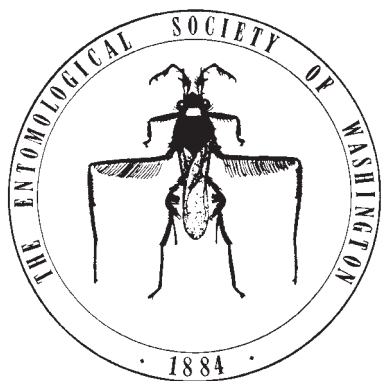


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Monsoma pulveratum (Retzius) (Hymenoptera: Tenthredinidae: Allantinae), A
Palaeartic Sawfly Defoliator of Alder in Alaska and New to the United States

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NOTE

Monsoma pulveratum (Retzius) (Hymenoptera: Tenthredinidae: Allantinae), A
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Smith and Goulet (2000) gave the first North American records of *Monsoma pulveratum* (Retzius) from Newfoundland, Canada, in 1991 and 1998 and compared it with the only native species of the genus, *M. inferentia* (Norton). It is native to Europe, northern Africa, and Turkey to the Caucasus (Benson 1968, Lacourt 1975).

In Alaska, *Monsoma pulveratum* was initially detected in 2004 in an agricultural trapping operation. By 2007, significant defoliation was recorded in the Palmer Hay Flats where it was not noticed at all in 2006 during an alder insect pest project (Snyder, personal communication). By 2008, significant defoliation was noted on the Kenai Peninsula, and the first capture in interior Alaska was made in 2009.

Adults fly in May and June in Alaska. The principal larval host there is *Alnus tenuifolia* Nutt. (Table 1), which is found in riparian areas throughout south-central and interior Alaska (Viereck and Little 2007). The ability of *Monsoma* to feed on additional alder species and other hosts will be investigated by USFS Forest Health Protection in 2010 (JJK). Adult sawflies were successfully reared from *A. tenuifolia* in 2009. Adults emerged over a prolonged period (May and June). Females oviposited on the upper surface of new leaves as early as mid-May (K. Zogas, personal communication). Eggs hatched within a week and the larvae matured in about six weeks in the field (Zogas, personal communication). Severe defoliation has been observed since 2007 in the Palmer Hay Flats area, since 2008

on the Kenai Peninsula, and in 2009 along the Susitna and Little Susitna Rivers (Figs. 1–2). The long term effects of continued defoliation events are currently under investigation (JJK) but there is a decreasing N₂ fixation effect correlated with defoliation of alder (Ruess et al. 2006).

To date, we have seen only females from Alaska. Males are not known from North America (Smith and Goulet 2000), and are rare in this species' native range. A male from Morocco was described by Lacourt (1975).

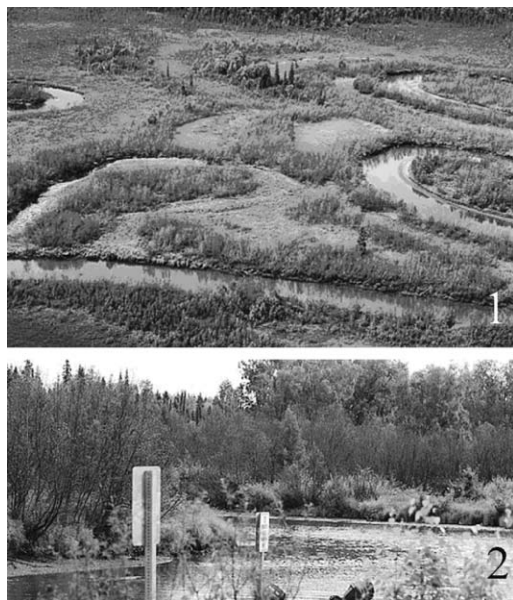
Alaska (U.S.) records for *Monsoma pulveratum* are: Matanuska-Susitna, Pyrah's Farm, Palmer, click beetle trap, rhubarb, 9 June 2004, coll. USDA-ARS (adult), same data except Palmer-potato click beetle, June 23, 2004 (adult); Matanuska-Susitna, Pyrah's rhubarb, aphid pan trap #1, 61°31'57N, 149°04'50W, 12 May 2005, coll. A. Hagerty, A. Pantoja (adult), same data except aphid pan trap #3, 9–14 June, 2005 (adult), same data except aphid pan trap #5, 24 May 2005 and 27–30 June 2005 (adult), same data except click beetle trap #1, 18 May 2005 (adult), same data except aphid pan trap #4, 19 May 2005 (adult); Matanuska-Susitna, Pyrah's Peas, click beetle trap #1, 61°31'57N, 149°04'50W, 1 June 2005 (adult); Little Susitna River Boat Launch, N61.43739 W150.17126, June–July 2009 (larvae), J. Hard & K. Zogas; Anchorage, Mirror Lake, 2006 (adult); Anchorage, Potter's Marsh, N61.07864, W149.82504, July 2009 (larvae), K. Zogas; Zogas Residence, N61.10864 W149.90292, June–July 2009 (larvae), K. Zogas; Fairbanks west, near airport, N64.82304

Table 1. Sawflies introduced to Alaska, with their hosts and current distributions in the State.

