of the commonly used varieties are *M. sinensis* (maiden grass, eulalia) and its varieties *variegatus* and *zebrinus* (zebra grass).

Since the mealybugs were found on nursery stock that apparently originated from the infested eastern states, these finds are not considered to be new state records but are considered as a quarantine-exclusion problem.

RED WAX SCALE, *Ceroplastes rubens*, -(A)- This soft scale species has been found on *Molinaria* sp. in a nursery in Santa Ana Heights, Orange County on September 14 by Lorenzo Fernandez. The infested plants had been in the nursery approximately six months

MAGNOLIA WHITE SCALE, *Pseudaulacaspis cockerelli*, -(A)- This pest of palms and other ornamentals has been found several times in Los Angeles County nurseries. Finds include nurseries in Basset collected June 13 on *Phoenix roebelenii* by Laurence Nolan and at Baldwin Park collected June 14 also on *Phoenix roebelenii* by Nolan. Further Los Angeles County collections were made from *Phoenix roebelenii* at La Verne on July 9 by Larry Nolan and Bill Calicchia, at Baldwin Park on August 15 by Larry Nolan, at Compton on August 15 by David Cassidy, at Gardena on August 20 by Larry Nolan and at Torrance on August 30 by Nancy Kellam.

LESSER SNOW SCALE, *Pinnaspis strachani*, -(A)- Another pest of ornamentals and palms has been collected from palms at a nursery in Daly City, San Mateo County on June 25 and June 28 by Ron Eaton.

GREEN SHIELD SCALE, *Pulvinaria psidii*, -(A)- An infestation of this soft scale was found on Longans, *Euphoria longana* at a Vista, San Diego County nursery on August 31 by Syzonenko and Neville.

A TILLANDSIA MEALYBUG, *Nipaecoccus* sp. or near, -(Q)- This apparently undescribed mealybug is known to infest bromeliads in Mexico and Central America. It has been found on *Vriesia* and *Tillandsia* at Pacifica, San Mateo County nursery on August 1 and 2 by Ron Pummer.

AN ORCHID SCALE, *Parlatoria* sp., -(Q)- Specimens of this undescribed scale insect were discovered at a nursery in Livermore, Alameda County by county agricultural personnel. The

scale was infesting *Paphiopedilum* orchids. The species is similar to other orchid scales occasionally intercepted on orchids coming from southeast Asia.

### SIGNIFICANT HAPPENINGS IN THE AREA OF QUARANTINE

The large number of tephritid fruit flies trapped this year in California and mentioned under "SIGNIFICANT FINDS" above are of constant concern to agriculturalists. In the continuing effort to stem the tide of apparently multiple introductions of these serious fruit pests, two major events were staged this summer. In the first major event, CDFA has cooperated with the USDA in conducting several so-called "airport blitzes" at both Los Angeles and San Francisco International Airports. The first Los Angeles blitz was recounted in the last issue of CPPDR. The following account covers the second Los Angeles blitz, and the next issue of CPPDR will cover the San Francisco blitz results. The article on page 151 covers the second major event, the inspection of first class parcel post shipped to the mainland from Hawaii.

### SECOND AIRPORT BLITZ LOS ANGELES INTERNATIONAL AIRPORT JULY 23 - AUGUST 4, 1990

During the latter part of July and early August, a second inspection blitz was conducted at the Los Angeles International Airport. This blitz differed from the first one in that it encompassed inspections of cargo as well as passenger baggage. Attached are the results of these inspections in the form of two reports.

The first one addresses the cargo inspections that were conducted from July 23 through July 27. The second report provides the results of the passenger baggage inspection blitz conducted during the week of July 29 - August 4, 1990.

### PART 1: CARGO INSPECTION BLITZ JULY 23-27, 1990

#### PURPOSE

Several recommendations were made at the Pest Pathways Meeting held November 22, 1989, to determine how large and how important the various pest pathways are relative to the need for allocating more agricultural quarantine personnel and other resources to make pest exclusion efforts more effective. One recommendation was to carry out a 100 percent inspection of cargo to determine to what extent the smuggling of host commodities may be part of the problem. The incidence of undeclared or mismanifested agricultural products discovered during inspection would provide a measure of this type of illegal activity.

Accordingly, a cooperative Federal/State/County cargo inspection blitz was conducted during July 23-27, 1990, at the Los Angeles International Airport (LAX). Approximately

seven Federal, 19 State and 10 county employees participated in the blitz. Flights arriving from most countries in Southern Europe, Northern Africa, the Middle East, and Hawaii, were the primary targets of the blitz, since these origins are considered high plant pest risks. Lastly, as time and resources permitted, flights originating from nontargeted, yet potentially high risk areas, such as the Philippines and Guatemala, were also given a complete inspection.

