Hydrocarbon Identification and Characterization in *Galerucella calmariensus*, a Biological Control Agent, on *Lythrum salicaria*, a Noxious Wetland Weed [MAS]

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Galerucella calmariensis, a chrysomelide beetle native to Europe, has been introduced into North American wetland ecosystems as a biological control against *Lythrum salicaria* (purple loosestrife), a native of Eurasia. Frequently, exotic plants, removed from natural environmental limitations, aggressively invade and dominate

plant communities. Among other advances, biologists have propagated and relea ed five natural enemies in an attempt to reduce the distribution and impact of Lythrum. Galerucella is a hostspecific, defoliating beetle, which inflicts its greatest damage to plant vigor and seed production during larval stages. Field observations indicate that Galerucella aggregate throughout their life span, but particularly as teneral adults, prior to dispersal, a more thorough understanding of this behavior may prove expedient for integrating biological, chemical, and mechanical control efforts against Lythrum. Toward an end to isolate the aggregation pheromone(s), we have combined gas chromatography and mass spectrometry to characterize cuticular hydrocarbons. To date, 20 to 25 compounds have been identified. Further efforts have centered around isolating the aggregation pheromone(s) by developing an effective method for bioassaying responses to chemical attractants. Here, these measures are described in addition to applicable rearing details.