AIR PRESSURE IS RELATED TO SEVEN FACTORS AND DISTANCE TO THE NEAREST AIRPORT IS RELATED TO AT LEAST THREE FACTORS IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897

M. Cooper
University of Stellenbosch, South Africa.

***Abstract*- Seven factors were tested for correlations with air pressure in red millipedes *Centrobolus*. Highest ocean water temperature (r=0.72988143, Z score=1.85694712, n=7, p=0.03165928), latitude (r=-0.41899808, Z score=-1.94614434, n=22, p=0.02581863), altitude (r=-0.8701, r^2=0.7571, n=22, p<0.00001), minimum precipitation (r= 0.3668, Z score=1.72023730, n=22, p=0.04269462), moments of inertia (r=0.54911167, Z score=1.63271592, n=10, p=0.05126437), average temperature variation (r= 0.472, r^2=0.2228, n=22, p=0.026563), and month with the highest number of rainy days (r=-0.5553, r^2=0.3084, n=22, p=0.007301) were correlated with air pressure. Four factors were tested for a correlation with distance to the nearest airport in red millipedes *Centrobolus*. The month with the highest number of rainy days (r= 0.4373, r^2=0.1912, n=22, p=0.04199), latitude (Pearson's r= 0.41899263, Z score=1.94611554, n=22, p=0.02582036), and longitude (r=-0.5111, r^2=0.2612, n=22, p=0.015059), but not species richness, were correlated with distance to the nearest airport in a comparison of low species richness to high species richness (P-value calculator: Z-score=-0.820124, d.f.=20, P-value=0.206073). The distance to the nearest airport at high species richness was not significantly lower (98.217368km) than distance to the nearest airport at low species richness (119.16 km). Air pressure was related to species richness (P-value calculator relative Z-test: P-value=0, Z score=-775.841955, n=19, 3) (P-value relative T-test: P-value=0, T-score=-775.841955, n=19, 3). Mean air pressure at high species richness was 97405.078421 Pa and at low species richness was 91462.816667 Pa (relative difference -0.061006).**

Keywords: **air, precipitation, pressure, Red Millipedes, sunshine.**

I. INTRODUCTION

Red millipedes are found in the southern African subregion with northern limits on the east coast being about -17° latitude S and southern limits being -35° latitude S. They are well represented in the littoral forests of the eastern half of the subcontinent [1-297]. It consists of taxonomically important species with 12 species considered threatened and includes nine vulnerable and three endangered species [226]. It occurs in all the forests of the coastal belt from the Cape Peninsula to Beira in Mocambique [225]. These worm-like millipedes have female-biased sexual size dimorphism [57].
Here, seven factors are correlated with air pressure and four factors were tested for a correlation with distance to the nearest airport in *Centrobolus* Cook, 1897.

II. MATERIALS AND METHODS

Horizontal tergite width measurements for 7-22 species of southern African *Centrobolus* were obtained from published material [57]. These were halved to get radii (r). The curved surface areas (mm^2) were calculated based on the equation Surface Area (Curved) = 2 x π x Radius x Height. A correlation between seven factors and air pressure and four factors with distance to the nearest airport were generated at https://www.socscistatistics.com/tests/pearson/default2.aspx (Appendix 1-12). Air pressure was estimated from altitude and temperature measurements inputted at https://www.mide.com/air-pressure-at-altitude-calculator using 1013.25 Pa at sea level. Air pressure was compared at low and high species richness.

III. RESULTS

Highest ocean water temperature was related to air pressure (Fig. 1: r=0.72988143, Z score=1.85694712, n=7, p=0.03165928).

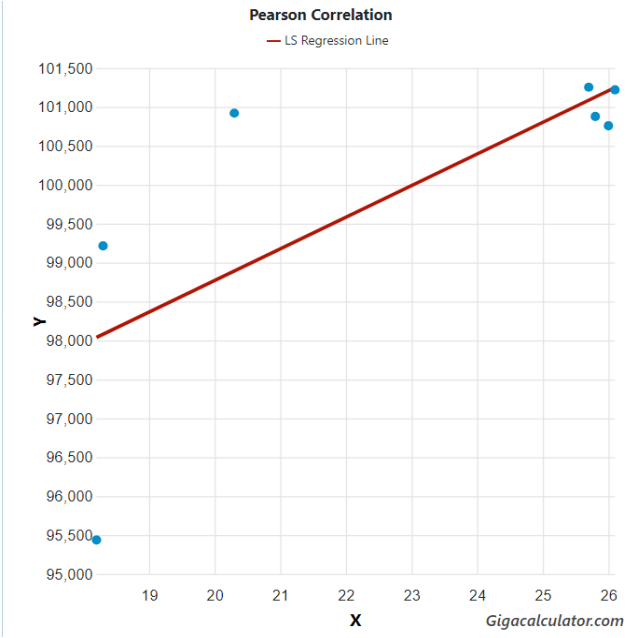

Fig. 1. Correlation between highest ocean water temperature and air pressure in *Centrobolus* Cook, 1897.

The latitude was correlated with air pressure (Fig. 2: r=-0.41899808, Z score=-1.94614434, n=22, p=0.02581863).

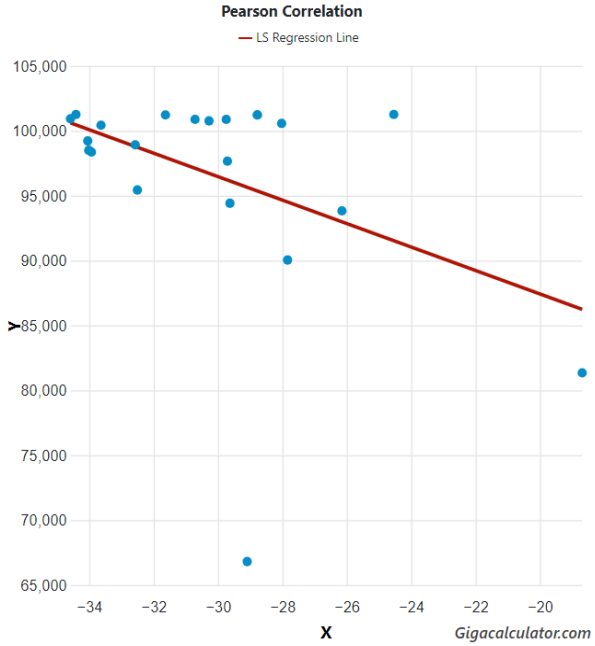

Fig. 2. Correlation between latitude (Y) and air pressure (X) across therange of *Centrobolus* Cook, 1897.

The air pressure was correlated with altitude (Fig. 3: r=-0.8701, r^2=0.7571, n=22, p<0.00001).

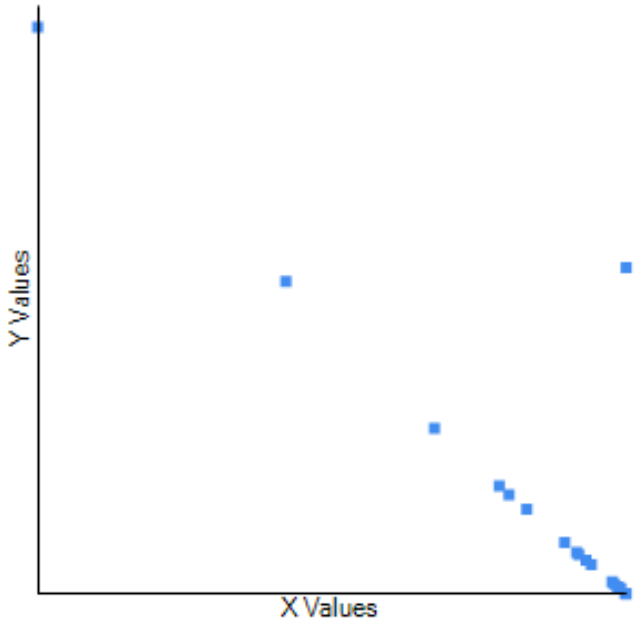

Fig. 3. Correlation between air pressure (X) and altitude (Y) across therange of *Centrobolus* Cook, 1897.

The air pressure was correlated with minimum precipitation (Fig. 4: r= 0.753615, Z score=1.72023730, n=22, p=0.04269462).

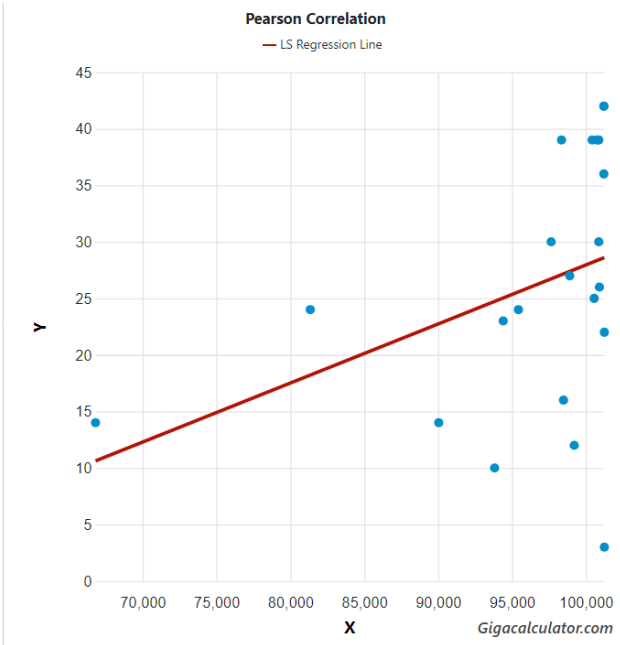

Fig. 4. Correlation between the air pressure (X) and minimum precipitation (Y) across therange of *Centrobolus* Cook, 1897.

Air pressure was marginally correlated with moments of inertia (Fig. 5: r=0.54911167, Z score=1.63271592, n=10, p=0.05126437).

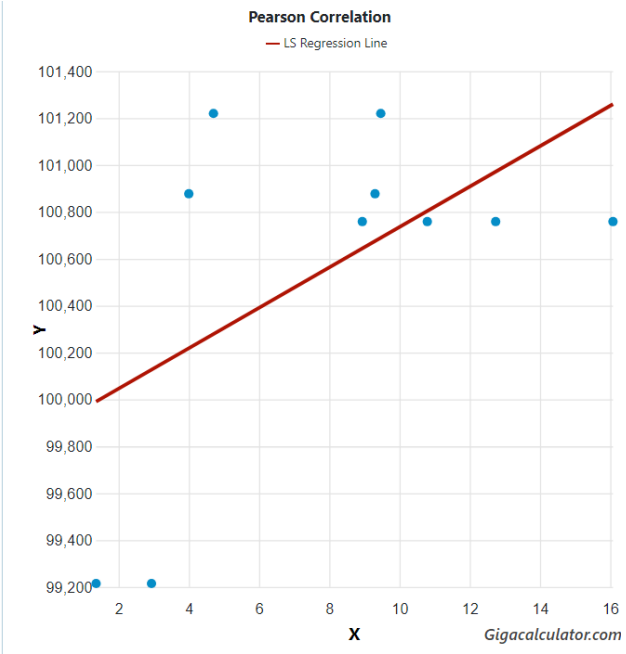

Fig. 5. Correlation between moments of inertia (Y) and air pressure (X) across therange of *Centrobolus* Cook, 1897.

The air pressure was correlated with average temperature variation (Fig. 6: r= -0.472, r^2=0.2228, n=22, p=0.026563).

