Occurrence of the spider mite predator *Stethorus punctillum* (Coleoptera: Coccinellidae) in the Pacific Northwest

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Stethorus punctillum Weise is a Palearctic species first reported in North America by Brown (1950), but found in the 1940's in collections from Ontario (Putman 1955). The beetle was collected on Lulu Island near Vancouver BC in 1950 (Tonks 1953). Since 1997 it has been mass reared and sold (Applied Bio-nomics Ltd., Saanich, BC) as a biological control agent for two-spotted spider mites, *Tetranychus urticae* Koch (Acari: Tetranychidae) (Raworth 2001).

According to Gordon (1985) *S. punctum picipes* Casey, a species native to North America, and the introduced species *S. punctillum* have overlapping distributions on the west coast of North America. Concern about the potential impact of commercial releases of *S. punctillum* on the species complex in the Lower Fraser Valley prompted a review of our recent collections of *Stethorus,* and collections of two other researchers, from the Pacific Northwest.

Stethorus spp. were collected during various studies from: raspberry, *Rubus idaeus* L. (Rosaceae) at Abbotsford BC (1986, 1996), Summerland BC (1997), and Snohomish and Skagit Counties WA (1991); corn, *Zea Mays* L. (Gramineae) at Vancouver BC (1992); and greenhouse cucumber *Cucumis sativus* L. (Cucurbitaceae) at Abbotsford (1995) and Cobble Hill BC (1996). The beetles were maintained in 70% ethanol and the genitalia of the males were dissected and mounted on slides. Identifications were based on Gordon (1985) using a phase contrast microscope, and confirmed by Y. Bousquet at the Eastern Cereal and Oilseed Research Centre, Ottawa. Forty-three male beetles collected from the Pacific Northwest were all *S. punctillum*. Five male beetles collected from Summerland, BC were all *S. punctum picipes*.

Stethorus punctillum was the only species found in collections from agricultural habitats in the Pacific Northwest during a 12-year period. Although the sample size was not large (43 males), the samples were consistent among years and locations, suggesting that *S. punctillum* is the dominant species. Continued inundative and augmentative releases of *S. punctillum* will probably not alter the species complex in the Lower Fraser Valley. *Stethorus punctillum* may have displaced *S. punctum picipes* in agricultural areas of Vancouver Island and the Lower Fraser Valley prior to commercial releases. Putman (1955) described a rapid displacement in southern Ontario between 1930 and 1940. No mass reared beetles have as yet been distributed to growers in the Okanagan Valley, although 500 have been sold to a grower further east, at Winlaw (Bob Macadam, Westgro Sales Inc., personal communication). Further work is needed to determine the nature of the complex in the Okanagan.

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