A Manuscript Microscope 'Sentence Audit' of:

Temperature-dependent use of daily torpor attenuates the energetic consequences of habitat selection for a widespread bat

What is the Manuscript Microscope Sentence Audit?

The Manuscript Microscope Sentence Audit is a research paper introspection system that parses the text of your manuscript into minimal sentence components for faster, more accurate, enhanced proofreading.

Why use a Sentence Audit to proofread your manuscript?

- Accelerated Proofreading: Examine long technical texts in a fraction of the usual time.
- Superior Proofreading: Detect subtle errors that are invisible to traditional methods.
- Focused Proofreading: Inspect each individual sentence component in isolation.
- Reliable Proofreading: Ensure every single word of your manuscript is correct.
- Easier Proofreading: Take the hardship out of crafting academic papers.

Bonus 1: Improved Productivity: Rapidly refine rough drafts to polished papers.
Bonus 2: Improved Authorship: Cultivate a clear, concise, consistent, writing style.
Bonus 3: Improved Reputation: Become known for rigorously precise publications.

Manuscript Source: https://www.biorxiv.org/content/10.1101/2021.03.06.434212v1

Manuscript Authors: Jesse M. Alston, Michael E. Dillon, Douglas A. Keinath, Ian M. Abernethy & Jacob R. Goheen

Audit Date: 29/03/21 **Audit Identifier:** HIXGPHAOWPQCPB7 **Code Version:** 3.6

Features of the Sentence Audit:

The Sentence Audit combines two complementary proofreading approaches:

1. Each sentence of your text is parsed and displayed in isolation for focused inspection.
2. Each individual sentence is further parsed into Minimal Sentence Components for a deeper review of the clarity, composition and consistency of the language you used.

The Minimal Sentence Components shown are the smallest coherent elements of each sentence of your text as derived from it's conjunctions, prepositions and selected punctuation symbols (i.e. commas, semicolons, round and square brackets).

The combined approaches ensure easier, faster, more effective proofreading.

Comments and Caveats:

• The sentence parsing is achieved using a prototype natural language processing pipeline written in Python and may include occasional errors in sentence segmentation.

• Depending on the source of the input text, the Sentence Audit may contain occasional html artefacts that are parsed as sentences (E.g. "Download figure. Open in new tab").

• Always consult the original research paper as the true reference source for the text.

Contact Information:

To get a Manuscript Microscope Sentence Audit of any other research paper, simply forward any copy of the text to John.James@OxfordResearchServices.com.

All queries, feedback or suggestions are also very welcome.

Research Paper Sections:

The sections of the research paper input text parsed in this audit.

Section No.	Headings	Sentences
Section: 1	Summary	11
Section: 2	1. Introduction	16
N/A	--- --- --- --- --- --- ---	0
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The Sentence Audit Of The Research Paper

Title **Temperature-dependent use of daily torpor attenuates the energetic consequences of habitat selection for a widespread bat**

S1 [001] Summary

S1 [002] Many animals employ heterothermy to conserve energy during periods of inactivity, stress, or low resource availability.

Many animals employ heterothermy ...
... to conserve energy ...
... during periods ...
... of inactivity, ...
... stress, ...
... or low resource availability.

S1 [003] Unlike homeotherms, these heterotherms have some flexibility in body temperature.

Unlike homeotherms, ...
... these heterotherms have some flexibility ...
... in body temperature.

S1 [004] Unlike poikilotherms, heterotherms can maintain body temperatures independently from their environments.

Unlike poikilotherms, ...
... heterotherms can maintain body temperatures independently ...
... from their environments.

S1 [005] Heterotherms should thus exhibit fundamentally different responses to suboptimal environmental temperatures than either homeotherms or poikilotherms.

Heterotherms should thus exhibit fundamentally different responses ...
... to suboptimal environmental temperatures ...
... than either homeotherms ...
... or poikilotherms.

S1 [006] In a species of heterothermic bat (Myotis thysanodes), we studied how daily torpor and roost selection could mitigate the energetic consequences of variation in ambient temperature.

In a species ...
... of heterothermic bat ...
... (Myotis thysanodes), ...
... we studied how daily torpor ...
... and roost selection could mitigate the energetic consequences ...
... of variation ...
... in ambient temperature.

S1 [007] We then (1) quantified the relationship between ambient temperature and torpor use, (2) simulated daily energy expenditure over a range of roost temperatures, and (3) quantified the influence of roost temperature on roost selection.

We then ...
... (1) ...
... quantified the relationship ...
... between ambient temperature ...
... and torpor use, ...
... (2) ...
... simulated daily energy expenditure ...
... over a range ...
... of roost temperatures, ...
... and ...
... (3) ...
... quantified the influence ...
... of roost temperature ...
... on roost selection.

