

Effect of high-intensity, short-duration grazing on species density and botanical composition of arid rangelands

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Introduction

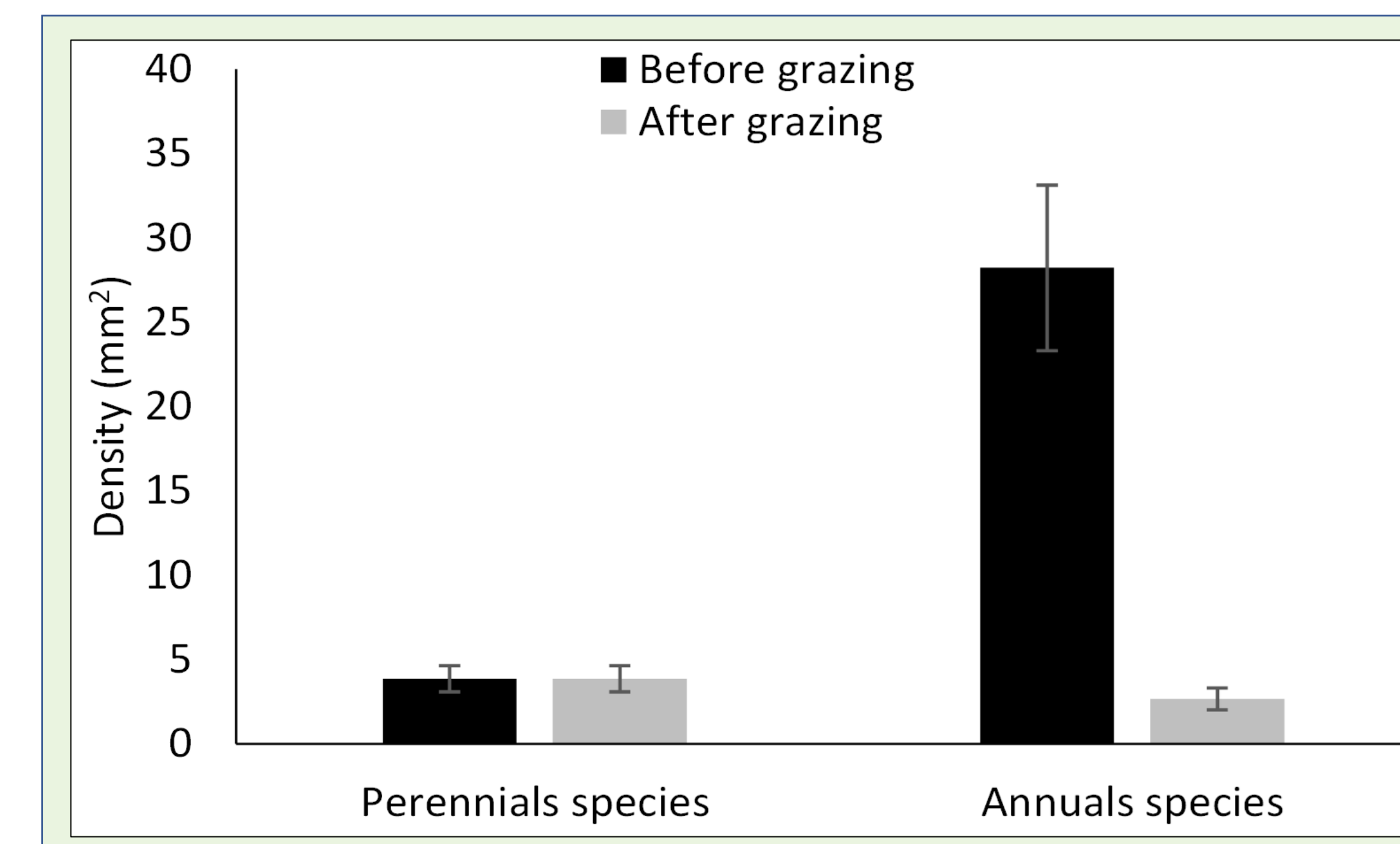
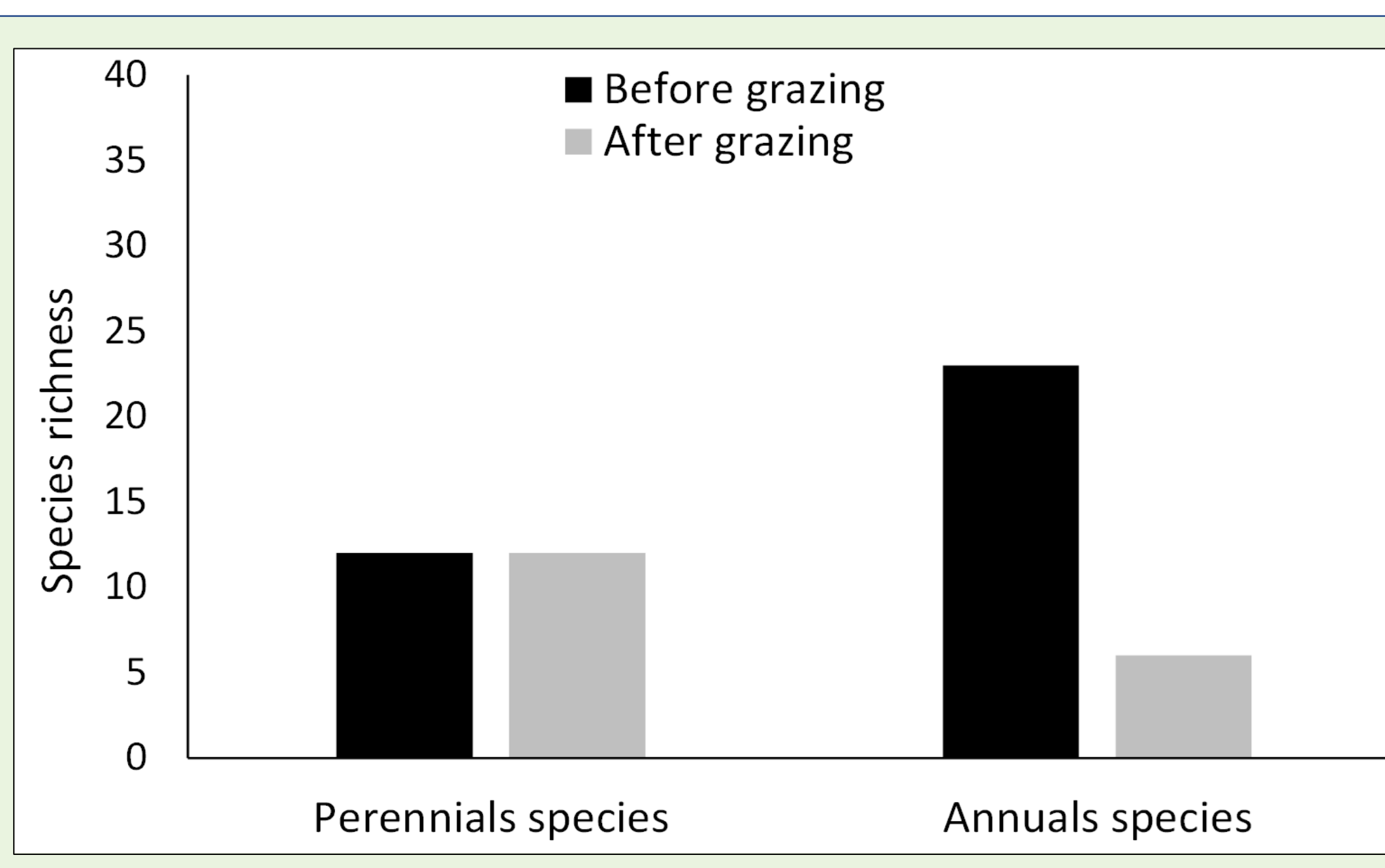
In Tunisia, no studies have been conducted to investigate the effects of short-duration, high-intensity grazing on arid rangelands. The purpose of this study was to assess the extent of opportunistic grazing on vegetation during favorable years.

Methods

The experiment was conducted on a *Haloxylon schmittiana* plant community subjected to two consecutive resting years. A flock of 150 sheep was allowed to graze the rangeland. Vegetative measurements were taken before and after grazing.

Results

- Under opportunistic grazing, there was a decrease in the number of annual species, but no decrease in the number of perennial species.
- Before grazing, the species richness recorded 12 perennials and 23 annuals. The number of perennials remained unchanged but the number of annuals decreased to 6 after grazing.



Implications for management

- Year effect (rainfall amount and distribution) has a great impact on rangeland productivity.
- When vegetation cover is heterogeneous, grazing animals tend to focus first on annual plants due to their higher palatability, digestibility and water content without damaging perennial plants.
- Long-term resting periods could have detrimental effects on arid rangeland vegetation, in addition to adding more pressure on the remaining rangeland areas open to grazing.
- Close monitoring of grazing behavior is needed to avoid damage to perennial species.



Take home messages

- Opportunistic grazing can enhance rangeland health and boost livestock productivity.
- Capacity development of partners is important to implement proper grazing.
- Appropriate administrative procedures need to be flexible enough to accommodate facts on the ground.
- Using flexible grazing management would be more acceptable to pastoral communities.