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DNA barcoding of the tidal swamp rice (*Oryza sativa*) landraces from South Kalimantan, Indonesia

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Abstract. *Mursyidin DH, Nazari YA, Badruzsaufari, Masmitra MRD. 2021. DNA barcoding of the tidal swamp rice (Oryza sativa) landraces from South Kalimantan, Indonesia. Biodiversitas 22: 1593-1599.* The tidal swamp rice (*Oryza sativa* L.) landraces of the South Kalimantan, Indonesia, has been known for hundred years ago with a better adaptation to the local conditions, such as acidity, salinity, and metals contamination. However, the genetic insight of these landraces has not fully understood. Here, the *rbc*L region of tidal swamp rice from this region was successfully sequenced, aligned, analyzed, and deposited into the GenBank with accession numbers of MT818188–MT818201. The multiple alignments of these sequences showing a barcoding motif with eight mutation or polymorphic sites with both substitutions (transition-transversion) and indels (insertion-deletion). Based on this marker, the tidal swamp rice has a low genetic diversity, only 0.086. However, the UPGMA and maximum likelihood (ML) analyses revealed that this germplasm was grouped into five and twoclusters or clades, respectively. In this case, *Bayar Putih* is closely related to *Siam Panangah* and farthest from *Lemo*. This information might help to develop conservation and breeding programs of the tidal swamp rice landraces in the future.

Keywords: Breeding program, DNA barcoding, genetic diversity, rice, tidal swamp area