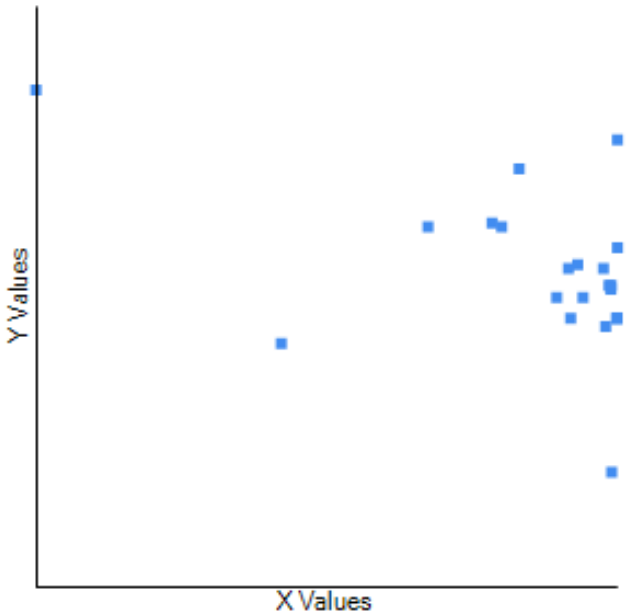

Fig. 6. Correlation between the air pressure (X) and average temperature variation (Y) across therange of *Centrobolus* Cook, 1897.

The month with the highest number of rainy days was correlated with air pressure (Fig. 7: r=- 0.5553, r^2=0.3084, n=22, p=0.007301).

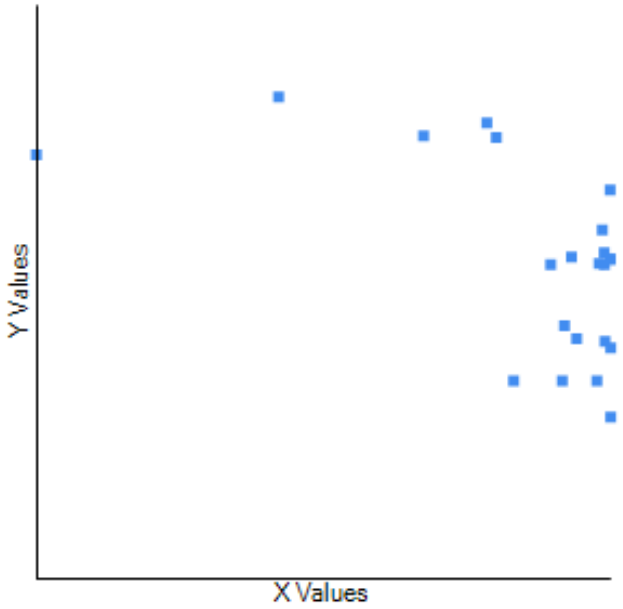

Fig. 7. Correlation between month with the highest number of rainy days (Y) and air pressure (X) across therange of *Centrobolus* Cook, 1897.

The month with the highest number of rainy days was correlated with distance to the nearest airport (Fig. 8: r=0.4373, r^2=0.1912, n=22, p=0.04199).

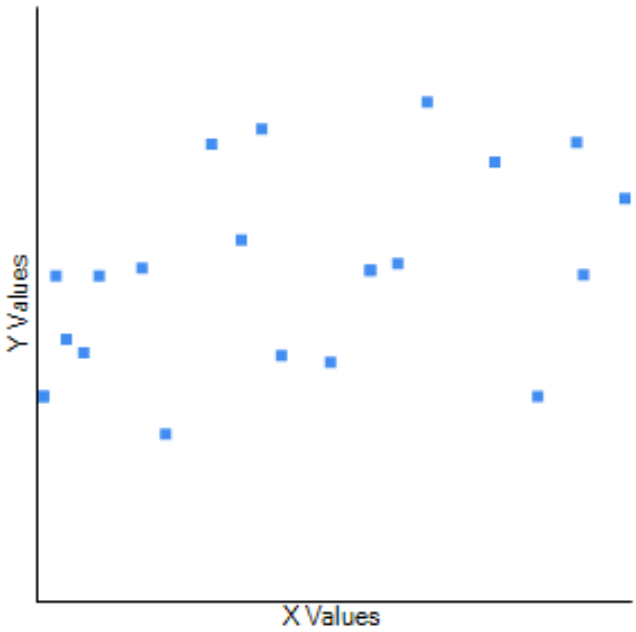

Fig. 8. Correlation between month with the highest number of rainy days (Y) and distance to the nearest airport (X) across therange of *Centrobolus* Cook, 1897.

The latitude was correlated with distance to the nearest airport (Fig. 9: Pearson's r= 0.41899263, Z score=1.94611554, n=22, p=0.02582036).

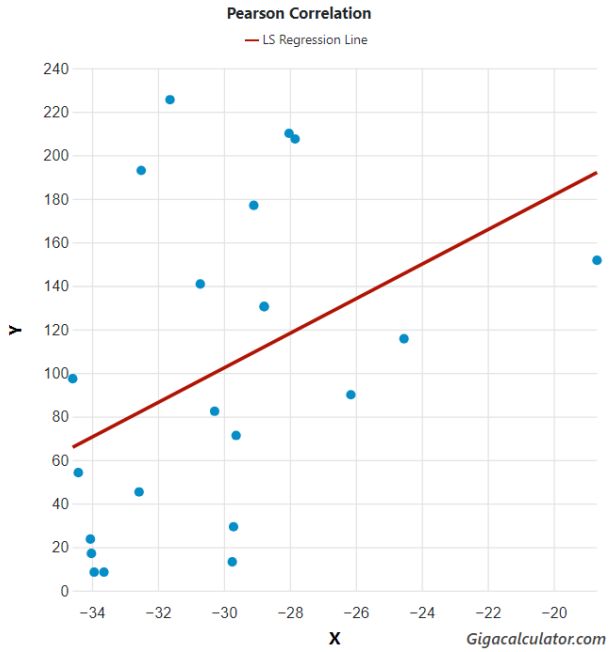

Fig. 9. Correlation between latitude (X) and distance to the nearest airport (Y) across therange of *Centrobolus* Cook, 1897.

The longitude was correlated with distance to the nearest airport (Fig. 10: r=- 0.5111, r^2=0.2612, n=22, p=0.015059).

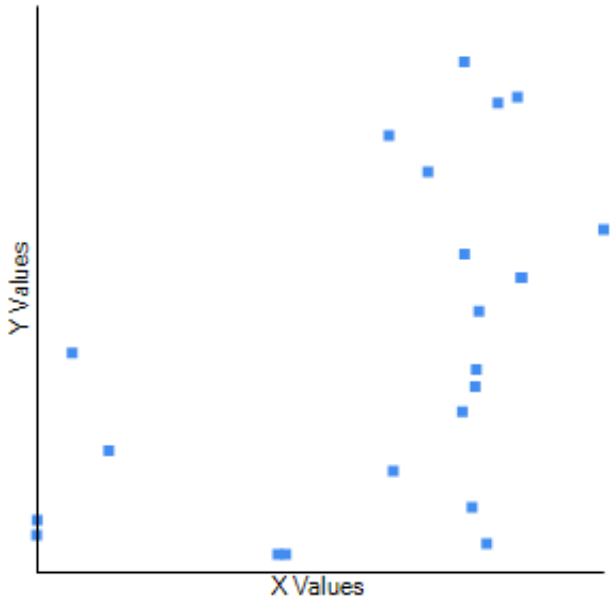

Fig. 10. Correlation between longitude (Y) and distance to the nearest airport (X) across therange of *Centrobolus* Cook, 1897.

The distance to the nearest airport was not correlated with species richness in a comparison of low species richness to high species richness (P-value calculator: Z-score=-0.820124, d.f.=20, P-value=0.206073). The distance to the nearest airport at high species richness was lower (98.217368km) than distance to the nearest airport at low species richness (119.16 km).

Air pressure was related to species richness (P-value calculator relative Z-test: P-value=0, Z score=-775.841955, n=19, 3) (P-value relative T-test: P-value=0, T-score=-775.841955, n=19, 3). Mean air pressure at high species richness was 97405.078421 Pa and at low species richness was 91462.816667 Pa.

IV. DISCUSSION

There is a correlation between seven factors and air pressure in *Centrobolus*. There is a correlation between month with the highest number of rainy days and distance to the nearest airport in *Centrobolus*. The further away the airport the greater the number of rainy days. Airports may impact endangered species.
There is a correlation between latitude and longitude and distance to the nearest airport in *Centrobolus*. The further away the airport the greater the latitude. Airports may impact endangered species.
There is no difference between distances to the nearest airport with species richness in *Centrobolus* but there is a difference in air pressure with species richness. At high species richness air pressure is relative higher.

REFERENCES

1. O. F. Cook, "New relatives of Spirobolus giganteus," Brandtia (A series of occasional papers an Diplopoda and other Arthropoda), vol. 18, pp. 73-75, 1897.
2. M. COOPER, "Sperm competition in the millipede Chersastus ruber (Diplopoda: Pachybolidae)," The University of Cape Town, pp. 1-29, 1995.
3. M. I. Cooper, S. R. Telford, "Sperm competition in three Chersastus millipedes (Diplopoda, Trigoniulidae)," 26th Symposium of the Zoological Society of Southern Africa (Integrating Zoology: Subdisciplines and the Subcontinent), University of Pretoria, Pretoria, 8-12 July, p. 13, 1996. ISBN: 1-86854-059-6..
4. M. I. Cooper, "Ectoparasite-mediated sexual selection in spirobolid millipedes," In: Robertson, Hamish (ed.) Proceedings of the joint congress of the Entomological Society of Southern Africa (11th congress) and the African Association of Insect Scientists (12th congress), Stellenbosch, 30 June-4 July, pp. 223-224, 1997. ISBN : WISC:89058769605. (poster).
5. M. I. Cooper, "Indiscriminate male mating behaviour in spirobolid millipedes," 27th Symposium of the Zoological Society of Southern Africa, University of Cape Town, Cape Town, 7-11 July, p. 105, 1997.
6. M. Cooper, "MILLIPEDES AND THE "MINIATURE FIVE MILLION"," African Wildlife, vol. 52, no. 5, pp. 30-31, 1998..
7. M. I. COOPER, "MATING DYNAMICS OF SOUTH AFRICAN FOREST MILLIPEDES CENTROBOLUS (DIPLOPODA: PACHYBOLIDAE)," THE UNIVERSITY OF CAPE TOWN, pp. 1-141, 1998. https://hdl.handle.net/11427/17555.
8. M. Cooper, "Sexual selection in sympatric spirobolid millipedes," 28th Symposium of the Zoological Society of Southern Africa, University of Cape Town, 1998. (poster).
9. M. I. Cooper, M. A. du Plessis, "Biodiversity hotspots in the developing world," Trends in Ecology & Evolution, vol. 13, no. 10, pp. 409, 1998. ISSN 0169-5347, https://doi.org/10.1016/S0169-5347(98)01469-4.
10. M. Cooper, "P2 or not P2?" 29th Symposium of the Zoological Society of Southern Africa, University of the North, Limpopo Province, July, 1999. (poster).
11. M. I. Cooper, S. R. Telford, "Copulatory Sequences and Sexual Struggles in Millipedes," Journal of Insect Behavior vol. 13, pp. 217–230, 2000. https://doi.org/10.1023/A:1007736214299.
12. M. I. Cooper, "Sex ratios, mating frequencies and relative abundance of sympatric millipedes in the genus Chersastus (Diplopoda: Pachybolidae)," Arthropods, vol. 3, no. 4, pp. 174-176, 2014.
13. M. I. Cooper, "Sexual size dimorphism and corroboration of Rensch's rule in Chersastus millipedes (Diplopoda: Pachybolidae)," J. Entomol. Zool. Stud. vol. 2, no. 6, pp. 264-266, 2014. DOI: 10.22271/j.ento.2014.v2.i6e.452 http://www.entomoljournal.com/archives/2014/vol2issue6/PartE/47.pdf.
14. M. I. Cooper, "Competition affected by re-mating interval in a myriapod," J. Entomol. Zool. Stud. vol. 3, no. 4, pp. 77-78, 2015. DOI: 10.22271/j.ento.2015.v3.i4b.550 http://www.entomoljournal.com/archives/2015/vol3issue4/PartB/3-4-3.pdf.
15. M. I. Cooper, "Elaborate gonopods in the myriapod genus Chersastus (Diplopoda: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 3, no. 4, pp. 235-238, 2015. DOI: 10.22271/j.ento.2015.v3.i4d.573 http://www.entomoljournal.com/archives/2015/vol3issue4/PartD/3-3-110.pdf.
16. M. I. Cooper, "Sperm storage in Centrobolus spp. and observational evidence for egg simulation," J. Entomol. Zool. Stud. vol. 4, no. 1, pp. 127-129, 2016. DOI: 10.22271/j.ento.2016.v4.i1b.797 https://www.entomoljournal.com/archives/2016/vol4issue1/PartB/3-6-81.pdf.