## METHODOLOGY

The United States Department of Agriculture (USDA) is responsible for the inspection of shipments of cargo that arrive from all foreign countries. Under normal circumstances, agricultural inspections are focused on material manifested as agricultural cargo from those countries. In order to accomplish the inspections, the USDA requires air carriers to present flight manifests and air waybills (awbs) for all cargo shipments of freight arriving at LAX. The USDA Plant Protection Quarantine (PPQ) staff reviews the manifests and awbs and places a hold on shipments that are of agricultural concern. The air carrier unloads the cargo from the plane and transfers it to a cargo facility. Inspections of shipments that are under hold are carried out by USDA inspectors at the air carrier's cargo facility at or near LAX.

The Los Angeles County Department of Agriculture (LACDA) inspects shipments of agricultural products that enter California from Hawaii and other states at LAX. All shippers that receive plant or animal shipments from other states are required to hold the shipments when they arrive and notify the county agricultural commissioner that inspection of a shipment is necessary. Certain domestic air carriers operating at LAX (and which receive cargo from Hawaii) are under compliance agreement with LACDA to hold all plant and animal shipments while nonagricultural shipments may be distributed before the inspector arrives.

During the cargo blitz, the USDA staff conducted its normal inspection activities for all manifested agricultural cargo while state and county employees focused on all other cargo. All targeted flights were inspected regardless of the declared description of the cargo on the awbs. The blitz staff worked at the USDA's manifest desk and placed holds on the entire cargo load of targeted international flights. Inspections were scheduled to determine if any shipment or any portion of a shipment was undeclared or mismanifested. Some highly perishable and time sensitive shipments such as fish from Norway or bulk money orders were inspected and released the same day of arrival. Most shipments were inspected and released the next day. All shipments that were properly manifested and certified were released within 24 hours.

Shipments from Hawaii were similarly held and inspected to confirm that manifests and certificates were in order.

Shipments of agricultural products that were properly manifested and accompanied by any necessary certificates received the same degree of inspection as is normally performed under PPQ standard operating procedures.

## TARGETED COUNTRIES

After conferring with the USDA's staff, it was determined that the countries presenting the greatest pest risk would be the Mediterranean countries and Hawaii (where many serious pests, including fruit fly species, are known to exist). **A list of the countries targeted during the cargo blitz is included with this report as Appendix I.**

As time allowed, selected flights from other countries were inspected. Flights from the Philippines and El Salvador are examples.

## RESULTS

A total of 1,387 shipments were held for 100 percent inspection. Of these shipments, 686 came from targeted countries and 185 came from Hawaii. There were 18 shipments found to be mismanifested or undeclared. The mismanifested shipments include nine interceptions of agricultural products and nine shipments of nonagricultural products. The data does not include any inspection activity or results on the part of the USDA's inspection of manifested agricultural cargo.

The mismanifested agricultural shipments include:

1. A 24 kilogram (52 lbs.) awb shipment containing lychee fruit and personal effects from Taiwan via Canada. After sampling, the lychee were destroyed. Pests found on the lychee included a tephritidae larva which was too young to be further identified, a fungus, an earwig and a beetle. The USDA has speculated for a number of years that increased inspection of Canadian shipments is warranted.
2. Three dried clove-spiced lemons were discovered in a shipment of personal household goods from Kuwait. While Kuwait is not known to be a host country for citrus canker, the lemons were destroyed as a precautionary measure.
3. Four shipments manifested as documents from Guatemala and El Salvador contained cheese or meat. The meat (pork) was destroyed. The cheese was released since it is an enterable commodity.
4. Thirteen boxes of cut flowers and nursery stock from Hawaii were manifested as nonagricultural products. They were released since they were accompanied by the proper certificates.
5. One box of pineapple and one pepper from Hawaii were found in a shipment manifested as nonagricultural products. The pepper was destroyed and the pineapple was inspected and released.
6. One shipment that was not manifested contained pulled teeth and serum.

The mismanifested nonagricultural products include:

1. A shipment manifested as medical equipment was found to contain computers and computer parts. The equipment was referred to Customs.
2. A shipment manifested as documents was found to contain fraudulent university diplomas, false identification papers, and what appeared to be prescription drugs. The shipment was referred to Customs.
3. Approximately one pound of what appeared to be illegal drugs was found in a shipment manifested as personal effects.
4. Five shipments manifested as documents from Guatemala contained personal effects such as medicine, shoes, clothing and toys.
5. A shipment from Italy that was manifested as electronic equipment actually contained brochures.

## ANALYSIS

Results - This blitz focused only on air cargo that was not manifested as agricultural products. All air cargo manifested as agricultural products was handled and inspected in accordance with existing USDA procedures because the existing data and knowledge indicates that an adequate program already exists. The major concern was that pest host agricultural commodities could be entering California without discovery and inspection because it is not properly manifested.

Although the incidence is not high, the blitz uncovered 18 mismanifested shipments, several of which did involve host agricultural products. Clearly, the opportunity does exist for smuggling. Therefore, there is a need to monitor all air cargo at a level which creates a high enough probability of discovery that an adequate deterrent exists.

