

## ABUNDANCE IS RELATED TO HIGHEST RELATIVE HUMIDITY IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897

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**Abstract-** Abundance was tested for a correlation with highest relative humidity in red millipedes *Centrobolus*. Abundance was related to highest relative humidity ( $r=0.63046242$ , Z score=1.65957221,  $n=8$ ,  $p=0.04850025$ ).

**Keywords:** humidity, Red Millipedes

### I. INTRODUCTION

Red millipedes are found in the southern African subregion with northern limits on the east coast being about  $-17^\circ$  latitude S and southern limits being  $-35^\circ$  latitude S. They are well represented in the littoral forests of the eastern half of the subcontinent [1-326]. It consists of taxonomically important species with 12 species considered threatened and includes nine vulnerable and three endangered species [326]. It occurs in all the forests of the coastal belt from the Cape Peninsula to Beira in Mocambique [325]. These worm-like millipedes have female-biased sexual size dimorphism [57].

Here, abundance is correlated with highest relative humidity in *Centrobolus* Cook, 1897.

### II. MATERIALS AND METHODS

Horizontal tergite width measurements for 2 species of southern African *Centrobolus* were obtained from published material [57]. These were halved to get radii ( $r$ ). The surface areas ( $\text{mm}^2$ ) were calculated based on the equation  $2 \cdot \pi \cdot r \cdot (r + h)$  for males and females. A correlation between abundance and highest relative humidity was generated at <https://www.socscistatistics.com/tests/pearson/default2.aspx> (Appendix 1 & 2 respectively).

### III. RESULTS

Abundance was related to highest relative humidity (Fig. 1:  $r=0.63046242$ , Z score=1.65957221,  $n=8$ ,  $p=0.04850025$ ).

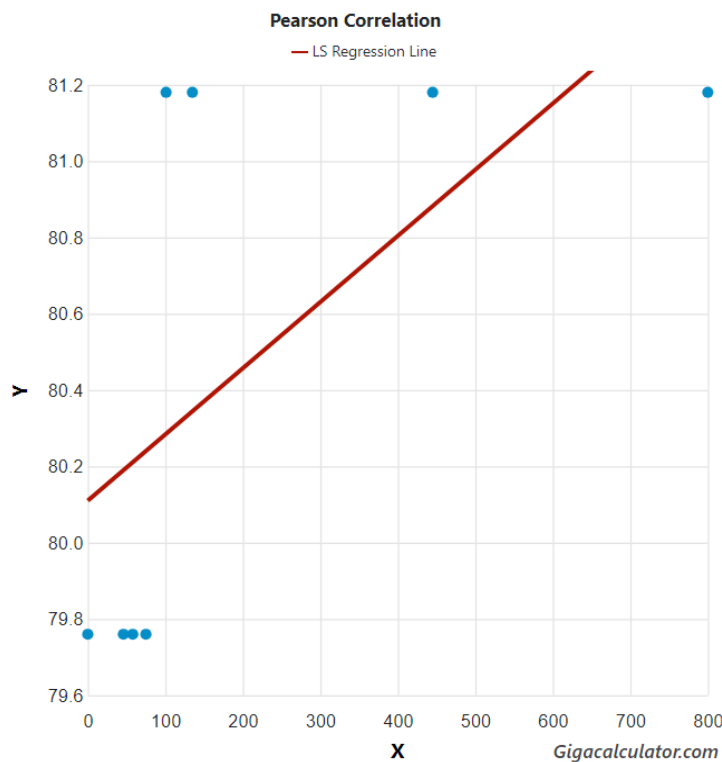


Fig. 1. Correlation between abundance and highest relative humidity across the range of *Centrobolus* Cook, 1897.

### IV. DISCUSSION

There is a correlation between abundance and highest relative humidity.

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**APPENDIX 1.** Abundance across two species of *Centrobolus* followed by highest relative humidity (%).

- 0, 79.76
- 58, 79.76
- 75, 79.76
- 46, 79.76
- 445, 81.18
- 101, 81.18
- 135, 81.18
- 800, 81.18