17. M. I. Cooper, "Symmetry in ejaculate volumes of Centrobolus inscriptus Attems (Spiroboloidea: Trigoniulidae)," International Journal of Entomological Research, vol. 1, no. 2, pp. 14-15, 2016. http://www.entomologyjournals.com/archives/2016/vol1/issue2.
18. M. I. Cooper, "Confirmation of four species of Centrobolus Cook (Spirobolida: Trigoniulidae) based on gonopod ultrastructure," Int. J. Entomol. Res. vol. 1, no. 3, pp. 07-09, 2016. http://www.entomologyjournals.com/archives/2016/vol1/issue3.
19. M. I. Cooper, "Fire millipedes obey the female sooner norm in cross mating Centrobolus (Myriapoda)," J. Entomol. Zool. Stud. vol. 4, no. 1, pp. 173-174, 2016. DOI: 10.22271/j.ento.2016.v4.i1c.802 http://www.entomoljournal.com/archives/2016/vol4issue1/PartC/3-5-82.pdf.
20. M. I. Cooper, "Symmetry in ejaculate volumes of Centrobolus inscriptus Attems (Spiroboloidea: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 4, no. 1, pp. 386-387, 2016. DOI: 10.22271/j.ento.2016.v4.i1f.833 http://www.entomoljournal.com/archives/2016/vol4issue1/PartF/4-1-21.pdf.
21. M. I. Cooper, "Instantaneous insemination in the millipede Centrobolus inscriptus (Spirobolida: Trigoniulidae) determined by artificially-terminated mating," J. Entomol. Zool. Stud. vol. 4, no. 1, pp. 487-490, 2016. DOI: 10.22271/j.ento.2016.v4.i1g.847 http://www.entomoljournal.com/archives/2016/vol4issue1/PartG/4-1-50-695.pdf.
22. M. I. Cooper, "Gonopod mechanics in Centrobolus Cook (Spirobolida: Trigoniulidae) II. Images," J. Entomol. Zool. Stud. vol. 4, no. 2, pp. 152-154, 2016. DOI: 10.22271/j.ento.2016.v4.i2c.890 http://www.entomoljournal.com/archives/2016/vol4issue2/PartC/4-2-55.pdf.
23. M. Cooper, "Post-insemination associations between males and females in Diplopoda," J. Entomol. Zool. Stud. vol. 4, no. 2, pp. 283-285, 2016. DOI: 10.22271/j.ento.2016.v4.i2d.908 http://www.entomoljournal.com/archives/2016/vol4issue2/PartD/4-2-63.pdf.
24. M. I. Cooper, "Heavier-shorter-wider females in the millipede Centrobolus inscriptus Attems (Spirobolida: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 4, no. 2, pp. 509-510, 2016. DOI: 10.22271/j.ento.2016.v4.i2g.937 http://www.entomoljournal.com/archives/2016/vol4issue2/PartG/4-3-60.pdf.
25. M. I. Cooper, "Sexual bimaturism in the millipede Centrobolus inscriptus Attems (Spirobolida: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 4, no. 3, pp. 86-87, 2016. DOI: 10.22271/j.ento.2016.v4.i3b.961 http://www.entomoljournal.com/archives/2016/vol4issue3/PartB/4-3-44.pdf.
26. M. I. Cooper, "Tarsal pads of Centrobolus Cook (Spiroboloidea: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 4, no. 3, pp. 385-386, 2016. DOI: 10.22271/j.ento.2016.v4.i3f.1008 http://www.entomoljournal.com/archives/2016/vol4issue3/PartF/4-3-40-751.pdf.
27. M. I. Cooper, "Confirmation of four species of Centrobolus Cook (Spirobolida: Trigoniulidae) based on gonopod ultrastructure," J. Entomol. Zool. Stud. vol. 4, no. 4, pp. 389-391, 2016. DOI: 10.22271/j.ento.2016.v4.i4f.1065 http://www.entomoljournal.com/archives/2016/vol4issue4/PartF/4-3-118-307.pdf.
28. M. I. Cooper, "Sperm storage in Centrobolus inscriptus Attems (Spirobolida: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 4, no. 4, pp. 392-393, 2016. DOI: 10.22271/j.ento.2016.v4.i4f.1066 http://www.entomoljournal.com/archives/2016/vol4issue4/PartF/4-4-16-207.pdf.
29. M. I. Cooper, "Sperm dumping in Centrobolus inscriptus Attems (Spirobolida: Trigoniulidae)," J. Entomol. Zool. Stud. vol. 4, no. 4, pp. 394-395, 2016. DOI: 10.22271/j.ento.2016.v4.i4f.1067 http://www.entomoljournal.com/archives/2016/vol4issue4/PartF/4-4-17-663.pdf.
30. M. I. Cooper, "Syncopulatory mate-guarding affected by predation in the aposematic millipede Centrobolus inscriptus in a swamp forest," J. Entomol. Zool. Stud. vol. 4, no. 6, pp. 483-484, 2016. DOI: 10.22271/j.ento.2016.v4.i6g.1376 http://www.entomoljournal.com/archives/2016/vol4issue6/PartG/4-6-114-767.pdf.
31. M. I. Cooper, "The relative sexual size dimorphism of Centrobolus inscriptus compared to 18 congenerics," J. Entomol. Zool. Stud. vol. 4, no. 6, pp. 504-505, 2016. DOI: 10.22271/j.ento.2016.v4.i6g.1381 http://www.entomoljournal.com/archives/2016/vol4issue6/PartG/4-6-123-254.pdf.
32. M. I. Cooper, "Do females control the duration of copulation in the aposematic millipede Centrobolus inscriptus?" J. Entomol. Zool. Stud. vol. 4, no. 6, pp. 623-625, 2016. DOI: 10.22271/j.ento.2016.v4.i6i.1396 http://www.entomoljournal.com/archives/2016/vol4issue6/PartI/4-6-133-214.pdf.
33. M. I. Cooper, "The influence of male body mass on copulation duration in Centrobolus inscriptus (Attems)," J. Entomol. Zool. Stud. vol. 4, no. 6, pp. 804-805, 2016. DOI: 10.22271/j.ento.2016.v4.i6k.08 http://www.entomoljournal.com/archives/2016/vol4issue6/PartK/4-6-166-899.pdf.
34. M. I. Cooper, "Sexual conflict over the duration of copulation in Centrobolus inscriptus (Attems)," J. Entomol. Zool. Stud. vol. 4, no. 6, pp. 852-854, 2016. DOI: 10.22271/j.ento.2016.v4.i6l.04 http://www.entomoljournal.com/archives/2016/vol4issue6/PartL/4-6-155-599.pdf.
35. M. I. Cooper, "The affect of female body width on copulation duration in Centrobolus inscriptus (Attems)," J. Entomol. Zool. Stud. vol. 5, no. 1, pp. 732-733, 2017. DOI: 10.22271/j.ento.2017.v5.i1j.10 http://www.entomoljournal.com/archives/2017/vol5issue1/PartJ/5-1-92-221.pdf.

