US ISSN 0013-872X
L. 104 MARCH & APRIL, 1993 NO. 2

ENTOMOLOGICAL NEWS

THE AMERICAN ENTOMOLOGICAL SOCIETY

EPILACHNA VIGINTIOCTOPUNCTATA (COLEOPTERA: COCCINELLIDAE), NEW RECORD FOR WESTERN HEMISPHERE, WITH A REVIEW OF HOST PLANTS [1]

Robert F. W. Schroder,[2] Michael M. Athanas,[2] Crodowaldo Pavan[3]

ABSTRACT: The first discovery of the phytophagous coccinellid *Epilachna vigintioctopunctata* (F.) in the Western Hemisphere was made October 8, 1990 on wild cucurbit plants near Curitiba, Parana, Brazil. new records since that discovery are given for Paranagua, Parana and Itajai, Santa Catarina. host plants of agricultural importance are given.

Epilachna vigintioctopunctata (F.) is reported for the first time in the Western Hemisphere. it was not known to occur in the Western Hemisphere prior to this report (Anonymous 1992). Gordon (1975) makes no mention of this pest in the Western Hemisphere.

Nine adult beetles were collected on October 8, 1990 feeding on wild cucurbit vines (species unknown) found along Highway 101 about 10 kilometers south of Curitiba, Parana, Brazil. No eggs or larvae were found at the site. The adults were similar in appearance and size to *Epilachna varivestis* Mulsant, having a brownish yellow color with dark brown spots on the elytron. Four specimens were identified by Robert D. Gordon, USDA, Systematic Entomology Laboratory, as the phytophagous coccinellid *E. vigintioctopunctata (E. 28-punctata).* During a trip to Brazil in April 1992, we visited with Sonia M. N. Lazzari, a specialist in taxonomy of Coleoptera, Department of Zoology, Federal University of Parana, Curitiba. She indicated that on December 31, 1991, they collected one *E. 28-punctata* adult from a pepper plant at Paranagua, a coastal town east of Curitiba. on April 26, 1992, 25-30 adults were found defoliating *Solanum americanum* along the coastal highway near Itajai, Santa Catarina, Brazil. Adults sent to R. D. Gordon were also identified as *E. 28-punctata.* During the period from April 26 to May 5, 1992, we did not find any other specimens in the regions surveyed near Passo Fundo (RS), Ponta Grossa (Parana) and Campinas (SP). Voucher specimens are deposited in the Federal University of Parana, Department of Zoology Insect Collection.

Schaefer (1983) indicates that this coccinellid is a serious pest in Asia

[1] Received October 24, 1992. Accepted November 23, 1992.

[2] USDA, Agricultural Research Service, Plant Sciences Institute, Insect Biocontrol Laboratory, Beltsville, MD 20705

[3] Department of Genetics and Evolution, Institute of Biology, UNICAMP, Campinas, S.P., Brazil.

and is reported on a wide range of host plants of agricultural importance including potato, eggplant, tomato, tobacco, bitter gourd, sweet gourd, ribbed gourd, snake gourd, cucumber, pumpkin, zucchini, beet, sugarbeet, marrow, cotton melon, rock melon, squash, cowpea, peanut, okra, alfalfa, vetch, clover, cotton and banana. This list does not include weeds and grasses that Schaefer mentions.

According to Richards and Filewood (1990), there were 3 different Australian species of *Epilachna* that were incorrectly referred to as *E. 28-punctata.* He identified them as subspecies in the *E. 28-punctata* complex, all occurring in Australia. Two of the subspecies, *E. 28-punctata pardalis* (Boisduval) and *E. vigintisexpunctata vigintisexpunctata* (Boisduval) feed on solanaceous plants, and *E. cucurbitae* Richards feeds on cucurbits. Another subspecies in the complex, *Epilachna 28-punctata 28-punctata* (Fabricius) is not known to occur in Australia, but is found in India, Pakistan, Japan, SE Asia and Oceania. All are important pests of agricultural crops. Richards at least clarified the situation for Australia. Because of the existing confusion over identification, or species limits, much greater uncertainty exists over the host plants list for *E. 28-punctata* compiled by Schaefer. This is only one example of a greater problem that exists throughout the range of this species.

There is reason to be concerned about this new pest in the Western Hemisphere, because it is reported as a serious pest on many economically important crops in Asia. Since it looks very similar to *E. varivestis,* its presence may go undetected in regions of the Western Hemisphere where *E. vrivestis* is known to occur. *Epilachna 28-punctata* is a new introduction, restricted to the coastal region of Brazil. Other than the defoliation of the *S. americanum* plants from which we collected the beetle, there are no other reports of it causing any damage to plants. Therefore, the opportunity exists to delineate its distribution, restrict its spread and maximize the use of a wide range of biocontrol agents (Schaefer 1983) to reduce the potential threat of this pest to agriculture in Brazil.

LITERATURE CITED

Anonymous. 1992. CAB, International Institute of Entomology, Distribution Maps of Pests, Series A; map No. 532.

Gordon, R. D. 1975. A revision of the Epilachninae of the Western Hemisphere (Coleoptera: Coccinellidae). USDA Tech. Bull. 1943, 409 pp.

Richards, A. M. and L. W. Filewood. 1990. Feeding behavior and food preferences of pest species comprising the *Epilachna vigintioctopunctata* (F.) complex (Col., Coccinellidae). J. Appl. Ent. 110:501-515.

Schaefer, P. W. 1983. Natural enemies and host plants of species in the Epilachninae (Coleoptera: Coccinellidae) — a world list. University of Delaware, Agricultural Experiment Station Bulletin 445, 42 pp.