S1 [008] Bats did not select roosts with specific thermal characteristics, nor did ambient temperature alter patterns of roost selection.

Bats did not select roosts ...
... with specific thermal characteristics, ...
... nor did ambient temperature alter patterns ...
... of roost selection.

S1 [009] This was likely because bats could modulate use of torpor to maintain a consistent level of energy expenditure over the course of a day, irrespective of ambient temperature.

This was likely ...
... because bats could modulate use ...
... of torpor ...
... to maintain a consistent level ...
... of energy expenditure ...
... over the course ...
... of a day, ...
... irrespective ...
... of ambient temperature.

S1 [010] Thermoregulatory processes in heterotherms differ from that of homeotherms and poikilotherms, including through behaviours as universal as habitat selection.

Thermoregulatory processes ...
... in heterotherms differ ...
... from that ...
... of homeotherms ...
... and poikilotherms, ...
... including ...
... through behaviours ...
... as universal ...
... as habitat selection.

S1 [011] Unlike homeotherms, bats face little pressure to select warm habitats to avoid heat loss during periods of inactivity—bats can use daily torpor to fully offset any increases in energy expenditure from maintaining homeothermy at colder temperatures.

Unlike homeotherms, ...
... bats face little pressure ...
... to select warm habitats ...
... to avoid heat loss ...
... during periods ...
... of inactivity—bats can use daily torpor ...
... to fully offset any increases ...
... in energy expenditure ...
... from maintaining homeothermy ...
... at colder temperatures.

S2 [012] 1. Introduction

S2 [013] The thermal environments in which organisms live strongly influence metabolic rates (Huey and Stevenson 1979, Brown et al. 2004, Pörtner and Farrell 2008).

The thermal environments ...
... in which organisms live strongly influence metabolic rates ...
... (Huey ...
... and Stevenson 1979, ...
... Brown et al. 2004, ...
... Pörtner ...
... and Farrell 2008).

S2 [014] Among homeotherms—which regulate body temperature internally within a narrow range to optimize physiological processes—metabolic heat production is tightly regulated in response to variation in temperature in the surrounding environment (i.e., ambient temperature; Lowell and Spiegelman 2000).

Among homeotherms—which regulate body temperature internally ...
... within a narrow range ...
... to optimize physiological processes—metabolic heat production is tightly regulated ...
... in response ...
... to variation ...
... in temperature ...
... in the surrounding environment ...
... (i.e., ambient temperature; ...
... Lowell ...
... and Spiegelman 2000).

S2 [015] Controlling body temperature thus requires increased energy expenditure by homeotherms when ambient temperatures depart from the thermoneutral zone (i.e., the range of ambient temperatures in which homeotherms can regulate body temperature with minimal metabolic effort; McNab 2002).

Controlling body temperature thus requires increased energy expenditure ...

... by homeotherms ...

... when ambient temperatures depart ...

... from the thermoneutral zone ...

... (i.e., the range ...

... of ambient temperatures ...

... in which homeotherms can regulate body temperature ...

... with minimal metabolic effort; ...

... McNab 2002).

S2 [016] Because survival and reproduction require that energy intake equal or exceed energy expenditure, operating in ambient temperatures outside the thermoneutral zone can reduce fitness over time (Angilletta et al. 2010, Boyles et al. 2011).

Because survival ...

... and reproduction require ...

... that energy intake equal ...

... or exceed energy expenditure, ...

... operating ...

... in ambient temperatures outside the thermoneutral zone can reduce fitness ...

... over time ...

... (Angilletta et al. 2010, ...

... Boyles et al. 2011).

S2 [017] Although the influence of ambient temperature on metabolism in homeotherms is understood relatively well, many animals are heterotherms that can temporarily or partially enter poikilothermy (in which body temperature tracks ambient temperature; Withers et al. 2016).

Although the influence ...

... of ambient temperature ...

... on metabolism ...

... in homeotherms is understood relatively well, ...

... many animals are heterotherms ...

... that can temporarily ...

... or partially enter poikilothermy ...

... (in ...

... which body temperature tracks ambient temperature; ...

... Withers et al. 2016).

S2 [018] Heterothermy is common among mammals and birds (Geiser, 2004; Geiser & Ruf, 1995; McKechnie & Mzilikazi, 2011; Ruf & Geiser, 2015) and can reduce energy expenditure during both hot and cold periods (Körtner & Geiser 2008, Stawski and Geiser 2012, Boyles et al. 2016, Nowack et al. 2017, Reher & Dausmann 2021).

Heterothermy is common ...

... among mammals ...

... and birds ...

... (Geiser, 2004; ...

... Geiser & Ruf, 1995; ...

... McKechnie & Mzilikazi, 2011; ...

... Ruf & Geiser, 2015) ...

... and can reduce energy expenditure ...

... during both hot ...

End of Sample Audit