36. M. I. Cooper, "Size matters in myriapod copulation," J. Entomol. Zool. Stud. vol. 5, no. 2, pp. 207-208, 2017. DOI: 10.22271/j.ento.2017.v5.i2c.10 http://www.entomoljournal.com/archives/2017/vol5issue2/PartC/4-6-108-171.pdf.
37. M. I. Cooper, "Relative sexual size dimorphism in Centrobolus digrammus (Pocock) compared to 18 congenerics," J. Entomol. Zool. Stud. vol. 5, no. 2, pp. 1558-1560, 2017. DOI: 10.22271/j.ento.2017.v5.i2u.04 http://www.entomoljournal.com/archives/2017/vol5issue2/PartU/5-2-199-639.pdf.
38. M. I. Cooper, "Relative sexual size dimorphism in Centrobolus fulgidus (Lawrence) compared to 18 congenerics," J. Entomol. Zool. Stud. vol. 5, no. 3, pp. 77-79, 2017. DOI: 10.22271/j.ento.2017.v5.i3b.01 http://www.entomoljournal.com/archives/2017/vol5issue3/PartB/5-2-198-656.pdf.
39. Cooper, "Relative sexual size dimorphism Centrobolus ruber (Attems) compared to 18 congenerics," J. Entomol. Zool. Stud. vol. 5, no. 3, pp. 180-182, 2017. DOI: 10.22271/j.ento.2017.v5.i3c.07 http://www.entomoljournal.com/archives/2017/vol5issue3/PartC/5-2-187-598.pdf.
40. M. I. Cooper, "Copulation and sexual size dimorphism in worm-like millipedes," J. Entomol. Zool. Stud. vol. 5, no. 3, pp. 1264-1266, 2017. DOI: 10.22271/j.ento.2017.v5.i3r.03 available at https://www.coursehero.com/file/56889696.
41. M. I. Cooper, "Allometry of copulation in worm-like millipedes,". J. Entomol. Zool. Stud. vol. 5, no. 3, pp. 1720-1722, 2017. DOI: 10.22271/j.ento.2017.v5.i3x.03 http://www.entomoljournal.com/archives/2017/vol5issue3/PartX/5-3-233-698.pdf.
42. M. Cooper, "Re-assessment of rensch's rule in Centrobolus," J. Entomol. Zool. Stud. vol. 5, no. 6, pp. 2408-2410, 2017. DOI: 10.22271/j.ento.2017.v5.i6ag.04 http://www.entomoljournal.com/archives/2017/vol5issue6/PartAG/5-6-355-856.pdf.
43. M. I. Cooper, "Allometry for sexual dimorphism in millipedes (Diplopoda)," J. Entomol. Zool. Stud. vol. 6, no. 1, pp. 91-96, 2018. DOI: 10.22271/j.ento.2018.v6.i1b.03 http://www.entomoljournal.com/archives/2018/vol6issue1/PartB/5-6-327-547.pdf.
44. M. I. Cooper, "Sexual dimorphism in pill millipedes (Diplopoda)," J. Entomol. Zool. Stud. vol. 6, no. 1, pp. 613-616, 2018. DOI: 10.22271/j.ento.2018.v6.i1i.03 http://www.entomoljournal.com/archives/2018/vol6issue1/PartI/5-6-352-508.pdf.
45. M. I. Cooper, "Sexual size dimorphism and the rejection of Rensch's rule in Diplopoda (Arthropoda)," J. Entomol. Zool. Stud. vol. 6, no. 1, pp. 1582-1587, 2018. DOI: 10.22271/j.ento.2018.v6.i1v.07 http://www.entomoljournal.com/archives/2018/vol6issue1/PartV/5-6-290-837.pdf.
46. M. I. Cooper, "Trigoniulid size dimorphism breaks Rensch," J. Entomol. Zool. Stud. vol. 6, no. 3, pp. 1232-1234, 2018. DOI: 10.22271/j.ento.2018.v6.i3.9.09 http://www.entomoljournal.com/archives/2018/vol6issue3/PartQ/6-3-170-722.pdf.
47. M. I. Cooper, "Volumes of Centrobolus albitarsus (Lawrence, 1967)," Int. J. Entomol. Res. vol. 3, no. 4, pp. 20-21, 2018. http://www.entomologyjournals.com/archives/2018/vol3/issue4.
48. M. Cooper, "A review of studies on the fire millipede genus centrobolus (diplopoda: trigoniulidae)," J. Entomol. Zool. Stud. vol. 6, no. 4, pp. 126-129, 2018. DOI: 10.22271/j.ento.2018.v6.i4.2.06 http://www.entomoljournal.com/archives/2018/vol6issue4/PartC/6-3-87-275.pdf.
49. M. Cooper, "Centrobolus anulatus (Attems, 1934) reversed sexual size dimorphism," J. Entomol. Zool. Stud. vol. 6, no. 4, pp. 1569-1572, 2018. DOI: 10.22271/j.ento.2018.v6.i4.13.16 http://www.entomoljournal.com/archives/2018/vol6issue4/PartZ/6-4-277-483.pdf.
50. M. Cooper, "Allometry in Centrobolus," J. Entomol. Zool. Stud. vol. 6, no. 6, pp. 284-286, 2018. DOI: 10.22271/j.ento.2018.v6.i6.3.07 http://www.entomoljournal.com/archives/2018/vol6issue6/PartE/6-5-322-417.pdf.
51. M. Cooper, "Centrobolus size dimorphism breaks Rensch's rule," Scholars' Press, Mauritius. pp. 1-48, 2018. ISBN: 978-3-659-83990-0. https://www.academia.edu/77887053.
52. M. Cooper, "Centrobolus size dimorphism breaks Rensch's rule," Arthropod., vol. 7, no. 3, pp. 48-52, 2018.
53. M. Cooper, "Centrobolus dubius (Schubart, 1966) Monomorphism," International Journal of Research Studies in Zoology, vol 4, no. 3, pp. 17-21, 2018. http://arcjournals.org/pdfs/ijrsz/v4-i3/3.pdf.
54. M. Cooper, "Centrobolus lawrencei (Schubart, 1966) monomorphism," Arthropod., vol. 7, no. 4, pp. 82-86, 2018. http://www.iaees.org/publications/journals/arthropods/articles/2018-7(4)/Centrobolus-lawrencei-monomorphism.pdf.
55. M. Cooper, "Confirmation of twenty-one species of Centrobolus Cook (Diplopoda: Pachybolidae) based on length and width data," 2018.
56. M. Cooper, "Centrobolus sagatinus sexual size dimorphism based on differences in horizontal tergite widths," J. Entomol. Zool. Stud. vol. 6, no. 6, pp. 275-277, 2018. DOI: 10.22271/j.ento.2018.v6.i6.3.05 http://www.entomoljournal.com/archives/2018/vol6issue6/PartE/6-5-323-505.pdf.
57. M. Cooper, "Centrobolus silvanus dimorphism based on tergite width,". Glob. J. Zool. vol. 3, no. 1, pp. 003-005, 2018. https://doi.org/10.17352/gjz.000010.
58. M. Cooper, "A review on studies of behavioural ecology of Centrobolus (Diplopoda, Spirobolida, Pachybolidae) in southern Africa," Arthropod., vol. 8, no. 1, pp. 38-44, 2019.
59. M. I. Cooper, "Lawrence's red millipede Centrobolus lawrencei shows length-based variability and size dimorphism," J. Entomol. Zool. Stud. vol. 7, no. 2, pp. 1037-1039, 2019. DOI: 10.22271/j.ento.2019.v7.i2.9.07 http://www.entomoljournal.com/archives/2019/vol7issue2/PartQ/7-2-114-662.pdf.

60. M. Cooper, "Centrobolus titanophilus size dimorphism shows width-based variability," Arthropod., vol. 8, no. 2, pp. 80-86, 2019.
61. M. Cooper, "Non-significant intersexual differences in millipede mass," J. Entomol. Zool. Stud. vol. 7, no. 3, pp. 763-765, 2019. DOI: 10.22271/j.ento.2019.v7.i3m.5267 http://www.entomoljournal.com/archives/2019/vol7issue3/PartM/7-3-90-458.pdf.
62. M. I Cooper, "Quasi-experimental determination of a mass standard in the forest millipede Centrobolus inscriptus," J. Entomol. Zool. Stud. vol. 7, no. 3, pp. 772-774, 2019. DOI: 10.22271/j.ento.2019.v7.i3m.5269 http://www.entomoljournal.com/archives/2019/vol7issue3/PartM/7-3-58-913.pdf.
63. M. I. Cooper, "Underlying sperm precedence pattern in the millipede Centrobolus inscriptus (Attems, 1928) (Diplopoda, Pachybolidae)," J. Entomol. Zool. Stud. vol. 7, no. 3, pp. 1066-1069, 2019. DOI: 10.22271/j.ento.2019.v7.i3r.5319 http://www.entomoljournal.com/archives/2019/vol7issue3/PartR/7-3-106-957.pdf.
64. M. Cooper, "When is the change in sperm precedence in the millipede Centrobolus inscriptus(Attems, 1928) (Diplopoda, Pachybolidae)?" J. Entomol. Zool. Stud. vol. 7, no. 4, pp. 183-186, 2019. DOI: 10.22271/j.ento.2019.v7.i4c.5439 http://www.entomoljournal.com/archives/2019/vol7issue4/PartC/7-3-311-692.pdf.
65. M. Cooper, "Julid millipede and spirobolid millipede gonopod functional equivalents," J. Entomol. Zool. Stud. vol. 7, no. 4, pp. 333-335, 2019. DOI: 10.22271/j.ento.2019.v7.i4f.5465 http://www.entomoljournal.com/archives/2019/vol7issue4/PartF/7-3-329-431.pdf.
66. M. Cooper, "Size dimorphism and directional selection in forest millipedes," Arthropod., vol. 8, no. 3, pp. 102-109, 2019. http://www.iaees.org/publications/journals/arthropods/articles/2019-8(3)/size-dimorphism-and-directional-selection-in-forest-millipedes.pdf.
67. M. Cooper, "Xylophagous millipede surface area to volume ratios are size dependent in forests," Arthropod., vol. 8, no. 4, pp. 127-136, 2019.
68. M. Cooper, "Size dimorphism in six juliform millipedes," Arthropod., vol. 8, no. 4, pp. 137-142, 2019.
69. M. Cooper, "Year-round correlation between mass and copulation duration in forest millipedes," Arthropod., vol. 9, no. 1, pp. 15-20, 2020.
70. M. Cooper, "Kurtosis and skew show longer males in Centrobolus," Arthropod., vol. 9, no. 1, pp. 21-26, 2020.
71. M. Cooper, "Studies of behavioural ecology of Centrobolus," LAP LAMBERT Academic Publishing, Mauritius. pp. 1-420, 2020. ISBN: 978-620-2-52046-1.
72. M. Cooper, "Mating dynamics of South African forest millipedes," LAP LAMBERT Academic Publishing, Mauritius. pp. 1-164, 2020. ISBN: 978-620-0-58569-1.
73. 74. M. Cooper, "Behavioural ecology of Centrobolus," LAP LAMBERT Academic Publishing, Mauritius. pp. 1-520, 2020. ISBN: 978-620-0-50406-7.
74. M. Cooper, "Zoomorphic variation with copulation duration in Centrobolus," Arthropod., vol. 9, no. 2, pp. 63-67, 2020. http://www.iaees.org/publications/journals/arthropods/articles/2020-9(2)/zoomorphic-variation-with-copulation-duration-in-Centrobolus.pdf.
75. M. Cooper, "Latitudinal-size trend in eight species of Centrobolus," J. Entomol. Zool. Stud. vol. 8, no. 2, pp. 122-127, 2020. http://www.entomoljournal.com/archives/2020/vol8issue2/PartC/8-1-381-253.pdf.
76. M. Cooper, "Longitudinal-size trend in eight species of Centrobolus," Intern. J. Zool. Invest. vol. 6, no. 1, pp. 58-64, 2020. https://doi.org/10.33745/ijzi.2020.v06i01.005.
77. M. Cooper, "Correction: Centrobolus dubius (Schubart, 1966) Monomorphism," Int. J. Res. Stud. Zool. vol. 6, no. 2, pp. 25-28, 2020. http://www.arcjournals.org/pdfs/ijrsz/v6-i2/3.pdf.
78. M. Cooper, "Latitudinal and longitudinal gradients in Old World forest millipedes," LAP LAMBERT Academic Publishing: pp. 77, 2021 ISBN: 978-620-3-02454-8.
79. M. Cooper, "Intrasexual and intersexual size variation in Centrobolus Cook, 1897," Scholars' Press, Mauritius. pp. 1-56, 2021. ISBN: 978-613-8-95101-8.
80. M. Cooper, "Size-assortment in Centrobolus Cook, 1897," Scholars' Press, Mauritius. pp. 1-52, 2021. ISBN: 978-613-8-95118-6. http://www.megabooks.sk/p/18255119.
81. M. Cooper, "Wewnątrzpłciowa i międzypłciowa zmienność wielkości u Centrobolus Cook, 1897," Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-50733-1. http://www.megabooks.cz/p/17829353.
82. M. Cooper, "Variedade de tamanhos no Centrobolus Cook, 1897," Novas Edições Acadêmicas, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-46650-8.
83. M. Cooper, "Variação de tamanho intrasexual e intersexual no Centrobolus Cook, 1897," Edições Nosso Conhecimento, Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-50735-5.
84. M. Cooper, "Variazione di taglia intrasessuale e intersessuale in Centrobolus Cook, 1897," Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-50731-7. http://www.megabooks.sk/p/18462116.
85. M. Cooper, "Variation de taille intrasexuelle et intersexuelle chez Centrobolus Cook, 1897," Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-50730-0. http://www.megabooks.sk/p/18462115.

