Background: With the creation of photo-based plant identification applications (apps), the ability to attain basic identifications of plants in the field is seemingly available to anyone who has access to a smartphone. The use of such apps as an educational tool for students and as a major identification resource for some community science projects calls into question the accuracy of the identifications they provide. We created a study based on the context of local tree species in order to offer an informed response to students asking for guidance when choosing a tool for their support in classes. Methods: This study tested 6 mobile plant identification apps on a set of 440 photographs representing the leaves and bark of 55 tree species common to the state of New Jersey (USA). Results: Of the 6 apps tested, PictureThis was the most accurate, followed by iNaturalist, with PlantSnap failing to offer consistently accurate identifications. Overall, these apps are much more accurate in identifying leaf photos as compared to bark photos, and while these apps offer accurate identifications to the genus level, there seems to be a tool for their support in classes. Methods: This study tested 6 mobile plant identification apps on a set of 440 photographs representing the leaves and bark of 55 tree species common to the state of New Jersey (USA). Results: Of the 6 apps tested, PictureThis was the most accurate, followed by iNaturalist, with PlantSnap failing to offer consistently accurate identifications. Overall, these apps are much more accurate in identifying leaf photos as compared to bark photos, and while these apps offer accurate identifications to the genus level, there seems to be
little accuracy in successfully identifying photos to the species level. Conclusions: While these apps cannot replace traditional field identification, they can be used with high confidence as a tool to assist inexperienced or unsure arborists, foresters, or ecologists by helping to refine the pool of possible species for further identification.

**Keywords.** Botany; Dendrology; Image Recognition; Natural Resource Management; Tree Identification.