

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

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**Abstract-** Lowest relative humidity was tested for a correlation with highest relative humidity in red millipedes *Centrobolus*. Lowest relative humidity was related to highest relative humidity ( $r=0.5352$ ,  $r^2=0.2864$ ,  $n=22$ ,  $p=0.010267$ ).

**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].

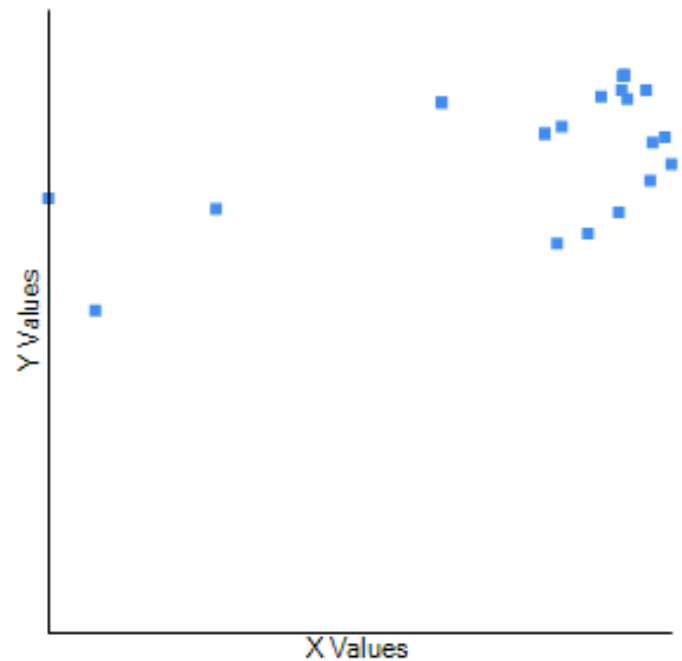
Here, lowest relative humidity is correlated with highest relative humidity in *Centrobolus* Cook, 1897.

## II. MATERIALS AND METHODS

Horizontal tergite width measurements for 22 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 lowest relative humidity and highest relative humidity was generated at <https://www.socscistatistics.com/tests/pearson/default2.aspx> (Appendix 1 & 2 respectively).

## III. RESULTS

Lowest relative humidity was related to highest relative humidity (Fig. 1:  $r=0.5352$ ,  $r^2=0.2864$ ,  $n=22$ ,  $p=0.010267$ ).



**Fig. 1.** Correlation between lowest relative humidity (%) and highest relative humidity (%) across the range of *Centrobolus* Cook, 1897.

## IV. DISCUSSION

There is a correlation between lowest relative humidity and highest relative humidity.

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**APPENDIX 1.** Lowest relative humidity across the range of *Centrobolus* Cook, 1897.24.7

51.38  
68.65  
50.09  
71.60  
68.93  
68.18  
58.18  
63.06  
69.79  
60.29  
64.23  
71.60  
54.10  
68.18  
69.75  
65.15  
64.23  
54.60  
55.95  
41.57  
71.84  
63.75

**APPENDIX 2.** Highest relative humidity (%)  
across the range of *Centrobolus* Cook, 1897.

51.38  
68.65  
50.09  
71.60  
68.93  
68.18  
58.18  
63.06  
69.79  
60.29  
64.23  
71.60  
54.10  
68.18  
69.75  
65.15  
64.23  
54.60  
55.95  
41.57  
71.84  
63.75