86. M. Cooper, "Intrasexuelle und intersexuelle größenvariation bei Centrobolus Cook, 1897," Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-50729-4.http://www.megabooks.cz/p/17470313.
87. M. Cooper, "Size-assortment in Centrobolus Cook, 1897 (Diplopoda: Pachybolidae)," Scholars' Press, Mauritius. pp. 1-52, 2021. ISBN: 978-613-8-95105-6. http://www.megabooks.sk/p/18254871.
88. M. Cooper, "Variação da duração da cópula em milípedes semelhantes a vermes," Novas Edições Acadêmicas, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-46666-9.
89. M. Cooper, "Surtido de tamaño en Centrobolus Cook, 1897," Editorial Académica Española, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-03960-3.
90. M. Cooper, "Größen-Sortierung bei Centrobolus Cook, 1897 (Diplopoda: Pachybolidae)," Südwestdeutscher Verlag für Hochschulschriften, Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-54955-3. http://www.dodax.co.uk/en-gb/books-audiobooks/zoology/cooper-mark-groessensortierung-bei-centrobolus-cook-1897-diplopoda-pachybolidae-dp3Q15G7L5H49.
91. M. Cooper, "Cambio en la duración de la cópula en ciempiés gusano," Editorial Académica Española, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-03965-8.
92. M. Cooper, "Размерный ассортимент в Centrobolus Cook, 1897 г," Sciencia Scripts, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59606-9. http://my-shop.ru/shop/product/4534060.html.
93. M. Cooper, "Variation de durée de copulation dans les mille-pattes vermifuges," Presses Académiques Francophones, Mauritius. pp. 1-52, 2021. ISBN: 978-3-8416-3326-2.
94. M. Cooper, "Sortimento de tamanhos em Centrobolus Cook, 1897," Edições Nosso Conhecimento, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59608-3. http://www.megabooks.sk/p/18456483.
95. M. Cooper, "Size assortment in Centrobolus Cook, 1897," Our Knowledge Publishing, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59602-1. http://www.megabooks.sk/p/18456478.
96. M. Cooper, "Größensortierung bei Centrobolus Cook, 1897," Verlag Unser Wissen, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59601-4. http://www.megabooks.sk/p/18192206.
97. M. Cooper, "Groottesortering bij Centrobolus Cook, 1897," Uitgeverij Onze Kennis, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59605-2.
98. M. Cooper, "Assortimento di dimensioni in Centrobolus Cook, 1897," Edizioni Sapienza, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59604-5. http://www.megabooks.sk/p/18456480.
99. M. Cooper, "Assortiment de tailles chez Centrobolus Cook, 1897," Editions Notre Savoir, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59603-8. http://www.megabooks.sk/p/18456479.
100. M. Cooper, "Asortyment wielkości u Centrobolus Cook, 1897 (Diplopoda: Pachybolidae)," Wydawnictwo Nasza Wiedza, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-59607-6.
101. M. Cooper, "Zmiana czasu trwania kopulacji w krocionogach przypominających robaki," Wydawnictwo Nasza Wiedza, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-62161-7. http://www.megabooks.sk/p/18456980.
102. M. Cooper, "Verandering in copulatieduur bij wormduizendpoten: (Juliformes)," Uitgeverij Onze Kennis. pp. 1-56, 2021. ISBN: 978-6203621600.
103. M. Cooper, "Veränderung der Kopulationsdauer bei Wurmtausendfüßern," Verlag Unser Wissen. pp. 1-52, 2021. ISBN: 978-620-3-62156-3. http://www.megabooks.sk/p/18258985.
104. M. Cooper, "Modification de la durée de la copulation chez les millipedes vermiformes," Editions Notre Savoir, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-62158-7. http://www.megabooks.sk/p/18456978.
105. M. Cooper, "Modifica della durata della copulazione nei millepiedi vermi," Edizioni Sapienza, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-62159-4. http://www.megabooks.sk/p/18456979.
106. M. Cooper, "Copulation duration variation in worm-like millipedes," Our Knowledge Publishing, Mauritius. pp. 1-52, 2021. ISBN: 978-620-3-62157-0. http://www.megabooks.sk/p/18456977.
107. M. Cooper, "Alteracao na duracao da copula nas centopeias de minhocas," Edicoes Nosso Conhecimento, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-62162-4. http://www.megabooks.sk/p/18456981.
108. M. Cooper, "Zmiana czasu trwania kopulacji w krocionogach przypominających robaki," Globe Edit, Latvia. pp. 1-56, 2021. ISBN: 978-620-0-62248-8.
109. M. Cooper, "Variasjon i kokulasjonsvariasjon i ormlignende millipeder," Globe Edit, Latvia. pp. 1-52, 2021. ISBN: 978-620-0-62250-1.
110. M. Cooper, "Copulation duration variation in worm-like millipedes," Scholars' Press, Mauritius. pp. 1-52, 2021. ISBN: 978-3-639-66208-5.
111. M. Cooper, "Variatie in copulatieduur in wormachtige duizendpoten," Globe Edit, Latvia. pp. 1-52, 2021. ISBN: 978-620-0-62258-7.
112. M. Cooper, "Variation i kopulationsvarighed i ormelignende tusindben," Globe Edit, Latvia. pp. 1-56, 2021. ISBN: 978-620-0-62257-0.

113. M. Cooper, "Içeriği Centrobolus Cook boyut aralığı, 1897 (Diplopoda: Pachybolidae)," LAP LAMBERT Academic Publishing, Mauritius. pp. 1-56, 2021. ISBN: 978-620-3-83963-0.
114. M. Cooper, "Kopuleringstidsvariation i maskliknande millipeder," Globe Edit, Latvia. pp. 1-52, 2021. ISBN: 978-620-0-62277-8.
115. M. Cooper, "Variation de durée de copulation dans les mille-pattes vermifuges," Blessed Hope Publishing. pp. 1-56, 2021. ISBN: 978-3841633269. http://www.megabooks.sk/p/18361163.
116. M. Cooper, "ワーム様ミリペデスにおける交尾期間変動," Globe Edit, Latvia. pp. 1-56, 2021. ISBN: 978-620-0-62260-0.
117. M. Cooper, "Parittelun keston vaihtelu matomaisten millipedes," Globe Edit, Latvia. pp. 1-52, 2021. ISBN: 978-620-0-62259-4.
118. M. Cooper, "Variația duratei copulării în milipedele asemănătoare viermilor," Globe Edit, Latvia. pp. 1-56, 2021. ISBN: 978-620-0-62255-6.
119. M. Cooper, "A párzás időtartama a féreg-szerű millipedek változása," Globe Edit, Latvia. pp. 1-52, 2021. ISBN: 978-620-0-62261-7.
120. M. Cooper, "蠕蟲狀千足蟲的複製持續時間變化," pp. 1-52, 2021. Goldenlight publishing, Republic of Moldova. ISBN: 978-620-2-41290-2.
121. M. Cooper, "웜과 같은 밀리페드의 교화 지속 시간 변화 (줄리포미아)," Globe Edit, Latvia. pp. 1-52, 2021. ISBN: 978-620-0-62533-5.
122. M. Cooper, "Mass covaries with volume in forest millipedes Centrobolus Cook, 1897," J. Entomol. Zool. Stud. vol. 9, no. 6, pp. 190-192, 2021. http://www.entomoljournal.com/archives/2021/vol9issue6/PartC/9-6-36-202.pdf.
123. M. Cooper, "The inverse latitudinal gradient in species richness of forest millipedes: Pentazonia Brandt, 1833," J. Entomol. Zool. Stud. vol. 10, no. 1, pp. 01-04, 2022. http://www.entomoljournal.com/archives/2022/vol10issue1/PartA/9-6-47-884.pdf.
124. M. Cooper, "The inverse latitudinal gradient in species richness of forest millipedes: Pachybolidae Cook, 1897," J. Entomol. Zool. Stud. vol. 10, no. 1, pp. 05-08, 2022. http://www.entomoljournal.com/archives/2022/vol10issue1/PartA/9-6-49-906.pdf.
125. M. Cooper, "Longer Males Determined with Positive Skew and Kurtosis in Centrobolus (Diplopoda: Spirobolida: Pachybolidae)," New Visions in Biological Science Vol. 8, pp. 102-106, 2022. http://doi.org/10.9734/bpi/nvbs/v8/1876A.
126. M. Cooper, "Study on Year-round Correlation between Mass and Copulation Duration in Forest Millipedes," New Visions in Biological Science Vol. 8, pp. 107-112, 2022. http://doi.org/10.9734/bpi/nvbs/v8/1877A.
127. M. Cooper, "Study on Size Dimorphism in Six Juliform Millipedes," New Visions in Biological Science Vol. 8, pp. 113-119, 2022. http://doi.org/10.9734/bpi/nvbs/v8/1878A.
128. M. Cooper, "Xylophagous Millipede Surface Area to Volume Ratios are Size-dependent in Forests: A Brief Study," New Visions in Biological Science Vol. 8, pp. 120-128, 2022. http://doi.org/10.9734/bpi/nvbs/v8/1879A.
129. M. Cooper, "A Study on Centrobolus titanophilus Size Dimorphism Shows Width-Based Variability," New Visions in Biological Science Vol. 8, pp. 129-135, 2022. http://doi.org/10.9734/bpi/nvbs/v8/1880A.
130. M. Cooper, "Study on Zoomorphic Variation with Copulation Duration in Centrobolus," New Visions in Biological Science Vol. 8, pp. 144-149, 2022. http://doi.org/10.9734/bpi/nvbs/v8/1882A.
131. M. Cooper, "The copulation duration allometry in Centrobolus (Diplopoda: Spirobolida: Pachybolidae)," J. Entomol. Zool. Stud. vol. 10, no. 1, pp. 63-68, 2022. https://doi.org/10.22271/j.ento.2022.v10.i1a.8925.
132. M. Cooper, "Behavioral ecology of Centrobolus (Diplopoda, Spirobolida, Pachybolidae) in Southern Africa," New Visions in Biological Science Vol. 9, pp. 1-6, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1883A.
133. M. Cooper, "Study About Size Dimorphism and Directional Selection in Forest Millipedes," New Visions in Biological Science Vol. 9, pp. 7-13, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1884A.
134. M. Cooper, "The Copulation duration Allometry in Centrobolus (Diplopoda: Spirobolida: Pachybolidae)," New Visions in Biological Science Vol. 9, pp. 21-28, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1891A.
135. M. Cooper, "The Copulation duration Allometry in Worm-like Millipedes (Diplopoda: Chilognatha: Helminthomorpha)," New Visions in Biological Science Vol. 9, pp. 29-38, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1892A.
136. M. Cooper, "Length and Width Correlations in Centrobolus Cook, 1897," New Visions in Biological Science Vol. 9, pp. 39-45, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1893A.
137. M. Cooper, "Mating Order Establishes Male Size Advantage in the Polygynandrous Millipede Centrobolus inscriptus Attems, 1928," New Visions in Biological Science Vol. 9, pp. 46-51, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1894A.
138. M. Cooper, "Why Sexual Size Dimorphism Increases with Longitude, Precipitation and Temperature and Decreases with Latitude in Forest Millipedes Centrobolus Cook, 1897," New Visions in Biological Science Vol. 9, pp. 58-67, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1896A.
139. M. Cooper, "Bergmann's Rule: Size Correlates with Longitude and Temperature in Forest Millipedes Centrobolus Cook, 1897," New Visions in Biological Science Vol. 9, pp. 68-81, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1897A.
140. M. Cooper, "The Inverse Latitudinal Gradient in Species Richness of Forest Millipedes: Centrobolus Cook, 1897," New Visions in Biological Science Vol. 9, pp. 82-88, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1898A.

