Variation in Flammability of Flora in the Sydney Sandstone Vegetation Community

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Native plants are a core identity of Australian Coastal Living. With over 80% of the population living on the coastal fringe, consequently, many assets are located within the Sydney sandstone (SS) bushland. Information on species flammability is lacking and thus not available to inform organizations on bushland retention or landscaping. Twenty-two (22) native plants common to the SS flora were tested for variations in flammability. Components of flammability tested included: temperature and time of ignition, duration of visible flame, and time to return to pre-burn temperature. Two additional components: moisture content and structural morphology were also compared. Results indicate there is a significant difference between species for the components of flammability tested. Species were significantly different from others depended upon the component being tested. Common findings were that the higher the moisture content the higher the temperature required to ignite the plant. Generally, plants with high structural morphology have a lower moisture content. Additionally, the duration of visible flame varied widely within samples possibly obscuring the true difference between species. Results indicate flammability is an outcome from interrelated components and the understanding of the components assists in developing principles for managing asset protection zones and green spaces in urban areas. Characteristics of species have been identified and through additional research; a clear set of principles can be established. In addition, the principle of retaining and connecting biodiversity through species with varying flammability is recommended to retain nature in urban areas.

Awards Won:

Second Award of $2,000