(71)

Oryza nivara Identified in Wilpattu National Park

Gamage, B.G.S.S.[1]*, Weerasinghe, S.[2], Geetharuwan, M.G.E.[2], Perera, B.V.P.[2], Chandrarathne, K.[2], Daluwatta, S.S.K.[3], Weerathunga, M.W.D.K.[3], Ranasinghe, S.[4], Gunawardena, M.[4], Jayasuriya, K.M.G.G.[5]

[1]Department of Veterinary Clinical Sciences, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Peradeniya, Sri Lanka.
[2]Department of Wildlife Conservation, Battaramulla, Sri Lanka.
[3]Veterinary Research Institute, Gannoruwa, Peradeniya, Sri Lanka.
[4]National Herbarium, Botanical Gardens, Peradeniya, Sri Lanka.
[5]Department of Botany, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka.
**sashi@vet.pdn.ac.lk*

Abstract

Oryza nivara is a wild rice species primarily distributed in the dry and intermediate zones in Sri Lanka and also reported from Wilpattu National Park (WNP). This is a good food source for most of the wild animals including elephants. With the long term aim of enhancing *O. nivara* populations in their native habitats as a food source for wild animals, we conducted a survey to identify *O. nivara* populations in WNP and further we studied their ecology and composition. During the study, we identified three *O. nivara* populations within WNP; Kumburaviya, Pallekandal, and Ilandamote tank. Soil samples and rice plants were collected from these locations and associated species were recorded. Soil pH, salinity and total dissolved solids (TDS) were measured. Gross energy, dry weight, crude protein, fat and fiber contents of collected *O. nivara* plant samples were measured with standard methods. In Kumburaviya, the distribution and density of this species were 41% and 14.6 m², respectively, whereas in Pallekandal, those were 16% and 4.4 m², respectively. Samples were not collected from the Ilandamote tank due to the low plant density. According to our observations, this species was primarily found in marshy areas with acidic soils (mean pH 5.2) and low soil salinity (0.1%). The mean nitrate-nitrogen and phosphorus contents in the collected soil samples were 31.865 ppm and 38.15 ppm, respectively. The mean soil conductivity was 160.85 µS/cm, and the mean TDS was 75.5 mg/kg. *O. nivara* coexists with several other plant species, including *Hygrophila schulli*, *Eleocharis dulcis*, *Echinochloa crus-galli*, *Eichonia crassipes*, *Calotropis gigantean*, *Limonia acidissima* and *Commelina diffusa*. Considering the entire plant of *O. nivara*, the mean dry matter percentage was 31.75%. The mean values for gross energy, ash, crude protein, fat (ether extract), and crude fiber content were 3,578.6 kcal/kg, 18.6%, 6.2%, 1.42%, and 35.25%, respectively, on a dry matter basis. Our study found that *O. nivara* is a suitable energy source compared to most wild and hybrid grass species. Although its crude protein content is lower than that of hybrid grasses, it is within the range of most wild grass species. Further, the ash content is higher than that of hybrid grasses, due to its high crude fiber content. This study evaluates *Oryza nivara*'s potential in habitat enrichment projects for supporting wild rice species and mitigating human-elephant conflict. It highlights the importance of soil quality assessments and provides baseline scientific data on *O. nivara* in WNP.

Keywords: *Oriza nivara, Locations, Nutrition, Distribution, Soil*