A significant challenge to the development of an effective test procedure or measurement strategy is performance of the test without having the test itself alter the results. In the case of the air cargo blitz, the inspection activity clearly altered the expeditious clearance of air cargo shipments. Soon after the blitz began, several reports were received that indicated that the effective length of the blitz may be as short as two days. For example, the week before the blitz began, one Thai airline employee complained to the USDA that even though their cargo and aircraft are cleared in Hawaii they had to find out the dates of the blitz from their own sources rather than the USDA. The air carrier was advising their clients to suspend shipments until the blitz was completed.

Several freight forwarders and air carrier employees advised us that they had nefaxed a warning to their clients as soon as the first shipments were held on Sunday, July 22. Clients were advised to suspend or reroute the shipments through other airports. For these carriers, only the shipments in transit would be likely to contain undeclared or mismanifested cargo.

Once the cargo blitz began, there were many calls from brokers, freight forwarders, air carriers and receivers. Most of these parties were frustrated with the delay, but understanding and in sympathy with the purpose of the blitz. All of them asked when it would end and when it could be expected in the future. Only one air carrier, Taca Airlines, the state-owned airline of El Salvador, failed to fully comply with the hold orders issued on arriving shipments. The airline was given a stern warning along with an explanation of their legal obligations and the potential penalties for violations. A decision has not yet been made on prosecution of the hold-order violations.

A couple of industry practices came to light that complicated our inspection process. The first was the fact that shipments did not always arrive on the same day or even on the same flight number. Customs allow shippers to prepare the awbs for shipments as though the shipments were traveling as a single unit. However, in practice it is common for shipments to be split and shipped on different days or even on different flights. The resulting confusion could be a means of facilitating the entry of undeclared products.

The second practice that is common in the air carrier industry is the consolidated shipment (consol). Consols may be either consolidation of shipments from a single shipper or a number of shippers. Also, when a number of individual awbs are consolidated into one master awb, the description of the shipments may be lost; the master awb lists only "consol." One air carrier employee explained that it was common practice for air carriers to consolidate individual shipments as long as the weight and number of pieces were correct.

If more work with air carriers is warranted, there are two industry associations that may be contacted. The first is the Foreign Airline Operations Committee (FAOC) at LAX. This group's members are drawn from the various air carriers that operate at LAX. The issues they discuss related to every aspect of the airport operations. The second association that may be a useful contact is the International Air Transportation Association (IATA). Apparently, this Association advises on how air waybills should be prepared. Thus, if changes on the international level are required, this Association may be helpful.

Recommendations - Several recommendations are in order based on the results of this blitz:

1. Call Thai Airlines and Mercury Air cargo which handles Taca Airlines cargo in for an investigative interview, a warning about the consequences of their potential complicity in smuggling by importers and shippers, and formal assurance that procedures will be implemented to eliminate practices which could allow or contribute to smuggling.
2. Through the FAOC and IATA, initiate the following:
  - a. Establish and/or promote airline employee pest awareness campaigns;
  - b. Implement airline passenger pest awareness public service announcements or videos at origin terminals and in-flight; and
  - c. Work at changing industry practices which could allow or contribute to smuggling.
3. Solicit USDA/CDFA/County Agricultural Commissioners/U.S. Customs *Service cooperation in the development and implementation of an expanded*

- monitoring program which will result in a stronger deterrent to smuggling.
4. Increase USDA-PPQ staffing so a higher ratio of cargo can be held and inspected.

## SUMMARY

Overall, the cargo blitz was a success. It demonstrated that undeclared and mismanifested agricultural shipments are entering the State. While the number of incidents of improperly manifested agricultural shipments that was uncovered during the cargo blitz was small (1.3 percent) in comparison to the total number of shipments that transit LAX, the fact remains that mismanifested or undeclared air cargo is a means of smuggling agricultural products which may be infested with serious pests. A regulatory strategy must be developed to eliminate the opportunity and build an effective, long-term deterrent. The responsiveness of the carriers, shippers and importers suggests that this will be neither costly nor difficult to do. Airline industry organizations that exist and work with them may facilitate this work. The specific countries targeted were: Albania, Algeria, Arabia, Argentina, Australia, Austria, Belgium, Brazil, Cameroon, Chile, Costa , Ecuador, Egypt, El Salvador, Ethiopia, France, Germany, Ghana, Greece, Guatemala, Honduras, Hungary, Israel, Italy, Jordan, Lebanon, Libya, Mexico, Morocco, Netherlands, Nicaragua, Nigeria, Panama, Peru, Portugal, Rhodesia, Costa Rica, Saudi Arabia, South Africa, Spain, Sudan, Switzerland, Syria, Togo, U.S.S.R. and Yugoslavia.

The State of Hawaii was also targeted during the cargo blitz.

## **PART 2: BAGGAGE INSPECTION BLITZ** JULY 29 - AUGUST 4, 1990

In a continuing effort to determine the amount of undeclared agricultural products that are entering the State via passenger baggage and to estimate the degree of pest risk that agricultural products present to the agricultural industries of California and the U.S.A., a second cooperative Federal/State/County foreign arrival and Hawaii passenger baggage inspection was conducted during July 29 - August 4, 1990 at the Los Angeles International Airport (LAX). Approximately 44 state, 30 federal and 14 county agricultural personnel cooperated in the baggage inspection blitz.

