

## THE TEPHRITIDAE OF THE PUGET SOUND REGION

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Fruit growers will immediately recognize the Tephritidae as the fruit flies. In many parts of the world their larvae feed on healthy plant tissue and are pests of major importance. In the Puget Sound region several species of serious economic importance occur, as do other presumably native forms. The native species, while not of much economic importance so long as they attack only their native hosts, are nevertheless a potential threat, because an insect may attack a new host and a valuable plant in a new area.

In 1898 Piper & Doane (1) issued a bulletin mentioning *Rhagoletis ribicola* Doane (the dark currant fruit fly) and *Epochra canadensis* (Loew) (the yellow currant fruit fly). In 1918 Frank (2) first reported the presence of *Rhagoletis cingulata* (Loew) (the cherry fruit fly). Since that time this last species has spread all over the Puget Sound area and still remains the principal insect pest encountered by all cherry growers. It has also infested *Prunus emarginata* var. *erecta*, the native bitter cherry. Cherries also harbor an additional species, *Rhagoletis fausta* O.S. (the black-bodied cherry fruit fly).

On the species of *Vaccinium* in the region there exists a delicate balance among the fruit flies. *Vaccinium macrophyllum* is widely distributed in the foothills and is infested with *Rhagoletis tabellaria* Fitch. This berry is harvested in nominal amounts only, but is eaten widely by the bears. *Vaccinium ovatum*, a lowland species, is harvested by the hundreds of tons each year, but is singularly enough free from fruit flies. There are plantings of cultivated blueberries throughout this area, but according to Crowley (3) they are still free from infestation.

*Acidia fratria* (Leow), the parsnip

leaf miner occurs in vegetable gardens. No commercial control is practiced against this insect since the damage caused is only nominal. Its larvae mine between the leaf surfaces. In flower gardens *Mahonia aquifolium* (Oregon-grape) is sometimes grown for its beautiful foliage. The berries of this plant are heavily infested with *Rhagoletis berberis* Curr. *Symphoricarpos albus* (the common snowberry) is infested with *Rhagoletis pomonella* (Walsh), the apple maggot of the Eastern States. Paradoxically, in the Puget Sound region both cultivated and native apples are free from infestation by this insect—another instance of a precarious fruit fly situation. *Cirsium arvense* (the Canada thistle), is well distributed on the best river bottom lands of this area. Its seed heads are infested with *Orella ruficauda* (F). Adults of *Euaresta bel-lula* Snow are found in great numbers around *Franseria* (*Gaertneria*) *bipinnatifida*, (beach burr) a salt water beach plant. Likewise adults of *Euaresta arenosa* Coq. are abundant on *Artemisia vulgaris* Linn. subsp. *douglasiana* (Bessey) St. John. A native species of rose, probably *Rosa nutkana* is infested with a seemingly undecided species. Essig (4) mentions sunflowers as hosts of *Strauzia longipennis* Weid. (The sunflower peacock fly).

Doane, an early entomological writer, mentions still a few other forms for this area, but as the writer has been unable to collect them they have been omitted from this compilation.

- (1) Piper, C. V., and Doane, R. W. P 3 and 7, in Washington Agricultural Experiment Station Bul. 36, 31 p. 1898.
- (2) Frank, Arthur. P. 41, in Monthly Bulletin 6(3): 44 p., Western Washington Agr. Exp. Station.
- (3) Crowley, D. J. Superintendent, Cranberry-Blueberry Laboratory. Correspondence, 1945.
- (4) Essig, E. O. P. 602, in Insects of Western North America. MacMillan, New York. 1st ed., 1936.