Vol. 4 March 15, 1981 No. 3

COOPERATIVE PLANT PEST REPORT FOR CALIFORNIA

SUMMARY ON FRUIT FLIES

MEDITERRANEAN FRUIT FLY (Ceratitis capitata): The comprehensive trapping program for Med fly has not produced any "native" flies since January 22. However, the trapping program is continuing. In fact, it has increased. For example, the number of set traps in urban Los Angeles has increased to 2,000; additional monitoring is continuing in other southern counties and elsewhere. -- Cooperation from people outside the Department of Food and Agriculture continues. A characteristic example is given by Mr. Mark Wilson, instructor at the Humboldt State College, who, through the help of the Humboldt County Agricultural Commissioner's Office, invited Eldon Paddock and Tom Taylor to speak for some 22 interested persons about the Med fly problem and progress. Classes like this are needed to awaken public interest and cooperation. Such interest and cooperation was demonstrated at the Truckee Inspection Station recently when two lots of host material from the infested area were voluntarily surrendered to Station Inspectors. On the other hand, not all people have shown such cooperation, as reported from Santa Clara County, where 37 property owners are objecting to spraying their property. However, the spraying is progressing. As of March 6, 61,834 properties on 2,566 blocks had received the first ground application of the bait-plus-malathion spray; the second application had already been completed on 54,759 properties on 2,135 blocks, and the third on 19,465 properties on 893 blocks. The crews are working vigorously and, in most areas, they are on schedule, except where owners are not cooperating. For example, on March 5, the crews sprayed 7,520 properties. Quite an achievement! -- The general fly trapping program, due to tremendous expansion of agriculture to the east and north from Rancho, California, will be expanded with Riverside County, as the final outcome of spot inspection by Area Manager Wendel Cronk and Entomologist Gene Drake on the area's orchard operations.

MEXICAN FRUIT FLY (Anastrepha ludens) another menace is popping up occasionally in the State. On March 2, Barbara J. Caliri found a male and a female specimen in a McPhail Trap (No. 130) in a trap line set in San Ysidro, San Diego County. It is an early appearance record for this species. Examinations revealed that no dye was evident in the head, and the testes do not show gross signs of irradiation. The trap was placed on a sapote tree (det. by M. Wasbauer).

Occasionally, the editor has been asked for illustrations of the different species of economically important fruit flies. For easy reference, and for those who do not have copies of the fruit fly sheets published in the California Plant Pest Detection Manual, in color, the following has been reproduced in black and white on the next page.

STATE OF CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

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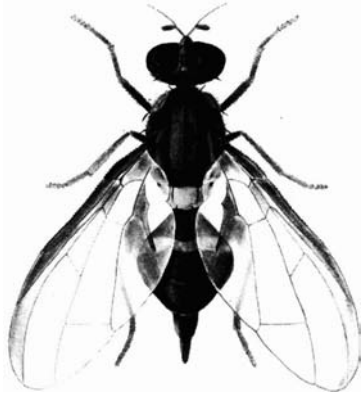
FRUIT FLIES
(FEMALES)

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
DIVISION OF PLANT INDUSTRY

MEDITERRANEAN

CARIBBEAN

MELON



QUEENSLAND

MEXICAN

ORIENTAL

Sacramento, Ca. 95814

Color paintings by Charles S. Papp (1973)

BORDER STATION INTERCEPTIONS

INSECTS

MT. SHASTA -- Specimens (nymphs) of a mealybug, Planococcus sp. (possibly kraunhiae) found by Anderson on February 9 on unshu oranges in an automobile from Oregon en route to San Francisco (det. by R. Gill). Yanon scale (Unaspis yanonensis) found (by R. C. Barbour) on February 3 in an automobile from Washington State en route to Redding, carrying unshu mandarines (det. by R. Gill).

TRUCKEE -- Gypsy moth (Lymantria dispar) viable egg masses found on motorcycle trailer towed from Rhode Island, N. Y. on February 13 by R. Singler (det. by T. D. Eichlin). Three interceptions of the B-rated chaff scale (Parlatoria pergandii: on February 12 (by A. Babre) in an automobile from Wisconsin transporting grapefruits; on the 26th (by A. Fabre) in another automobile from Minnesota on oranges; on the 26th (by W. R. Witacre) in a Missouri registered automobile carrying grapefruits (det. by R. Gill). In the latter specimens of the California red scale (Aonidiella aurantii) was also found (det. by R. Gill).