## METHODOLOGY

As indicated in the first passenger baggage inspection blitz that was conducted in May 1990, the United States Department of Agriculture (USDA) is responsible for agricultural inspection of passenger baggage that arrives from foreign countries. Baggage is inspected on arrival and after the passengers are given an opportunity to declare if they have any agricultural products. Inspections are conducted with an X-ray machine, a trained dog or by visual examination. Profiling of high risk passengers is often used to provide for more efficient use of an inspector's time.

During this blitz, passengers and their baggage arriving on flights from targeted foreign countries were given 100 percent visual or x-ray inspection. A trained dog was used primarily on passenger baggage arriving from Hawaii as a quality control inspection since those passengers are precleared by the USDA in Hawaii. Profiling of passengers from nontarget areas continued as usual. Prohibited agricultural products that were intercepted during the blitz were seized and examined for agricultural pests. Any passenger discovered to be carrying undeclared prohibited agricultural products was subject to a civil penalty of up to \$50.

## TARGETED AREAS

During the May blitz, only flights from Mexico, Central and South America were targeted. However, during this blitz, flights from the Mediterranean region were originally targeted. Later flights from Southern Mexico, Central and South America were added to the targeted group. At the time of the blitz, these countries were believed to present the greatest pest risk. The specific 48 countries targeted were: Albania, Algeria, Argentina, Australia, Austria, Azores, Belgium, Brazil, Cameroon, Chile, Colombia, Costa Rica, Cyprus, Ecuador, Egypt, El Salvador, Ethiopia, France, Germany, Ghana, Greece, Guatemala, Hawaii, Honduras, Hungary, Israel, Italy, Jordan, Lebanon, Libya, Mexico, Morocco, Netherlands, Nicaragua, Nigeria, Panama, Peru, Portugal, Rhodesia, Saudi Arabia, South Africa, Spain, Sudan, Switzerland, Syria, Togo, Tonga, U.S.S.R. and Yugoslavia. Hawaii was the only state targeted.

As we noted in the May passenger inspection blitz report, flights often carry passengers from countries other than the country where the flight originated.

## RESULTS

A total of 34,393 passengers on 163 flights were given 100 percent inspection during the blitz resulting in 1,626 interceptions of prohibited agricultural products weighing 4,730 pounds.

Targeted flights: 935 interceptions of plant and animal products (weighing 2,871 pounds) were made. Of this total, 465 interceptions were not declared.

Non-targeted flights: 679 interceptions of various prohibited commodities (weighing 1,847 pounds) came from flights originating in non-targeted areas.

Hawaiian flights: A total of 2,084 passengers were inspected from 8 flights resulting in 12 interceptions of prohibited agricultural products.

Commodities: Among the more significant quarantine commodities confiscated and destroyed were mangoes, avocados, jackfruit, tejocotes, citrus, loquats, guavas, longans, mombins, sapote, peaches, herbs/leaves, bread fruit, corn, hackleberries, cucurbits, okra, plums, grapevines, seeds, soil, plants with roots, wheat, kola nuts, plums, cheese, pork, meat, poultry, eggs, fish, etc.

Plant Pest Interceptions: A total of 148 separate pest interceptions were made of which 73 were considered to be very significant. For example, there were nineteen tephritid larval interceptions: Fourteen were identified as *Anastrepha* spp., the genus that includes Mexican and Caribbean fruit flies. A total of three larvae were identified as *Bactrocera* spp. (previously *Dacus* spp.), the genus that includes Oriental fruit fly. Two of the larval interceptions could only be identified as being tephritids because the larvae were too immature or damaged. These fruit flies may have been Medfly, Mexican fruit fly, Oriental fruit fly, or any of a number of other agriculturally important fruit flies.

Other significant non-fruit fly pests that were intercepted include citrus canker, lepidopterans (an order that encompasses the Tortricidae and Pyralidae families that include many serious moth pests such as gypsy moth and apple ermine moth), and curculionids (a beetle family that includes many weevil pests such as boll weevil and plum curculio).

Some of the flights and their points of origin which consistently resulted in the greatest number of interceptions of agricultural products are shown in the following chart. Although this blitz was only carried out for one week, there were definite interception trends developing for certain flights. These trends may be a function of the flight origin, the stops the flight makes between the origin and the first airport in the U.S.A., the ethnicity and economic status of the passenger or some combination of these factors. Much of this information is generally known, in an unquantified manner, by the USDA inspectors. An analysis of the trends may be useful if we are to discuss the number of recorded interceptions with the air carrier as part of an effort to get them to participate in and contribute to a resolution of the problem.

