

PI@ntInvasive-Kruger: Developing an online alien plant database and identification platform.

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Abstract

World wide, invasive plant species increasingly threaten to decrease biodiversity and modify ecosystems. South Africa's National Parks are no exception. PI@ntInvasive-Kruger represents a partnership between SAEON, Sanparks and CIRAD, and aims to capture in a single, open-source database the current knowledge and status of Kruger National Parks' approximately 400 alien plant species. The outcomes of this collaboration will be detailed descriptions of both invasive and contained alien plants, including morphological traits, degree of invasiveness, habitat, and country of origin, current distribution, vernacular names, and documented control methods. Text is supported by clear photographs and illustrations of various diagnostic plant features. PI@ntInvasive-Kruger utilises IDAO technology (a multimedia approach to computer-aided identification) to convey information in the database to its users. This simple platform guides users in identifying an alien plant through a series of step-wise choices and simple schematics based on morphological, habit and habitat characteristics. Final identification is expressed as the similarity (ranked percentage probability) of the unknown specimen to the type specimen information housed in the database. Pictures and supporting text for candidate species can then be accessed by the user to confirm identification. The IDAO application is compatible with a range of mobile electronic storage devices (Smartphones, PDAs and Tablets), allowing on-site identification and immediate management intervention. PI@ntInvasive-Kruger has the capacity to educate people and inform management regarding the alien plant species found in the lowveld savanna, and to be instrumental in their control.

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