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[\[PDF \(861K\)\]](#) [\[References\]](#)**Distribution of sulfonylurea-resistant biotypes of *Monochoria vaginalis* in Shizuoka Prefecture, Japan**Hidehiro Inagaki¹⁾, Toshiyuki Imaizumi²⁾, Guang-Xi Wang²⁾ and Tohru Tominaga²⁾

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Summary:

The distribution of *Monochoria vaginalis* biotypes that are resistant (R) to sulfonylurea (SU) herbicides in Shizuoka Prefecture, Japan, was investigated by studying their rooting responses in an SU solution and analyzing the point mutation sites in the acetolactate synthase (*ALS*) genes. The SU-R biotypes of *M. vaginalis* were found to be distributed over a wide area in Shizuoka Prefecture. In this study, we have for the first time, discovered the substitution of proline (Pro₁₉₇) with threonine in 2 of these SU-R biotypes. The amino acid substitutions in the *ALS* genes of each SU-R biotype in the Izu area differed among the biotypes, although the SU-R biotypes were located merely within a distance of 1 km. The SU-R biotypes developed independently in each location. From these results, we conclude that the SU-R biotypes of *M. vaginalis* probably exist widely in rice paddy fields, where their dominance has not been previously reported.

Keywords: sulfonylurea (SU) herbicides, resistant biotype, *Monochoria vaginalis*, acetolactate synthase, Shizuoka Prefecture

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