Invasion and Spatial Genetic Structure of *Humulus japonicus* in Korean Riparian Zones

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*Humulus japonicus* is an annual invasive vine species known for its rapid and extensive growth, which can disrupt native riparian ecosystems. Its long, thorny vines climb over and cover surrounding vegetation, negatively impacting riparian plant communities. In recognition of its ecological threat, *H. japonicus* was designated as an invasive species by the Korean Ministry of Environment in 2019. Our previous research investigated the differences in biotic and abiotic environmental characteristics between *H. japonicus*-invaded and uninvaded riparian sites. Building on these findings, we further analyzed the spatial genetic structure of *H. japonicus* using restriction site-associated DNA sequencing (RAD-seq). Leaf samples were collected from the Yeongsan River and the Hwangnyong River, which merges with Yeongsan River at the midsection of the river system. For the sustainable management of riparian invasive plants, it is essential to develop effective ecological management strategies to prevent the spread of invasive vines such as *H. japonicus*. The findings of this study provide critical insights into the dispersal and invasion processes of *H. japonicus* and are expected to contribute to the development of effective management strategies for this species.

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