Prepared by CABI and EPPO for the EU under Contract 90/399003

Data Sheets on Quarantine Pests

Euphranta canadensis

IDENTITY

Name: *Euphranta canadensis* (Loew)
Synonyms: *Epochra canadensis* (Loew)
Trypeta canadensis Loew
Trypeta lunifera Hering
Taxonomic position: Insecta: Diptera: Tephritidae
Common names: Currant fruit fly, yellow currant fly, currant and gooseberry maggot (English)
Mouche du groseiller (French)
Bayer computer code: EPOCCA
EPPO A1 list: No. 41 (in part)
EU Annex designation: I/A1 - as *Epochra canadensis*

HOSTS

E. canadensis used to be a serious pest of *Ribes* spp. and gooseberries (e.g. Jones, 1937), but there have been no reports of it as a pest since 1950. Commercial hosts include black currants, red currants and *R. aureum* (Wasbauer, 1972). Known wild hosts are other species of *Ribes* (Wasbauer, 1972). The potential host range in the EPPO region would be members of the genus *Ribes*.

GEOGRAPHICAL DISTRIBUTION

EPPO region: Absent.
North America: Canada (southern areas), USA (northern areas, Pacific North-West).
EU: Absent.

BIOLOGY

Eggs are laid one to two per fruit at a rate of up to 33 a day and hatch after 6-8 days. The larvae take 12-25 days to develop, emerging from fruit on the first day after the fruit drops to the ground. This implies that pupariation takes place in the soil and the adults presumably emerge in time for the next year's fruiting season. Mating takes place 5 days after emergence and egg laying commences on the sixth day. The biology of this species was tabulated by Christenson & Foote (1960).

DETECTION AND IDENTIFICATION

Symptoms

Not known, but attacked fruit will probably show signs of oviposition punctures.

Morphology

Larva

Described by Phillips (1946), White & Elson-Harris (1992).

Adult

Colour: Body orange, except abdominal tergites 1+2 and 3 which are dark brown; wing crossbands brown.

Head: Three pairs of frontal setae and only one pair of orbital setae; first flagellomere rounded at apex.

Thorax: Scutum without presutural supra-alar setae; with a pair of dorsocentral setae which are placed about half-way between anterior and posterior supra-alar setae; scutellum flat, with four marginal setae (one basal and an apical pair); anatergite with long pale hairs which are distinct from the general pubescence.

Wing: With a complete sub-basal crossband; discal and apical crossbands linked along costal margin, and with a short preapical crossband covering dm-cu crossvein; vein Sc abruptly bent forward at nearly 90°, weakened beyond this bend and ending at subcostal break; vein R1 with dorsal setulae; vein R4+5 with dorsal setulae as far as r-m crossvein; apex of vein M meeting C with a distinct angle; cell cu*p* broader than half depth of cell bm, and usually about as deep as cell bm; cu*p* extension short, never more than one fifth as long as vein A1+Cu2, and vein CuA2 straight along anterior edge of cu*p* extension. Wing length 5-6 mm.

Abdomen: Female with an ovipositor that is shorter than the wing length, and straight.

Detection and inspection methods

Although trapping methods have been developed for many tephritid quarantine pests, there has been no occasion to do this for *E. canadensis*.

MEANS OF MOVEMENT AND DISPERSAL

Not documented, but *E. canadensis* could presumably be carried as puparia in soil accompanying host plants or as larvae in fruits on host plants. It is difficult to envisage a transatlantic trade ever developing in *Ribes* fruits as such.

PEST SIGNIFICANCE

Economic impact

The lack of post-1950 references to this species indicates that it is no longer regarded as a significant pest.

Control

No modern control techniques have been described, but a treatment involving DDT was described by Allen *et al*. (1950).

Phytosanitary risk

E. canadensis was included in the EPPO A1 quarantine pest category "non-European Trypetidae", but only by a brief mention in the data sheet concerned (OEPP/EPPO, 1983). No other regional plant protection organization has considered it. Its lack of economic importance suggests that there is no justification for listing it individually as a quarantine pest.

PHYTOSANITARY MEASURES

According to the general EPPO recommendations for "non-European Trypetidae" (OEPP/EPPO, 1990), which could be applied to this species, plants of host species transported with roots from countries where these pests occur should be free from soil, or the soil should be treated against puparia. The plants should not carry fruits. The recommendations also propose requirements for fruits as such, which in the case of *Ribes* would appear to have too low a value and too short a shelf-life ever to be traded between continents.

BIBLIOGRAPHY

Allen, W.R.; Richardson, H.P.; Berck, B.; Robinson, A.G. (1950) DDT residues on currants and gooseberries. *Science and Agriculture* **30**, 380-383.

Christenson, L.D.; Foote, R.H. (1960) Biology of fruit flies. *Annual Review of Entomology* **5**, 171-192.

Jones, S.C. (1937) The currant and gooseberry maggot or yellow currant fly (*Epochra canadensis*) Loew. *Circular of the Oregon Agricultural Experimental Station* No. 121, 11 pp.

OEPP/EPPO (1983) Data sheets on quarantine organisms No. 41, Trypetidae (non-European). *Bulletin OEPP/EPPO Bulletin* **13** (1).

OEPP/EPPO (1990) Specific quarantine requirements. *EPPO Technical Documents* No. 1008.

Phillips, V.T. (1946) The biology and identification of trypetid larvae. *Memoirs of the American Entomological Society* **12**, 1-161.

Wasbauer, M.S. (1972) An annotated host catalog of the fruit flies of America north of Mexico (Diptera: Tephritidae). *Occasional Papers of the Bureau of Entomology, Department of Agriculture, California* **19**, 1-172.

White, I.M.; Elson-Harris, M.M. (1992) *Fruit flies of economic significance, their identification and bionomics*. CAB International, Wallingford, UK.