

Molecular markers to differentiate two morphologically-close species of the genus *Sitobion*

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A set of molecular markers to differentiate the aphid (Hemiptera: Aphidoidea) species *Sitobion avenae* (Fabricius) from *Sitobion fragariae* (Walker), is presented. These markers correspond to (1) a region of the mitochondrial DNA, (2) five species-specific RAPD banding patterns and (3) four microsatellite loci. Each of the markers was able to clearly distinguish between the species. The utility of each molecular marker is discussed. Mitochondrial DNA is best applicable to species determination and relative abundance, RAPDs to the evaluation of genetic diversity, and microsatellites to the assessment of the population genetic structure; the combined use of mtDNA with the other techniques can be of importance when the presence of hybrids is suspected, and RAPDs with microsatellites are best used together in population genetics and host preference studies.