<u>Flight#</u>	<u>Number of Interceptions of Prohibited Commodities</u>	<u>Origin</u>
AR386	8	Argentina
IB969	7	Spain
KL601	8	Netherlands
LH450	12	Germany
LR646	13	Costa Rica
LY005	14	Israel
MX122	7	Mexico
NW024	9	Korea
PA416	11	Guatemala
PR102	8	Philippines
PR106	8	Philippines
SQ012	10	Singapore
TASIO	12	El Salvador
TW861	7	Italy

Violations: The total number of violation notices issued for the week of the blitz was 216 (169 for plant products and 47 for animal products). The fines levied for these violations ranged from \$10 to \$50 and totaled \$6,740 for the week. Of the 216 violations issued, 85 were

issued to passengers arriving from targeted flights. There were also seven flight crew members that were issued violations totaling \$200 for carrying agricultural commodities. Examples of commodities that were intercepted from flight crew members include a tangerine from Korea, peaches from Italy, and apples from Brazil, Israel, Germany and Mexico.

**General Observations:** On several occasions surveillance of the unloading process was conducted to determine if baggage handlers or other ground crew members could be smuggling agricultural products. There appears to be ample opportunity for smuggling during the disembarking process although none was observed. Unless a tip is received, the number of people and vehicles that work a plane during the short time that it is at a dock and the rapid dispersal of all parties involved make intercepting any smuggled shipments highly unlikely.

While carrying out the Hawaiian passenger blitz, an unclaimed bag containing 20 pounds of Florida mangoes and 10 pounds of Florida longans was intercepted. The flight arrived via Georgia from Washington D.C. The owner later called to see if she could pick up the bag. However, she did not claim the bag when she found that she would be cited for a violation of California's Caribbean Fruit Fly Exterior Quarantine.

Despite the fact that the July passenger blitz included many more baggage inspections than the May passenger blitz, fewer plant and animal products and pests were intercepted. This can be attributed to the difference in the availability of mature host fruit, pest population dynamics, and differences in the targeted flights. Many of the targeted flights during the July blitz were from the Mediterranean region. These flights included a large proportion of passengers that were traveling for business and vacation and did not carry fruits or vegetables. The flights from Mexico, Central and South America that were targeted in May and during the last half of the July blitz were largely composed of passengers that were visiting family; and many, if not most, of the passengers carried produce or animal products. However, it should be noted that the interception data does show that flights from the Mediterranean region do present a significant pest risk.

The number of important agricultural pests that was intercepted is very significant. Despite the fact that interceptions did not include every type of important pest that may be transported via passengers' baggage, this pathway is clearly a major avenue for a wide variety of important agricultural pests.

The airline companies should be made aware that they bear some pest prevention responsibility. As an example, domestic moving companies carrying outdoor household goods are held responsible for gypsy moth certification. Although it is not a new idea, the airline companies could do a great deal to assist agriculture by clearly informing passengers at origin of the plant quarantine requirements that must be met and the penalties which will be assessed for violations. Additional work to educate travelers and to bolster enforcement of the plant quarantine regulations should be effective in reducing to an acceptable level the incidence of pests transported in international baggage.

## SUMMARY

As in the case of the May passenger baggage inspection blitz, the results confirm that foreign arrival passenger baggage definitely is a significant open pathway with which a high risk of pest introduction is associated. Staffing at the Los Angeles International Airport is inadequate to effectively deter passengers from smuggling prohibited commodities into California. Unless more resources are allocated to the Los Angeles Airport, California will continue to be subjected to infestations of exotic pests resulting in continual costs for eradication.



**Also significant in the area of quarantines and fruit fly interceptions in contraband fruit, the concern in California over the possibility of fruit flies and other pests entering the western U.S. in first-class mail has led to some difficult bargaining with postal authorities over the right to inspect first class parcel post. As a result of the battle to gain access to first class parcels, the following study was conducted in Hawaii by USDA inspectors as possible documentation of the necessity for having some control of pest introductions through the mails. The following report, with several minor changes, is a summary of USDA findings based on a USDA-PPQ report from the Western Regional office:**

#### Hawaii

The United States Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), enforces quarantines designed to prevent the movement of four fruit flies that occur in Hawaii but are not found in the mainland states. The impact of introduction of these pests into the mainland states has been demonstrated in recent years with outbreaks in California and Florida that have cost more than \$200 million to eliminate. These costs do not include the losses that occur when areas must be quarantined and producers cannot market their products.

During investigation of the possible pathways, agency officials have long believed that one of the ways these pests are hitchhiking to the mainland is through first-class mail and that the lack of authority to inspect it seriously undermines the quarantine process. Unlike international mail or commercial shipments, first class domestic parcels are not subject to inspection without search warrants.

The threat of pests moving through the mail led to enactment of the 1989 Agricultural Quarantine Enforcement Act, which prohibits the shipping of any plant, fruit, vegetable or other matter quarantined by the USDA under federal law. Violators may have their prohibited packages seized and are subject to fines and/or imprisonment. To be shipped to the mainland, all fresh fruits and vegetables require certification by the USDA because they can contain larvae of Medflies and other fruit fly species. Just one piece of fruit carelessly discarded can start an infestation that could cost millions of dollars in public funds to eradicate.

