

ABSTRACT

Terminalia brownii is an indigenous tree species highly valued in the Kenyan drylands for its products such as timber for wood curving, medicine, and charcoal production, among others. Due to this high value followed by overutilization, its population in the drylands is dwindling. Concern about the species' low regeneration as shown by low germination has been raised. This research was conducted on the seed borne fungal organisms that are associating with the germination of this species. *T. brownii* seeds were collected from cluster patches of the species in Kendu Bay, Kimose and Ndumoni in Homabay, Baringo and Kitui counties of Kenya respectively. The seeds were harvested for fruit probing for maturity confirmation. Random sampling was used in selecting thirty trees, 50 meters apart, from which fresh fruits were uniformly collected from the crowns. The research adopted a complete block experimental design where one hundred seeds each from the three sites, were subjected to a germination test, seed borne fungal organisms' presence, identified organisms cultured and DNA and DNA sequencing carried out for identification. Fungal organisms associated with germination success of *T. brownii* were *Fusarium equiseti*, *Pestalotia* sp, and *Alternaria alternata*. Paired t test run between germinants versus the number of sown seeds gave $N = 12$, p-value of 0.000, $t = 16.29$. On the other hand, paired t test run between fungal infected seeds with the number of germinants gave $N = 12$, p-0.000, $t = 8.78$. Fungi associated with germinants included *Penicillium* sp, and the data analyzed using Mann-Whitney U test run showed significant difference at a p value of 0.000. Identified organisms associating with none germination and germination success on the other hand were analyzed using descriptive analysis. Fungal organisms associating with germination success of *T. brownii* significantly affect germination of freshly extracted seeds from the field, hence, for maximum germination achievement, seeds should be sown while still fresh.