BLYTHE-WINTERHAVEN -- Citrus snow scale (Unaspis citri) found by J. Kirby on February 2 on an orange branch in an automobile with Washington state registry, en route from Florida, destined through the deserts to San Francisco (det. by R. Gill).

VERTEBRATES

MT. SHASTA -- On March 2, one Gerbil found on an Oregon automobile en route to Farmersville, California.

TRUCKEE -- Three Gerbils intercepted in two automobiles, one from Nevada (2) and the other from Michigan (1) on February 20 and 17, respectively.

YERMO -- One Ferret found on March 3 in one automobile of Nevada registration en route to San Lorenzo.

NEW TO SCIENCE

Dr. Robert (Bob) A. Flock, Entomologist, Imperial County Department of Agriculture, was on an inspection tour at the Bermuda grass seed farm in Calipatria on May 15, 1979 when he found some minute mites on Bermuda grass, and observed that this species was causing necrosis of the stems of flowering plants. Bob's curiosity did not end there. He collected some specimens and mailed them to Tok Kono in our Entomology Laboratory for identification. Tok is not only a very curious Entomologist, but is also painstakingly meticulous, and he tried to identify this little mite in all of his keys. He ran into a dead end. Tok then mailed the specimens to Dr. Robert L. Smiley in Beltsville, Maryland, asking him for help. A characteristic example of the cooperation of specialists from faraway countries followed when Dr. Smiley called upon the comments of Dr. Nicholas Emmanouel, Laboratory of Agricultural Zoology and Entomology, Athens, Greece. He suspected some connection with this part of the world, since the Bermuda grass was introduced, some time ago, from the warm climatic region of the Mediterranean. Dr. Emmanouel (after the California find) found the same species in Greece. Doctors Smiley and Emmanouel produced a paper on this mite (Internat. J. Acarol., 6, 1980:275-282, 8 figs.) and described this species as Steneotarsonemus konoi, honoring Tok Kono as the first to recognize that the specimens on hand were unknown to science. A recent telephone conversation with Bob Flock revealed that this species is causing considerable damage on the above-mentioned Bermuda grass seed farm. Some of the large plots had as much as 70% loss in the past year.

NEW PUBLICATION

The Integrated Pest Management Program of CDFA's Environmental Monitoring and Pest Management Unit published a booklet (8½" X 11"), entitled Friend, Foe or Escargots?, a coloring book for children, developed and drawn by Paula Smith. This booklet contains 12 full page illustrations with accompanying texts to subjects illustrated for the colloring enjoyment of children. The aim is to acquaint children at an early age with the most commonly found and easily observed beneficial species and give them a chance to make their own colored

drawings. (A plan and learn approach.) The Agricultural Commissioner's Offices have already received copies of this publication. **There is a limited number** of copies available, which may be ordered from Environmental Monitoring and Pest Management, 1220 N Street, Room A-328, Sacramento, California, 95814. The booklet is free. -- Another educational piece of work from I.P.M. -- The Pest Post, a monthly publication of I.P.M., recently reported about the availability of additional publications, A Literature Review of the Elm Leaf Beetle (Pyrrhalta luteola) compiled by Kathy Brunetti of Biocontrol Services Program. The review is a discussion of selected articles and bibliography. **This is a low budget** program, and a very few copies are available upon request for those interested. Direct your request to the Librarian, Biocontrol Services Program, 3288 Meadowview Road, Sacramento, California 95832. (Phone: (916) 445-6214). -- Copies of Pesticide Directories for walnuts, pears, apples and almonds are also available now at I.P.M. It is very refreshing to see this kind of information made available for training the public in understanding today's pressing problems. Much of the credit goes to Lyn Hawkins and George Loughner of I.P.M.

CORRECTION: On page 11, we reported Hydrilla (Hydrilla verticillata) collected by L. Anderson. **Mike Keffer of Exclusion and Detection called my attention to** the error. In Mike's own words, here is the correction: "Was found by Victor Palacio. Inspector Palacio was enjoying a Saturday fishing session, when the discovery was made." Congratulations, Victor, on an excellent bit of detection.

NOTES ON STORED PRODUCT INSECT LITERATURE WITH SPECIAL REFERENCES TO PAPERS ON KHAPRA BEETLE

Due to the re-appearance of the Khapra beetle (Trogoderma granarium) more and more requests are made for identification of miscellaneous insects found associated with stored seeds and food products. Many of our entomologists published in this field and we thought it would be helpful for the reader and persons using our identification services, if we compile a list of those publications arranged by authors. Those references where the name of the respective journal is omitted, appeared in the BULLETIN of the Department of Agriculture. Journal citations are mentioned, and in some cases reprints are still available from the authors.