141. M. Cooper, "Total Body Rings Increase with Latitude and Decrease with Precipitation in Forest Millipedes Centrobolus Cook, 1897," New Visions in Biological Science Vol. 9, pp. 96-101, 2022. http://doi.org/10.9734/bpi/nvbs/v9/1900A.
142. M. Cooper, "Does sexual size dimorphism vary with longitude in forest millipedes Centrobolus Cook, 1897?" International Journal of Recent Research in Thesis and Dissertation, vol. 3, no. 1, pp. 1-5, 2022. https://www.paperpublications.org/issue/IJRRTD/Issue-1-January-2022-June-2022.
143. M. Cooper, "Does sexual size dimorphism vary with latitude in forest millipedes Centrobolus Cook,1897?" Int. J. Re. Res. Thesis Diss., vol. 3, no. 1, pp. 6-11, 2022. https://www.paperpublications.org/issue/IJRRTD/Issue-1-January-2022-June-2022..
144. M. Cooper, "Does sexual size dimorphism vary with temperature in forest millipedes Centrobolus Cook, 1897?" Acta Entomol. Zool., vol 3, no. 1, pp. 08-11, 2022. https://doi.org/10.33545/27080013.2022.v3.i1a.51.
145. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH MONTH WITH THE HIGHEST NUMBER OF RAINY DAYS IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 2, no. 9, pp. 9-14, 2022. https://www.doi-ds.org/doilink/03.2022-63261534/UIJIR.
146. M. Cooper, "PAIR-WISE COMPARISON OF SEXUAL SIZE DIMORPHISM AMONG NINE FACTORS IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 2, no. 9, pp. 31-33, 2022. https://www.doi-ds.org/doilink/03.2022-75935617/UIJIR.
147. M. Cooper, "Does sexual size dimorphism vary with female size in forest millipedes CentrobolusCook, 1897?" Acta Entomol. Zool., vol. 3, no. 1, pp. 15-18, 2022. https://doi.org/10.33545/27080013.2022.v3.i1a.57.
148. M. Cooper, "Does sexual size dimorphism vary with hours of sunshine throughout the year in forest millipedes Centrobolus Cook, 1897?" Acta Entomol. Zool., vol. 3, no. 1, pp. 19-25, 2022. DOI: https://doi.org/10.33545/27080013.2022.v3.i1a.58.
149. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH SPECIES RICHNESS IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 2, no. 10, pp. 25-29, 2022. https://www.doi-ds.org/doilink/04.2022-91496952/UIJIR.
150. M. Cooper, "PAIR-WISE COMPARISON OF SEXUAL SHAPE DIMORPHISM AMONG FIFTEEN FACTORS IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897," Universe Int. J.Interdiscip. Res., vol. 2, no. 10, pp. 9-14, 2022. https://www.doi-ds.org/doilink/04.2022-18727172/UIJIR.
151. M. I. Cooper, "Five factors effecting copulation duration in the breeding season in forest millipedes Centrobolus Cook, 1897," Zoological and Entomological Letters, vol. 2, no. 1, pp. 17-22, 2022. https://www.zoologicaljournal.com/archives/2022.v2.i1.A.26.
152. M. Cooper, "Does sexual size dimorphism vary with time in red millipedes Centrobolus Cook, 1897?" Zool. Entomol. Lett., vol 2, no. 1, pp. 30-35, 2022. https://www.zoologicaljournal.com/archives/2022.v2.i1.A.29.
153. M. Cooper, "Mating frequencies of sympatric red millipedes differ across substrate due to absolute abundances," Acta Entomol. Zool., vol. 3, no. 1, pp. 34-39, 2022. https://doi.org/10.33545/27080013.2022.v3.i1a.62.
154. M. Cooper, "Does sexual size dimorphism vary with maximum and minimum temperatures in red millipedes Centrobolus Cook, 1897?" Zool. Entomol. Lett., vol. 2, no. 1, pp. 60-65, 2022. https://www.zoologicaljournal.com/archives/2022.v2.i1.B.34.
155. M. Cooper, "Does sexual size dimorphism vary with sex ratio in red millipedes Centrobolus Cook, 1897?" Zool. Entomol. Lett., vol. 2, no. 1, pp. 66-68, 2022. https://www.zoologicaljournal.com/archives/2022.v2.i1.B.35.
156. M. Cooper, "Millipede mass: Intersexual differences," Zool. Entomol. Lett., vol. 2, no. 1, pp. 69-70, 2022. https://www.zoologicaljournal.com/archives/2022.v2.i1.B.36.
157. M. I. Cooper, "Do copulation duration and sexual size dimorphism vary with absolute abundance in red millipedes Centrobolus Cook, 1897?" Acta Entomol. Zool., vol. 3, no. 1, pp. 51-54, 2022. https://www.actajournal.com/archives/2022.v3.i1.A.64.https://doi.org/10.33545/27080013.2022.v3.i1a.64.
158. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH FEMALE LENGTH INFOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 2, no. 12, pp. 1-7, 2022. https://www.doi-ds.org/doilink/05.2022-69939779/UIJIR.
159. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH PRECIPITATION IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Munis Entomology and Zoology, vol 17, no. 2, pp. 1185-1189, 2022.
160. M. I. Cooper, "Do copulation durations of sympatric red millipedes vary seasonally with mating frequencies?" Int. J. Re. Res. Thesis Diss., vol. 3, no. 1, pp. 85-90, 2022. https://doi.org/10.5281/zenodo.6613001.
161. M. I. Cooper, "The inverse latitudinal gradients in species richness of Southern African millipedes," Int. J. Re. Res. Thesis Diss., vol. 3, no. 1, pp. 91-112, 2022. https://doi.org/10.5281/zenodo.6613064.
162. M. I. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH LOG SEXUAL SIZE DIMORPHISM IN RED MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 2, no. 12, pp. 52-54, 2022. https://www.doi-ds.org/doilink/06.2022-83544225/UIJIR.
163. M. I. Cooper, "Do copulation duration and sexual size dimorphism vary with absolute abundance in red millipedes Centrobolus Cook, 1897?" Acta Entomol. Zool., vol. 3, no. 1, pp. 51-54, 2022. https://www.actajournal.com/archives/2022.v3.i1.A.64.https://doi.org/10.33545/27080013.2022.v3.i1a.64.

164. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH FEMALE LENGTH INFOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 2, no. 12, pp. 1-7, 2022. https://www.doi-ds.org/doilink/05.2022-69939779/UIJIR.
165. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH PRECIPITATION INFOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Munis Entomology and Zoology, vol. 17, no. 2, pp. 1185-1189, 2022.
166. M. I. Cooper, "Do copulation durations of sympatric red millipedes vary seasonally with mating frequencies?" Int. J. Re. Res. Thesis Diss., vol. 3, no. 1, pp. 85-90, 2022. https://doi.org/10.5281/zenodo.6613001.
167. M. I. Cooper, "The inverse latitudinal gradients in species richness of Southern African millipedes," Int. J. Re. Res. Thesis Diss., vol. 3, no. 1, pp. 91-112, 2022. https://doi.org/10.5281/zenodo.6613064.
168. M. I. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH LOG SEXUAL SIZE DIMORPHISM IN RED MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 2, no. 12, pp. 52-54, 2022. https://www.doi-ds.org/doilink/06.2022-83544225/UIJIR.
169. M. Cooper, "THE TIE-IN OF MALE BODY WIDTH ON COPULATION DURATION IN CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 3, no. 1, pp. 45-47, 2022. https://www.doi ds.org/doilink/06.2022-88932399/UIJIR.
170. M. I. Cooper, "IS A PROMINENT STERNITE RELATED TO MOMENTS OF INERTIA IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 8, no. 12, pp. 26-28, 2022. http://www.ijesird.com/1_june_22.PDF.
171. M. I. Cooper, "IS COPULATION DURATION RELATED TO MOMENTS OF INERTIA IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 8, no. 12, pp. 29-31, 2022. http://www.ijesird.com/2_june_22.PDF.
172. M. I. Cooper, "COPULATION DURATION IS RELATED TO EJACULATING VOLUMEIN CENTROBOLUS INSCRIPTUS (ATTEMS, 1928)," International Journal of Engineering ScienceInvention Research & Development, vol. 8, no. 12, pp. 32-40, 2022. http://www.ijesird.com/3_june_22.PDF.
173. M. I. Cooper, "Is a prominent sternite related to mass in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 1-4, 2022. http://www.ijesird.com/1_jul_22.PDF.
174. M. I. Cooper, "Does sex ratio vary with absolute abundance in red millipedes Centrobolus Cook,1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 5-8, 2022. http://www.ijesird.com/2_jul_22.PDF.
175. M. I. Cooper, "Does copulation duration vary with absolute abundance in red millipedes Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 9-11, 2022. http://www.ijesird.com/3_jul 22.PDF.
176. M. I. Cooper, "Are a prominent sternite, coleopod spine length, and spine number related to mating frequencies in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research& Development, vol. 9, no. 1, pp. 12-15, 2022. http://www.ijesird.com/4_jul_22.PDF.
177. M. I. Cooper, "Are coleopod spine length and number related to weather in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 16-23, 2022. http://www.ijesird.com/5_jul_22.PDF.
178. M. I. Cooper, "Are coleopod spine length and number related to mass in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 24-26, 2022. http://www.ijesird.com/6_jul_22.PDF.
179. M. I. Cooper, "Is mass related to latitude, longitude, and weather in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 27-32, 2022. https://www.ijesird.com/7_jul_22.PDF.
180. M. I. Cooper, "ARE MATING FREQUENCIES RELATED TO ABSOLUTE ABUNDANCE IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 33-37, 2022. https://www.ijesird.com/8_jul-22.PDF.
181. M. I. Cooper, "Does sex ratio vary with absolute abundance in red millipedes Centrobolus Cook,1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 5-8, 2022. http://www.ijesird.com/2_jul_22.PDF.
182. M. I. Cooper, "Does copulation duration vary with absolute abundance in red millipedes Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 9-11, 2022. http://www.ijesird.com/3_jul_22.PDF.
183. M. I. Cooper, "Are a prominent sternite, coleopod spine length, and spine number related to matingfrequencies in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research& Development, vol. 9, no. 1, pp. 12-15, 2022. http://www.ijesird.com/4_jul_22.PDF.
184. M. I. Cooper, "Are coleopod spine length and number related to weather in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 16-23, 2022. http://www.ijesird.com/5_jul_22.PDF.
185. M. I. Cooper, "Are coleopod spine length and number related to mass in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 24-26, 2022. http://www.ijesird.com/6_jul_22.PDF.
186. M. I. Cooper, "Is mass related to latitude, longitude, and weather in Centrobolus Cook, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 27-32, 2022. https://www.ijesird.com/7_jul_22.PDF.