To determine if first-class mail was a source of pests, USDA and the U. S. Postal Service agreed to a pilot program in which first-class mail would be inspected for prohibited

agricultural products during a trial period, using search warrants. A cooperative pilot program began on May 22, 1990, at the main post office in Honolulu, Hawaii.

The Honolulu mail facility consists of two sorting cones. One for mail entering Hawaii and the other for parcels leaving Hawaii. Hawaii generates approximately 10,000 to 15,000 parcels per day. Outgoing neighbor island mail is brought into the Honolulu facility.

Outgoing Hawaiian parcels are broken down at the sorting cone into zip code prefixes. Sorting cone breakdown into zip code sections consists of prefixes 0 to 3, 4 to 8, and 9. The 9 prefix includes California, Alaska, Washington, Oregon, and Hawaii.

Domestic mail will begin arriving in the facility at approximately 1200 hours. Peak processing occurs between 1800-2000 hours. At 1430 hours, the shift reports to begin further breakdown of zip codes into mail pouches. Parcels are profiled by APHIS at the sorting cone prior to zip code pouching.

Mail inspected during the pilot program consisted of:

1. First-Class Mail - Parcels with zip code prefix 9 and destined to California. Later in the program other zip codes were also profiled.
2. Third-Class Mail - Was monitored.
3. Express Mail - Parcels were profiled by an officer and screened by a detector dog. If the detector dog alerted, that parcel was held and warrant obtained.

APHIS inspectors screened first-class mail parcels by applying the following profile:

1. Parcels destined to California zip codes not accompanied by a proper certificate or limited permit issued in compliance with the regulations in 7 CFR 318.13.
2. Weight to size ratio (only those packages of a size, shape, and weight that could contain fruit will be given further consideration).
3. Package markings will be considered (words like perishable, rush, etc.).
4. Odor (packages containing fruit can often be identified by the screener).

Packages meeting a majority of the above criteria were screened by a detector dog trained to respond to fruit.

If "Doc Watson", the detector dog, "alerts" to a package (responds positively), the package is marked and described. Packages to which he does not alert are returned to the sorting area of the Honolulu Post Office.

On those packages to which the dog alerts, APHIS obtained a search warrant from a federal magistrate through the U. S. Attorney's Office. Once the warrant was obtained, the package is opened in the presence of postal officials. Any prohibited material is removed and the contents of the package inventoried. Items that can be legally sent are put back into the package along with a copy of the warrant and an interception notice. The package is then

forwarded to the addressee, and the results are reported back to the magistrate.

The seized, prohibited material is weighed and inspected for blemishes, bruises and puncture marks, which could be an indication of pests inside. The fruit and vegetables are cut open so USDA inspectors can look for pests. If none are found, some of the suspect fruit is kept for a few days to see if any pests emerge.

During the period of May 22 through August 30, 1990, a total of 389 warrants were obtained for parcels on which the detector dog had alerted. Every single parcel contained prohibited or restricted agricultural material. A total of 3,487 pounds of prohibited miscellaneous agricultural material was seized.

Following is a partial list of intercepted items:

Mango	1,585 lbs.	Guava	44 lbs.
Litchi	582 "	Avocado	38 "
Jack Fruit	257 "	Banana	35 "
Marungai Bean Pod	189 "	Chicle Fruit	32 "
Sour Sop	149 "	Custard Apple	31 "
WI Apple	86 "	Otaheite Berry	28 "
Papaya	61 "	Long Bean	23 "
Egg Plant	54 "	Luffa Squash	22 "
Solanun Torvum (Turkey Berry)	46 "	Bitter Melon	22 "

Reportable insect pests were found in agricultural material seized from 130 parcels. Some parcels contained more than one reportable pest for a total of 156 pest interceptions. All four species of fruit flies known to occur in Hawaii were found in material being mailed to the mainland. Fruit fly interceptions were as follows (the bolding is ours):

<b>Mediterranean Fruit Fly (<i>Ceratitis capitata</i>)</b>	<b>3 interceptions</b>
Oriental Fruit Fly ( <i>Bactrocera dorsalis</i> )	26 interceptions
Melon Fly ( <i>Bactrocera cucurbitae</i> )	9 interceptions
Malaysian Fruit Fly ( <i>Bactrocera latifrons</i> )	1 interception
Species of Tephritidae too immature to identify	2 interceptions

Mango seed weevil (*Sternochetus mangiferae*) accounted for 59 of the total interceptions.

Where prohibited material was discovered within a parcel, the material was removed and copies of the warrant along with the interception notice were mailed to the sender along with a notice that they were eligible for a criminal or civil penalty from \$250 to \$1,000.

Through August, 145 demand letters were forwarded by the legal section to senders notifying of civil penalty assessment. Sixty (60) recipients have returned their notice with payment of \$250. Fifteen (15) notices have been returned as incorrect addresses. The remainder of the demand letters have just recently been processed.

The pilot project reveals a disturbing flow of fresh produce being illegally shipped to the mainland. Some of the packages were sent to friends and family on the mainland by visitors and residents of Hawaii unaware that the contents were prohibited by law. During the pilot project, most of the inspected packages had California, Oregon or Washington destinations.

