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B06

Distribution of invasive alien plant species and recommendation for management action at Bukit Duabelas, Jambi, Sumatra

Background and methods

Vegetation surveys of invasive plant species (IPS) in relation to the according management system were conducted in Jambi (Sumatra, Indonesia) within 8 of the EForTS core plots in the Bukit Duabelas landscape (BF3, BF4, BJ4, BJ5, BR3, BR4, BO2, BO4). The aims of this study were (1) to gather a list of invasive plant species from four land-use systems (forest, jungle rubber, rubber plantations, oil palm plantations) in Jambi; (2) to determine their distribution in each land-use system; and (3) to conduct a risk analysis for the most important IPS. Spatial distribution patterns were created with a horizontal vegetation profile diagram of each plot. A scoring system of risk analysis was conducted based on the protocol of risk management of invasive plant species.

Results

We found 76 species of IPS belonging to 30 families within the study plots. Most invasive species were from America and Asia and only few from Africa or other regions (Fig. 1). The number of IPS varied between sites and land-use systems, but generally a high risk of IPSs infestations was found in disturbed and open areas. IPS were not found inside the natural forest plots indicating that the forest plots are in good condition. Oil palm plantations (28 sp.) and rubber plantations (27 sp.) had higher numbers of invasive plant species than jungle rubber (10 sp.) (Table 1). Especially the two IPS *Dicranopteris linearis* and *Clidemia hirta* have the potential to spread into natural forests following disturbance. Intervention of IPS cannot be avoided if the forest is disturbed by illegal logging or other human intervention. Therefore, reforestation of the disturbed areas is recommended to prevent the spread of IPS. The result will be used for providing recommendations on the management of invasive plant species.

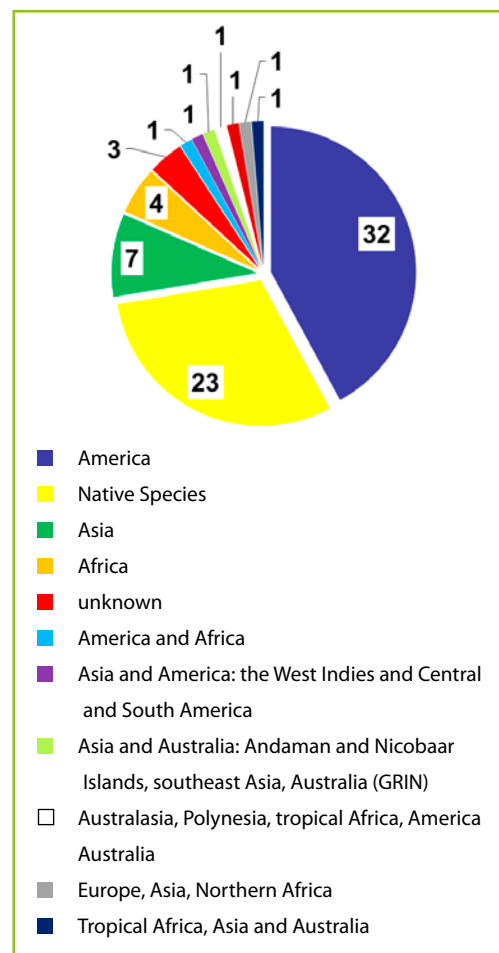


Figure 1. Natural origin of the 76 invasive plant species found within four land-use systems of the Bukit Duabelas landscape.

Table 1. The number of invasive plant species on each ecosystems type

No.	Ecosystems type	No. of family	No. of genera	No. of species
1	Lowland forest	0	0	0
2	Jungle rubber	6	10	10
3	Rubber plantation	13	24	27
4	Oil palm plantation	13	27	28