187. M. I. Cooper, "ARE MATING FREQUENCIES RELATED TO ABSOLUTE ABUNDANCE IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 33-37, 2022. https://www.ijesird.com/8_jul-22.PDF.
188. M. I. Cooper, "DOES COPULATION DURATION VARY WITH SEX RATIO IN THE RED MILLIPEDE CENTROBOLUS INSCRIPTUS (ATTEMS, 1928)?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 38-40, 2022. https://www.ijesird.com/9_jul_22.PDF.
189. M. I. Cooper, "IS A PROMINENT STERNITE RELATED TO WEATHER IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 41-44, 2022. https://www.ijesird.com/10_jul_22.PDF.
190. M. I. Cooper, "ARE MATING FREQUENCIES RELATED TO SEX RATIO IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 45-48, 2022. https://www.ijesird.com/11_jul_22.PDF.
191. M. I. Cooper, "ARE MATING FREQUENCIES RELATED TO SEXUAL SIZE DIMOROPHISM IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 49-51, 2022. https://www.ijesird.com/12_jul_22.PDF.
192. M. Cooper, "ARE MATING FREQUENCIES RELATED TO MOMENTS OF INERTIA ACROSS THE SEXES IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 1, pp. 52-55, 2022. https://www.ijesird.com/13_jul_22.PDF.
193. M. I. Cooper, "ARE MATING FREQUENCIES RELATED TO TARSAL PAD LENGTH IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 2, pp. 1-4, 2022. https://www.ijesird.com/1_aug_22.PDF.
194. M. Cooper, "IS COPULATION DURATION RELATED TO TARSAL PAD LENGTH IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research &Development, vol. 9, no. 2, pp. 65-67, 2022. https://www.ijesird.com/3_aug_22.PDF.
195. M. Cooper, "ARE ABSOLUTE ABUNDANCES RELATED TO TARSAL PAD LENGTH IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research &Development, vol. 9, no. 2, pp. 68-70, 2022. https://www.ijesird.com/4_aug_22.PDF.
196. M. I. Cooper, "ARE MATING FREQUENCIES RELATED TO MALE AND FEMALE SIZE IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 2, pp. 71-76, 2022. https://www.ijesird.com/5_aug_22.PDF.
197. M. Cooper, "DOES EJACULATE VOLUME VARY WITH ABSOLUTE ABUNDANCE IN RED MILLIPEDES CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 2, pp. 77-79, 2022. https://www.ijesird.com/6_aug_22.PDF.
198. M. I. Cooper, "THE MOMENTS OF INERTIA TIE-UP WITH FEMALE SIZE, HOURS OF SUNSHINE THROUGHOUT THE YEAR, LATITUDE, LONGITUDE, AND MINIMUM TEMPERATURE IN RED MILLIPEDES CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 3, no. 2, pp. 6-12, 2022. https://www.doi-ds.org/doilink/08.2022-76913842/UIJIR.
199. M. I. COOPER, "ARE MATING FREQUENCIES RELATED TO EJACULATE VOLUMES IN CENTROBOLUS COOK, 1897?" International Journal of Engineering ScienceInvention Research & Development, vol. 9, no. 3, pp. 93-95, 2022. https://www.ijesird.com/aug_ten.PDF.
200. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH FEMALE WIDTH IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Munis Entomol. Zool., vol. 17(supplement), pp. 1562-1565, 2022.
201. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH THE HIGHEST TOTAL HOURS OF SUNSHINE IN A MONTH IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Munis Entomol. Zool., vol. 17(supplement), pp. 1596-1602, 2022.
202. M. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH BODY MASS IN FOREST MILLIPEDES CENTROBOLUS COOK, 1897?" Munis Entomol. Zool. Suppl., vol. 17(supplement), pp. 1621-1624, 2022.
203. M. COOPER, "IS SIZE OR SSD RELATED TO ABUNDANCE IN CENTROBOLUS COOK,1897?" International Journal of Engineering Science Invention Research & Development., vol. 9, no. 3, pp. 96-102, 2022. https://www.ijesird.com/sep_one.PDF.
204. M. I. COOPER, "IS A PROMINENT STERNITE RELATED TO SEX RATIOS ANDABUNDANCE IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 3, pp. 103-106, 2022. https://www.ijesird.com/sep_two_6.PDF.
205. M. I. Cooper, "DOES SEXUAL SIZE DIMORPHISM VARY WITH FEWEST DAILY HOURSOF SUNSHINE IN RED MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 3, no. 3, pp. 89-92, 2022. https://www.doi-ds.org/doilink/09.2022-94655978/UIJIR.

206. M. COOPER, “DOES (PREDICTED) MASS CORRELATE WITH MATING FREQUENCIES IN CENTROBOLUS COOK, 1897?” Universe Int. J. Interdiscip. Res., vol. 3, no. 4, 141-19.
207. M. I. COOPER, “IS MASS CORRELATED WITH LENGTH AMONG RED MILLIPEDES CENTROBOLUS COOK, 1897?" Universe Int. J. Interdiscip. Res., vol. 3, no. 5, pp. 190-196, 2022. https://www.doids.org/doilink/11.2022-82684698/UIJIR. https://uijir.com/wp-content/uploads/2022/11/20-221012-UIJIR.pdf.
208. M. I. Cooper, "ABUNDANCE IS RELATED TO SURFACE AREA AND SURFACE-AREA-TO-VOLUME RATIOS IN CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 3, no. 5, pp. 231-240, 2022. https://www.doi-ds.org/doilink/11.2022-99614928/UIJIR. http://hdl.handle.net/10019.1/125794.
209. M. I. COOPER, "ARE SURFACE AREA AND SURFACE-AREA-TO-VOLUME RATIO RELATED TO SEX RATIOS IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 5, pp. 140-145, 2022. http://ijesird.com/nov_1.PDF.
210. M. I. COOPER, "ARE SURFACE AREA AND SURFACE-AREA-TO-VOLUME RATIO RELATED TO COPULATION DURATION IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 4, pp. 146-151, 2022. http://ijesird.com/nov_2.PDF.
211. M. I. Cooper, "DOES EJACULATE VOLUME VARY WITH SURFACE AREA AND SURFACE AREA TO VOLUME RATIO IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 5, pp. 152-154, 2022. http://ijesird.com/nov_3.PDF. http://hdl.handle.net/10019.1/125795.
212. M. I. COOPER, "MATING FREQUENCY IS RELATED TO SURFACE AREA AND SURFACE-AREA-TO VOLUME RATIOS IN CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 5, pp. 155-161, 2022. http://ijesird.com/nov_4.PDF. http://hdl.handle.net/10019.1/125795.
213. M. I. COOPER, "ARE SURFACE AREA AND SURFACE-AREA-TO-VOLUME RATIO RELATED TO LATITUDE AND LONGITUDE IN CENTROBOLUS COOK, 1897?" International Journal of Engineering Science Invention Research & Development, vol. 9, no. 5, pp. 162-167, 2022. http://ijesird.com/nov_5.PDF.
214. M. I. COOPER, "MOMENTS OF INERTIA COVARY WITH SURFACE AREA IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 5, pp. 168-173, 2022. http://ijesird.com/nov_6.PDF.
215. M. Cooper, "TARSAL PAD LENGTHS ARE RELATED TO SURFACE-AREA-TO-VOLUME RATIOS IN CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 3, no. 6, pp. 27-33, 2022.
216. M. I. Cooper, "SURFACE-AREA-TO-VOLUME IS RELATED TO SEXUAL SIZE DIMORPHISM ACROSS CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 3, no. 6, pp. 34-42, 2022.
217. M. Cooper, "SEX RATIO VARIES WITH AVERAGE TEMPERATURE IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 174-178, 2022. http://ijesird.com/DEC1.PDF.
218. M. Cooper, "SEX RATIO VARIES WITH MINIMUM TEMPERATURE IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 179-183, 2022. http://ijesird.com/DEC2.PDF.
219. M. Cooper, "SEX RATIO VARIES WITH MAXIMUM TEMPERATURE IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 184-188, 2022. http://ijesird.com/DEC3.PDF.
220. M. Cooper, "SEX RATIO VARIES WITH PRECIPITATION IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 189-193, 2022. http://ijesird.com/DEC4.PDF.
221. M. Cooper, "SEX RATIO VARIES WITH HUMIDITY IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 194-198, 2022. http://ijesird.com/DEC5.PDF.
222. M. Cooper, "SEX RATIO VARIES WITH RAINY DAYS IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 199-203, 2022. http://ijesird.com/DEC6.PDF.
223. M. Cooper, "SEX RATIO VARIES WITH AVERAGE SUN HOURS IN RED MILLIPEDES CENTROBOLUS COOK, 1897," International Journal of Engineering Science Invention Research & Development, vol. 9, no. 6, pp. 204-207, 2022. http://ijesird.com/DEC7.PDF.
224. M. I. Cooper, "VOLUME IS RELATED TO SURFACE-AREA-TO-VOLUME ACROSS CENTROBOLUS COOK, 1897," Universe Int. J. Interdiscip. Res., vol. 3, no. 6, pp. 83-91, 2022.
225. M. L. Hamer, "Checklist of Southern African millipedes(Myriapoda: Diplopoda)," Annals of the Natal Museum, vol. 39, no. 1, pp. 11-82, 1998.

226. R. F. Lawrence, "The Spiroboloidea (Diplopoda) of the eastern half of Southern Africa*," Annals of the Natal Museum, vol. 18, no. 3, pp. 607-646, 1967.
227. R. P. Mailula, "Taxonomic revision and Red List assessment of the red millipede genus Centrobolus (Spirobolida: Pachybolidae) of South Africa," The University of Kwazulu Natal, pp. 289, 2021.
228. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO MINIMUM OCEAN WATER TEMPERATURES IN COASTAL FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 266-282. https://ijesird.com/sep11_23.pdf.
229. Cooper Mark. SURFACE AREA-TO-VOLUME RATIO ARE RELATED TO SECOND POLAR MOMENTS OF INERTNESS IN *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 249-265. https://ijesird.com/sep10_23.pdf,
230. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO HIGHEST TOTAL HOURS OF SUNSHINE IN A MONTH IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 231-248. https://ijesird.com/sep9_23.pdf.
231. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO MEAN OCEAN WATER TEMPERATURES IN COASTAL FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 214-230. https://ijesird.com/sep8_23.pdf.
232. Cooper Mark. STERNITE PROMINENCE IS RELATED TO SECOND POLAR MOMENTS OF INERTNESS IN *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 198-213. https://ijesird.com/sep7_23.pdf.
233. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO LENGTH IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 181-197. http://www.ijesird.com/sep6_23.pdf.
234. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO WIDTH IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 164-180. http://www.ijesird.com/sep5_23.pdf.
235. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO MINIMUM PRECIPITATION IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 147-163. http://www.ijesird.com/sep4_23.pdf.
236. Cooper Mark. CURVED SURFACE AREA IS RELATED TO SECOND POLAR MOMENTS OF INERTIA IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 130-146. http://www.ijesird.com/sep3_23.pdf.
237. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO MINIMUM TEMPERATURE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 129-145. http://www.ijesird.com/sep2_23.pdf.
238. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO SPECIES RICHNESS IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(3): 113-128. http://www.ijesird.com/sep1_23.pdf.
239. Cooper Mark. MALE SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO ABUNDANCE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(2): 89-99. http://www.ijesird.com/aug_2023_7.pdf.
240. Cooper Mark. MALE SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO COPULATION DURATION IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; (in press). http://www.ijesird.com/aug_2023_6.pdf.
241. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO MOMENTS OF INERTIA IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; (in press). http://www.ijesird.com/aug_2023_5.pdf.
242. Cooper Mark. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO (MALE) MASS IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; (in press). http://www.ijesird.com/aug_2023_4.pdf.
243. Cooper Mark. SURFACE AREA IS RELATED TO TEMPERATURE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(2): 37-53. http://www.ijesird.com/aug_2023_3.pdf
244. Cooper Mark. (FEMALE) SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO SEXUAL SIZE DIMORPHISM IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(2): 24-36. http://www.ijesird.com/aug_2023_2.pdf