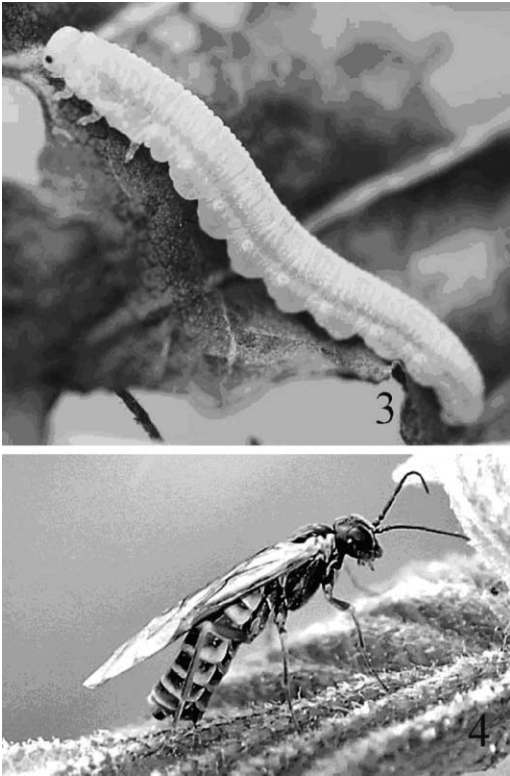
Species	Hosts	Distribution
<i>Eriocampa ovata</i> (L.)	<i>Alnus tenuifolia</i>	South-central
<i>Monsoma pulveratum</i> (Retzius)	<i>Alnus tenuifolia</i>	South-central, Interior
<i>Profenusa thomsoni</i> (Konow)	<i>Betula</i> spp.	South-central, Interior
<i>Fenusa pumila</i> Leach	<i>Betula</i> spp.	South-central, Interior
<i>Fenusa dohrnii</i> (Tischbein)	<i>Alnus</i> spp.	Interior
<i>Pristiphora erichsonii</i> (Hartig)	<i>Larix laricina</i> , <i>L. siberica</i>	South-central, Interior
<i>Heterarthrus nemoratus</i> (Fallén)	<i>Betula</i> spp., <i>Alnus</i> spp., <i>Populus</i> spp.	South-central

W147.87230, 23.VI.2009, J. Kruse (adult); Kenai, 08.VII.2008 (larvae), 03–24.VIII.2008 (larvae), 03.VI.2009 (adult), 09–10.VI.2009 (adult), 17–22.VI.2009 (larvae), 01.VII.2009 (larvae), J. Hard, T. Henningsen, J. Kruse, and/or K. Zogas; Primrose, N60.32753 W149.35758, 25.VI.2008 (larvae), 02.VII.2008 (larvae), 17–29.VII.2008 (larvae), 05–13.VIII.2008 (larvae), 10.VI.2009 (adult), 17.VI.2009 (larvae); Centennial Lake, N60.21276 W151.23456, 20.VII.2008 (larvae), 03.VIII.2008 (larvae); Snow River, N60.29107 W149.33986 and N60.32203 W149.35818, 23–29.VII.2008 (larvae), 05–20.VIII.2008 (larvae), 23.VI.2009 (larvae); Beaver Loop Rd., N60.54414 W151.20206, 24.VIII.2008 (larvae); Kenai Boatyard, N60.55222 W151.22353, June–July 2009 (larvae); Kenai Boat Launch, N60.54258 W151.20947, June–July 2009 (larvae); Broadview Guard Station, N60.49386 W149.75366, June–July 2009 (larvae); Funny River Rd. mile 11, N60.49083 W150.85832, June–July 2009 (larvae); Hidden Lake, N60.46675 W150.20799, June–July 2009 (larvae); Johnson Pass Trailhead, N60.50420 W149.43132, June–July 2009 (larvae); Seward Highway, mile 14.5, N60.29328, W149.34698, July 2009 (larvae); Quartz Creek Rd., N60.48690 W149.73544, June–July 2009 (larvae), all J. Hard, T. Henningsen, and/or K. Zogas; Cooper Landing,

reared on *Alnus tenuifolia*, EM 09.VI.2009, T. Henningsen (adult); Palmer Hay Flats, severe defoliation noted, June–August 2007, C. Snyder. Specimens are deposited in the U.S. Forest Service collections at Fairbanks and Anchorage, Alaska; University of Alaska Museum of the North, Fairbanks, Alaska; National Museum of Natural History, Smithsonian Institution, Washington, District of Columbia;



Figs. 1–2. Defoliation caused by *Monsoma pulveratum*. 1, On the Little Susitna River, Alaska, as seen from the air, July 2009. 2, On the upper Susitna River, Alaska, as seen from the Susitna River Boat Launch, July 2009.



Figs. 3–4. *Monsoma pulveratum* on *Alnus tenuifolia*. 3, Larva, Kenai, Alaska, 2008. 4, Adult ovipositing, Kenai, Alaska, 2009.

and N. Schiff collection, Stoneville, Mississippi.

As the only other North America records are from Newfoundland (Smith and Goulet 2000), we believe the two populations represent separate introductions. *Monsoma pulveratum* appears capable of becoming a significant defoliator of alder in Alaska, similar to *Hemichroa crocea* (Geoffroy) and *Eriocampa ovata* (L.). It also joins a growing number of introduced sawflies in Alaska attacking alder and birch (Snyder et al. 2007, Digweed et al. 2009) (Table 1).

Larvae and adults of *Monsoma pulveratum* can be distinguished from those of *H. crocea* and *E. ovata* by color. Larvae of *M. pulveratum* are green with

a dark green lateral stripe, a white dorsal longitudinal stripe, and white spots around each spiracle (Fig. 3), whereas those of *E. ovata* are covered with a dense, flaky white bloom, and those of *H. crocea* have a black head and black longitudinal lateral stripe. Adult females of *M. pulveratum* are elongate, mostly black with some brown on the abdomen (Fig. 4). Those of *E. ovata* are stout, entirely black with a contrasting red mesonotum, and those of *H. crocea* are almost entirely orange.

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