The USDA and the U. S. Postal Service are cooperating in an educational campaign to inform residents and visitors that it is against the law to send fresh tropical fruits and vegetables to the mainland. Fresh produce must be certified by the USDA or preserved to be sure that no pests are present.

At present, inspection of first-class mail will continue at the Honolulu Post Office for an undetermined time. USDA and postal authorities will continue to evaluate the results and progress of the program.

### SIGNIFICANT FINDS IN OTHER STATES

**GYPSY MOTH**, *Lymantria dispar*, -(A)- Two male gypsy moths were trapped in separate locations near **Albuquerque**, Bernalillo County, **New Mexico**. The moths were submitted on September 24. This is a new county record for the state.

**ASHWHITEFLY**, *Siphoninus phillyreae*, -(C)- This whitefly pest has now been found in the state of **Nevada**. The first collections were found on pomegranate trees in two widely separated locations in the city of **Las Vegas**, Clark County. The collections were made by J. Ruiz on September 18 and by Kathy Costa and S.A. Wayland on September 19.

It is now well established in parts of Arizona, including the cities of Phoenix, Tucson, Yuma and Florence. Pomegranate trees seem to be a very popular dooryard plant in these arid areas, and the whitefly is doing very well in this environment.

**FORMOSAN SUBTERRANEAN TERMITE**, *Coptotermes formosanus*, -(Q)- This serious structural pest was found swarming in a house in **Holden Beach**, Brunswick County, **North Carolina** on May 29. The pest control operator who collected the specimens reported another swarm at a nearby house. This infestation in the southeastern part of the state is a new North Carolina record.

**A CARPENTER ANT**, *Camponotus variegatus*, -(Q)- This ant was introduced into **Aberdeen, Washington** early in 1990, presumably from Hawaii. Collections were made in April and again in June and the determination was made by D. R. Smith at the USNM on August 17. This represents a new North American record. So far in Hawaii, this carpenter ant is recognized as being more of a nuisance pest than a structural pest.

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## BORDER STATIONS

**In keeping with the very important quarantine topic of fruit smuggling which has been covered in this and the last issue of CPPDR (i.e the airport and mail blitzes), it is interesting at this point to see what is happening at the border stations in this regard. The following account is excerpted from a CDFA Exclusion Branch weekly report:**

As of September 7, Thiet Nguyen has pleaded guilty to smuggling fruit into California and is serving 60 days in jail out of a one-year suspended sentence. Susan Ung Thi Tchang also pleaded guilty to the same charge and is serving 90 days in jail out of a one-year suspended sentence. Nguyen and Tchang also received three-year probations and each is prohibited from engaging in any produce business activity during that time. A third defendant, Tai Tran, was currently awaiting a pretrial hearing, which had been scheduled for mid-September.

The trio was arrested in mid-July and charged with bringing prohibited fruit from Florida to Nevada and then transferring the fruit to other vehicles for illegal entry into California.

**The fact that these people were arrested and sentenced is a major gain for quarantine enforcement in the state, but the rest of the story dealing with their mode of operation and the necessary steps leading up to their apprehension tends to highlight just how serious the threat of exotic pest introduction into California actually is. It also shows how important vigilance, particularly on the part of the border station personnel involved, can be in keeping California Agriculture free from exotic pests.**

An eyewitness to the fruit transfer to two smaller, unmarked trucks in Carson City reported the observation to the Truckee Station. The inspection staff of the Truckee, Meyers and Topaz Stations were alerted to watch for the targeted vehicles, but both trucks took side roads and evaded inspection. The CHP was notified when the trucks failed to arrive.

The first truck, driven by Tran, was found by the CHP at Echo Summit, about five miles west of the Meyers Station. It was escorted back to Meyers where 125 40-pound boxes of mangoes (in banana boxes) were seized. The driver was cited under five F.A.C. code sections for intentionally bypassing a plant quarantine station with a shipment of uncertified quarantined mangoes.

The second truck, driven by Nguyen, was stopped by the CHP at Bridal Veil Falls, just east of Pollock Pines on Highway 50. The driver was instructed to return to the Meyers Station, but was not escorted because the CHP officer was called away to other duties. The driver did not return as instructed.

Further investigation revealed that these individuals were the owners of a produce company and/or their trucks. The destination of the first truckload of mangoes was to be flea markets in the San Jose area. The second truckload was headed to Los Angeles for sale to "Mom and Pop" neighborhood grocery stores.

When Nguyen and Tchang were eventually arrested at their residence in San Jose, CDFA personnel found and seized 1,260 pounds of illegal fruit, including mangoes, boniatas and longans. From a dumping area behind Tran's home in Gilroy, several pupae were retrieved from fruit debris.

Many members of the Pest Exclusion staff made significant contributions to this successful smuggling bust. Because of the pending trial, names of those involved cannot be mentioned, but congratulations are in order for a job well done.