245. COOPER, MARK. AN INVERSE LATITUDINAL GRADIENT IN SPECIES RICHNESS OF FOREST RED MILLIPEDES CHERSASTUS ATTEMS, 1926 AND CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(2): 5-23. http://www.ijesird.com/aug_2023_1.pdf
246. COOPER, MARK. THE INVERSE LATITUDINAL GRADIENT IN SPECIES RICHNESS OF FOREST MILLIPEDES: PACHYBOLIDAE COOK, 1897. International Journal of Scientific Research, Technology & Innovation in Multidisciplinary Studies. 9th April 2023. Volume 4, pp. 80-89.
247. COOPER, MARK. MATING FREQUENCIES VARY WITH RAINY DAYS IN RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 9(8): 263-270. http://www.ijesird.com/Fab_3_23.PDF.
248. COOPER, MARK. ABUNDANCE VARIES WITH MINIMUM TEMPERATURE IN RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 9(8): 258-262. http://www.ijesird.com/Fab_2_23.PDF.
249. Cooper, Mark I. SEXUAL SIZE DIMORPHISM MAY BE RELATED TO SEX RATIOS IN CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 9(8): 252-257. http://www.ijesird.com/FAB_1_23.PDF.
250. Cooper, Mark I. CURVED SURFACE AREAS IN *CENTROBOLUS* COOK, 1897. Universe Int. J. Interdiscip. Res. 2023; 3(8): 81-116. http://www.doi-ds.org/doilink/02.2023-92114597/UIJIR.
251. Cooper M. SECOND POLAR MOMENTS OF INERTNESS WITH TEMPERATURE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. Universe Int. J. Interdiscip. Res. 2023; 3(8): 11-32. http://www.doi-ds.org/doilink/01.2023-86516136/UIJIR.
252. Cooper, Mark I. 2023. SECOND POLAR MOMENTS OF AREA IN MALE AND FEMALE *CENTROBOLUS* COOK, 1897. *Munis Entomology & Zoology*, 18(1): 643-646. http://www.munisentzool.org/Issue/abstract/second-polar-moments-of-area-in-male-and-female-centrobolus-cook-1897_13951.
253. Cooper, Mark I. 2023. QUASIPROBABLE SOLUTION OF RAINY DAY VARIATIONS FOR SET MATING FREQUENCIES AND MALE AND FEMALE LENGTHS IN *CENTROBOLUS* COOK, 1897. *Munis Entomology & Zoology*, 18(1): 620-624. http://www.munisentzool.org/Issue/abstract/quasiprobable-solution-of-rainy-day-variations-for-set-mating-frequencies-and-male-and-female-lengths-in-centrobolus-cook-1897_13947.
254. Cooper Mark I. 2023. IS MASS CORRELATED WITH LENGTH AMONG RED MILLIPEDES CENTROBOLUS COOK, 1897? *Munis Entomology & Zoology*, 18(1): 404-408. http://www.munisentzool.org/Issue/abstract/is-mass-correlated-with-length-among-red-millipedes-centrobolus-cook-1897_13922. http://hdl.handle.net/10019.1/125806.
255. Cooper Mark I. 2023. THE HIGHEST DAILY HOURS OF SUNSHINE ARE RELATED TO LONGITUDE ACROSS THE DISTRIBUTION OF PILL MILLIPEDES SPHAEROTHERIUM BRANDT, 1833. *Munis Entomology & Zoology*, 18(1): 385-387. http://www.munisentzool.org/Issue/abstract/the-highest-daily-hours-of-sunshine-are-related-to-longitude-across-the-distribution-of-pill-millipedes-sphaerotherium-brandt-1833_13920. http://hdl.handle.net/10019.1/125806.
256. Cooper Mark I. 2023. DOES SEXUAL SIZE DIMORPHISM VARY WITH THE FEWEST DAILY HOURS OF SUNSHINE IN RED MILLIPEDES CENTROBOLUS COOK, 1897? *Munis Entomology & Zoology*, 18(1): 373-375. http://www.munisentzool.org/Issue/abstract/does-sexual-size-dimorphism-vary-with-the-fewest-daily-hours-of-sunshine-in-red-millipedes-centrobolus-cook-1897_13918.
257. Cooper Mark I. 2023. PRECIPITATION DURING THE DRIEST MONTH IS MARGINALLY RELATED TO LONGITUDE ACROSS THE DISTRIBUTION OF RED MILLIPEDES CENTROBOLUS COOK, 1897. *Munis Entomology & Zoology*, 18(1): 339-341. http://www.munisentzool.org/Issue/abstract/precipitation-during-the-driest-month-is-marginally-related-to-longitude-across-the-distribution-of-red-millipedes-centrobolus-cook-1897_13915.
258. Cooper M. CURVED SURFACE AREA IS RELATED TO SPECIES RICHNESS IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 330-348. http://www.ijesird.com/oct1_23.pdf.
259. Cooper M. SPECIES RICHNESS IS RELATED to PRECIPITATION IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 349-367. http://www.ijesird.com/oct2_23.pdf.
260. Cooper M. SPECIES RICHNESS IS RELATED TO MINIMUM OCEAN WATER TEMPERATURE IN COASTAL FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 368-385. http://www.ijesird.com/oct3_23.pdf.
261. Cooper M. SPECIES RICHNESS IS RELATED TO MEAN OCEAN WATER TEMPERATURE NEAR FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 386-402. http://www.ijesird.com/oct4_23.pdf.

262. Cooper M. SPECIES RICHNESS IS RELATED MAXIMUM TEMPERATURE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 403-420. http://www.ijesird.com/oct5_23.pdf.
263. Cooper M. SPECIES RICHNESS IS RELATED TO LOWEST RELATIVE HUMIDITY IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 421-438. http://www.ijesird.com/oct6_23.pdf.
264. Cooper M. SPECIES RICHNESS IS RELATED TO HIGHEST OCEAN WATER TEMPERATURES IN COASTAL FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 439-455. http://www.ijesird.com/oct7_23.pdf.
265. Cooper M. SPECIES RICHNESS IS RELATED TO ALTITUDE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 456-472. http://www.ijesird.com/oct8_23.pdf.
266. Cooper M. SPECIES RICHNESS IS MARGINALLY RELATED TO LENGTH IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 473-490. http://www.ijesird.com/oct9_23.pdf.
267. Cooper M. SURFACE AREA-TO-VOLUME RATIO IS RELATED TO SPECIES RICHNESS IN CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 491-508. http://www.ijesird.com/oct10_23.pdf.
268. Cooper M. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO AVERAGE TEMPERATURE VARIATION IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 515-534. http://www.ijesird.com/oct_12_23.pdf.
269. Cooper M. MALE SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO ALTITUDE IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 535-553. http://www.ijesird.com/oct_13_23.pdf.
270. Cooper M. SEXUAL SIZE DIMORPHISM IS CORRELATED TO MEAN OCEAN WATER TEMPERATURE IN FOREST RED MILLIPEDES CENTROBOLUS COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(4): 554-572. http://www.ijesird.com/oct_14_23.pdf.
271. Cooper M. SECOND POLAR MOMENTS OF INERTNESS ARE DIFFERENT IN AND BETWEEN TWO PAIRS OF FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(5): 573-592. http://www.ijesird.com/nov_1_23.pdf.
272. Cooper M. SECOND POLAR MOMENTS OF INERTNESS ARE RELATED TO MATING FREQUENCIES, SPECIES VOLUME AND SURFACE AREA IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(5): 593-620. http://www.ijesird.com/nov_2_23.pdf.
273. Cooper M. HIGHEST DURATION OF SUNSHINE IS RELATED TO MALE SECOND POLAR MOMENTS OF INERTNESS IN FOREST RED MILLIPEDES *CENTROBOLUS* COOK, 1897. International Journal of Engineering Science Invention Research & Development. 2023; 10(5): 621-641. http://www.ijesird.com/nov_3_23.pdf.

APPENDIX 1. Highest ocean temperature (degrees Celsius) followed by air pressure (Pa) in *Centrobolus* Cook, 1897.

25.80, 100877.7
18.30 ,99215.02
20.30, 100919.9
26.10, 101219.5
26.00, 100758.5
18.20, 95437.59
25.70, 101253.4

APPENDIX 2. The latitude across *Centrobolus* Cook, 1897.

-26.1502
-29.7462
-27.8403
-34.0477
-34.5849

-28.7784
-18.6866
-30.2805
-29.7080
-29.6301
-33.9322
-34.0164
-32.5717
-28.7784
-30.7157
-28.0246
-33.6367
-32.5064
-34.4142
-24.5392
-29.0939
-31.6334

APPENDIX 3. Altitude (m) across the range of *Centrobolus* Cook, 1897.

646
38
990
178
34
9
1863
48
312
596
252
240
206
9
38
65
76
509
6
1947
3377
9

APPENDIX 4. Air pressure (Pa) followed by minimum precipitation (mm) across the range of *Centrobolus* Cook, 1897.

93824.08, 10
100877.7, 30
90043.31, 14
99215.02, 12

100919.9, 26
101219.5, 42
81349.35, 24
100758.5, 39
97652.69, 30
94406.69, 23
98354.45, 39
98488.49, 16
98911.95, 27
101219.5, 42
100877.2, 39
100565.0, 25
100426.5, 39
95437.59, 24
101253.4, 22
101253.4, 3
66812.02, 14
101218.7, 36

APPENDIX 5. The moments of inertia ($kg.m^{-2}$) followed by air pressure (Pa) in *Centrobolus* Cook, 1897.

10.791, 100758.5
4.7021, 101219.5
4.00, 100877.2
1.36, 99215.02
8.9401, 100758.5
12.738, 100758.5
9.4659, 101219.5
9.3025, 100877.2
2.9376, 99215.02
16.078, 100758.5

APPENDIX 6. Average temperature variation (degrees Celsius) in *Centrobolus* Cook, 1897.

8.8
7.3
8.7
7.0
2.8
6.5
5.9
7.3
7.0
8.7
7.7
6.5
7.8
6.5
7.2
6.3

7.7
10.1
10.8
8.2
12.0
6.5

APPENDIX 7. The month with the highest number of rainy days in *Centrobolus* Cook, 1897.

19.90
13.73
19.33
10.50
10.40
13.97
21.03
15.23
13.73
19.27
8.67
11.07
14.07
13.97
14.26
13.77
8.67
8.67
7.10
10.10
18.50
16.97

APPENDIX 8. The month with the highest number of rainy days in *Centrobolus* Cook, 1897.

19.90
13.73
19.33
10.50
10.40
13.97
21.03
15.23
13.73
19.27
8.67
11.07
14.07
13.97
14.26
13.77

8.67
8.67
7.10
10.10
18.50
16.97

APPENDIX 9. Distance to the nearest airport (km) across the range of *Centrobolus* Cook, 1897.

90.01
13.26
207.50
23.68
97.37
130.49
151.74
82.42
29.37
71.31
8.52
17.12
45.36
130.49
140.84
210.09
8.52
193.04
54.23
115.73
177.00
225.52

APPENDIX 10. The latitude followed by distance to the nearest aiport (km) in *Centrobolus* Cook, 1897.

-26.1502, 90.01
-29.7462, 13.26
-27.8403, 207.50
-34.0477, 23.68
-34.5849, 97.37
-28.7784, 130.49
-18.6866, 151.74
-30.2805, 82.42
-29.7080, 29.37
-29.6301, 71.31
-33.9322, 8.52
-34.0164, 17.12
-32.5717, 45.36
-28.7784, 130.49
-30.7157, 140.84
-28.0246, 210.09

-33.6367, 8.52
-32.5064, 193.04
-34.4142, 54.23
-24.5392, 115.73
-29.0939, 177.00
-31.6334, 225.52

APPENDIX 11. The longitude across *Centrobolus* Cook, 1897.

30.786
31.084
31.400
18.357
19.350
32.049
34.394
30.754
30.666
30.393
25.173
18.348
28.433
32.078
30.456
31.952
25.396
28.317
20.383
30.867
29.418
30.451

APPENDIX 12. Distance to the nearest airport across the range of *Centrobolus* Cook, 1897 (low indicates low species richness)

90.01 (low)
13.26
207.50
23.68
97.37
130.49
151.74 (low)
82.42
29.37
71.31
8.52
17.12
45.36
130.49
140.84

210.09
8.52
193.04
54.23
115.73 (low)
177.00
225.52

Appendix 13. Air pressure (Pa) at low (low) and high species richness of *Centrobolus.*

93824.08 (low)
100877.7
90043.31
100919.9
101219.5
100758.5
81349.35 (low)
97652.69
94406.69
98354.45
98488.49
98911.95
101219.5
100877.2
100565.0
100426.5
95437.59
101253.4
101253.4
99215.02 (low)
66812.02
101218.7