ARMITAGE, H. M.: Khapra beetle suppression. A Progress Report. 44(4), 1955:150-154, figs.

-----(in Annual Reports): 42(4): 1953:202-203, fig.; 45(2), 1956:147-148

HARPER, R. W.: Khapra beetle and Mexican fruit fly. 44(1), 1955:17-28, figs.

-----(in Annual Reports): 48(2), 1959:121-122; 49(2), 1960:136-137; 50(2), 1961:132-133; 51(2), 162:89; 52(2), 1963:104; 53(2), 1964:89; 54(2), 1965:87; 55(2), 1966:93.

GAMMON, C. and E. (or E. and C.), (in Annual Reports): 45(2),1956:153-155 and pp. 162-163; 46(2), 1957:148

GAMMON, E. T. (in Annual Report): 47(2), 1958:146

JACOBSEN, W. C. (in Report): 43(4), 1954:142

OKUMURA, G. T.: A supplemental character for separating adult Trogoderma granarium Everts, Khapra beetle, from other Nearctic Trogoderma species. Coop. Econ. In sects, 16(9), 1966:147, figs.

----- Illustrated key to lepidopterous larvae found in stored almonds and walnuts. CDFA T-2 (an in-house-use publication), 1965:1-3, figs.

----- and R. G. STRONG: Insects and mites associated with stored foods and seeds in California. Part I in 47(4), 1958:233-249, figs; Part II in 54(1), 1965:13-23, figs.

----- and F. L. BLANC: Key to species of Trogderma and related genera of Dermestidae commonly encountered in stored grain in California. CDFA. T-1 (an in-house-use publication), 1955:1-5, figs.

----- Warehouse beetle a major pest of stored food. National Pest Control Operators News, 32(1), 1972:4-5, 4 figs.

OSBORN, H. T. (in Report), 43(4), 1954:169

PAPP, C. S.: Discussions of the taxonomic status of some Ptinidae of economic importance. Entom. Berichte, Amsterdam, 19, 1959:156-159

----- The ptinid genus Mezium. Proc. Ent. Soc. Washington, 62(1), 1960:57-58, 3 figs.

----- An illustrated and descriptive catalog of the Ptinidae of North America, North of the Panama Canal. Deutsche Ent. Zeitschr., Berlin, (N. S.) 9(5), 1962:367-423, 35 figs. (with keys and description to all genera and species).

----- and G. T. OKUMURA: A preliminary study of the Ptinidae of California. In 48(4), 1959:228-248, 32 figs.

----- and H. D. PIERCE: Ecological remarks on some tenebrionids connected with stored animal food in the Mojave Desert, California. Journal of the Kansas Ent. Soc., 33(4), 1960:154-156, 5 figs.

----- and L. A. SWAN: Ouch! A guide to biting and stinging insects and other Arthropods. Okumura Biological Institute, Educational Publications, Series A, No. 1, 1981:1-176, figs. (urticating hairs of Trogoderma).

SWAN, L. A. and C. S. PAPP: The Common Insects of North America. Harper and Row Publishers, New York, 1972:1-750,with 1442 figs. and 8 color plates.

(CSP)

CALIFORNIA BLACK LIGHT TRAP REPORT

For the week ending 2/20/81

DATE	2/15/81	2/16/81	2/17/81		
LOCATION	Bellota	Roberts Island	Manteca		
TEMPERATURE	71° - 54°		69° - 43°		
ALFALFA LOOPER *Autographa californica*		Negative			
ARMYWORM *Pseudaletia unipuncta*					
BEET ARMYWORM *Spodoptera exigua*					
BLACK CUTWORM *Argrotis ipsilon*	3				
CABBAGE LOOPER *Trichoplusia ni*					
CLOVER CUTWORM *Scotogramma trifolii*					
CODLING MOTH *Laspeyresia pomonella*					
CORN EARWORM, (ETC.) *Heliothis zea*					
FALSE CELERY LEAFTIER *Udea profundalis*					
GRANULATE CUTWORM *Feltia subterranea*			1		
SALTMARSH CATERPILLAR *Estigmene acrea*					
SPOTTED CUTWORM *Amathes c-nigrum*					
SUGARBEET WEBWORM *Loxostege sticticalis*					
TOBACCO BUDWORM *Heliothis virescens*					
W. YELLOWSTRIPED ARMYWORM *Spodoptera praefica*	2				
GREEN FRUITWORM Orthosia hibisci	2				
A NOCTUID MOTH Xylomyges hiemalis			1		

61-033 (Est. 5-77)