Attempts to smuggle fruit is a major problem, but just the normal movement of fruit from place to place in these times of rapid transportation can be further cause for concern. Canada, with its severe winter climate, has not been particularly concerned with the introduction of fruit pests. As a result, Canada is a major market for fruit growers and shippers in many areas of the world. Much of the fruit shipped to Canada is purchased there, and packed as lunches and refreshments by people traveling by auto to the U.S. and California. The following list covers the interceptions of Canadian-purchased fruit by border station personnel that is in transit through California in private vehicles during the period June 1989 to May 1990:

<u>FRUIT (/Origin)</u>	<u>Interceptions</u>	<u>FRUIT (/Origin)</u>	<u>Interceptions</u>
Apples	735	Grapefruit	31
England (2)		Limes	14
Apricots	4	Tangerines	12
Pears	69	Lemons	4
Asian (1)		Papayas	13
Plums	78	Litchees	13
Nectarines	71	Kiwi	6
Peaches	47	Tangelos	3
Cherries	117	Longans	3
Mangoes	46	Mangosteens	2
Oranges	351	Rambutans	2
Japan (234)		Etrogs	2
China (26)		Durians	1
Australia(6)		Avocadoes	1
New Zealand (2)		Blueberries	1
Morocco (1)		Gooseberries	1
Israel (1)			

## PLANT PATHOLOGY HIGHLIGHTS

### NEW FINDS

**DOWNY MILDEW, *Plasmopara viticola*** -- A new and possibly significant find of this fungus has been made on wine grapes. The following report by Dale Woods outlines the discovery:

Downy mildew has been detected for the first time on commercial grapes in California. Downy mildew of grape is caused by the fungus *Plasmopara viticola* and can attack all green parts of the vine, particularly the leaves. Leaf lesions are usually angular, brownish on the top surface and limited by the leaf veins. The fungus can be found sporulating on the underside of the leaf in a dense white-to-tan cottony growth.

This disease is one of the most important grape diseases worldwide but has not previously been found in California on wine grapes, *Vitis vinifera*, principally due to the hot, dry climate of California grape production areas. The disease has been detected previously in the state on California wild grape, *Vitis californica*.

The infestation was first reported by Dr. Douglas Guebler, University of California Davis, and confirmed by Dr. Dale Woods, CDFR, Pest Detection / Emergency Projects Branch. At present, the disease is confined to a sprinkler-irrigated vineyard in Glenn County.

### SIGNIFICANT FINDS IN OTHER STATES

**CITRUS CANKER, *Xanthomonas campestris* pv. *citri*** -- Based on the appearance of symptoms and the results of preliminary laboratory tests conducted by scientists from the Division of Plant Industry, Florida Department of Agriculture and Consumer Services at Gainesville and by the Agricultural Research Service at Beltsville, there appears to be strong evidence of a new infestation of the A-strain of citrus canker. The suspect samples were collected from a 398 acre, one and one half year old nonbearing grove near Lake Placid, Highlands County, Florida. Preliminary survey has shown that at least three blocks contain infected trees (100+ trees per block). The infected trees are Rhode red valencia on Swingle citrumelo, Hamlin on Swingle citrumelo and Hamlin on Carrizo citrange.

Not all of the confirmatory tests have been completed. According to Florida DPI plant pathologists and Dr. E. Civerolo, USDA, it resembles typical A-strain and that fatty acid analysis indicates that this is A-strain. Further tests will be completed shortly. Action was taken to limit access to the infested property and to ensure that no plant material or equipment is moved from the grove. There are approximately 2,000 acres of citrus within a five mile radius of the find. Surveys are being conducted in nearby groves and on residential properties that are near or associated with the grove under investigation.

CHRYSANTHEMUM WHITE RUST, *Puccinia horiana* -- An infestation of this chrysanthemum disease has been confirmed on plant material from Washougal, Clark County, Washington. Hobbyists in Clark County, near Portland, Oregon, noticed that some of their chrysanthemums being grown for show flowers were exhibiting unusual symptoms and reported this to the Washington State Department of Agriculture. The initial identification was made by a Washington Department of Agriculture scientist on October 1. This identification was confirmed on October 2 by an APHIS scientist at the mycology laboratory in Beltsville.

APHIS and the Washington Department of Agriculture are currently attempting to determine the source of the infested plants. Infested plants at the site of the original infestation have been destroyed and surveys of other plantings in the vicinity were initiated.

As the investigation continued, more plants were located. Two infested properties were located, one in Camas, Clark County, Washington and one in Portland, Multnomah County, Oregon. These two additional infestations were found through surveys of properties belonging to garden club members that were associated with the owner of the first infested property. All of the infested properties are actually located in the greater Portland area.

Surveys of adjacent or otherwise associated properties are continuing. USDA Plant Protection and Quarantine staff and officials of the State Departments of Agriculture are taking steps to identify the source of the infection, to destroy all known infestations and to prevent any further spread of the disease.

The rust is indigenous to Japan and China and is also found in Europe and England. Plants infected with this disease cannot be used for show purposes. White rust of chrysanthemum was first reported in the United States in New Jersey during 1977.

