

A Wet and Wild Invasion

Do Norwegian Slugs Care About Rain?

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Background

Land molluscs depend on moist environments and therefore thrive in the Norwegian climate. In 1988, the **invasive *Arion vulgaris*** joined the **native *Arion ater*** in inhabiting the **Norwegian climate**. *A. vulgaris* has since spread at a rapid rate (Hatteland et al., 2013).

We looked at the **rate of increase** and **relative abundance** of *A. vulgaris* and *A. ater*, in context of **precipitation in summer months**.

Methods

Slug occurrence records from GBIF were combined with summer precipitation data (June-August) from MET Norway for Bergen, Stavanger, and Oslo. Data were merged by city and year. The effect of summer precipitation on *A. vulgaris* population growth was analyzed using linear models, while effect on relative abundance of *A. vulgaris* and *A. ater* was examined using generalized additive models (GAMs).

Results

Limitations in data contribute to lack of significant results. The results do not provide evidence that *A. vulgaris* abundance increases with precipitation, or that precipitation alone drives differences in abundance between the two species.

Figure 1: Rate of increase

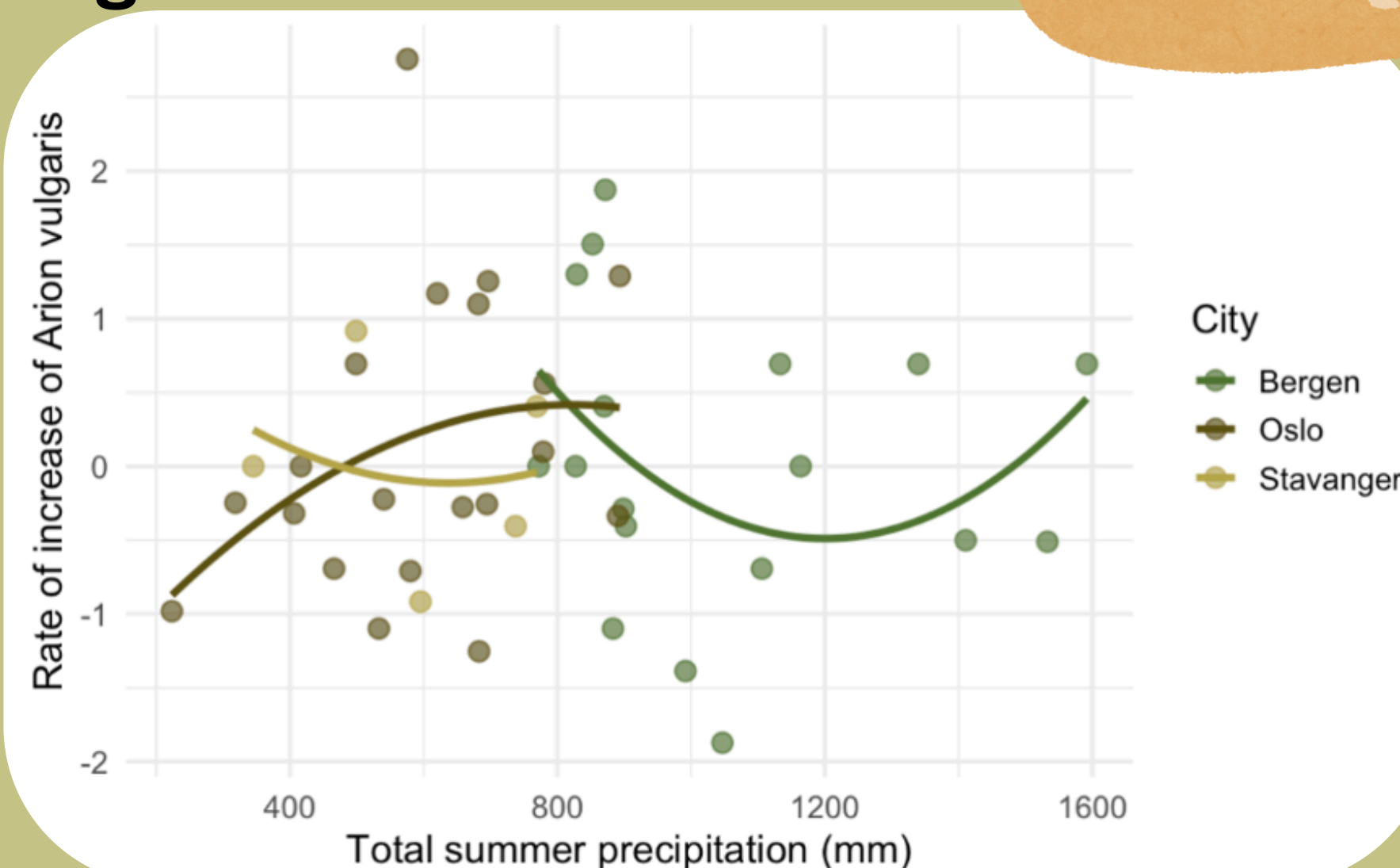
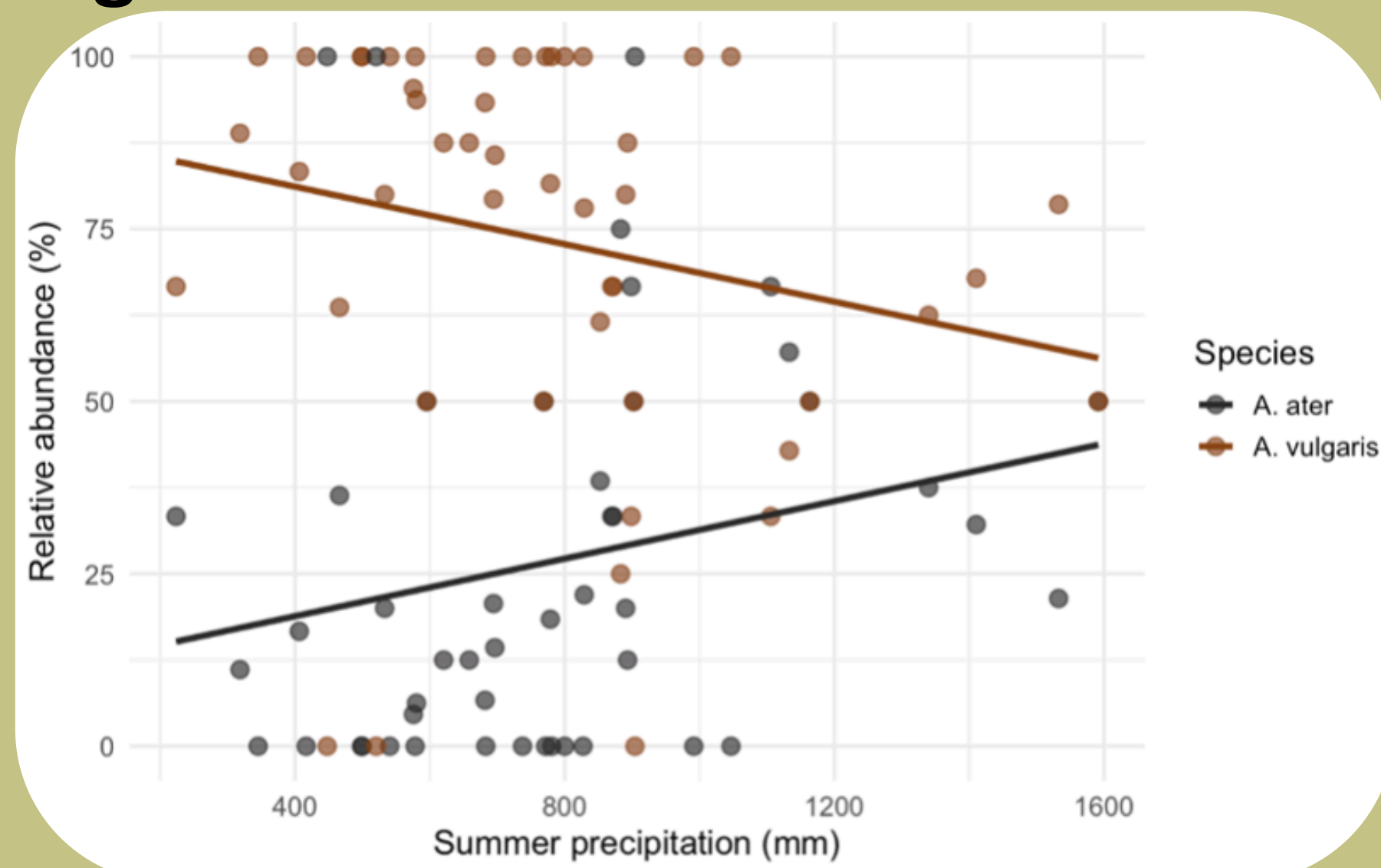


Figure 2: Relative abundance



References:

GBIF.org. (12. September 2025). GBIF occurrence download. [Legg til litt tekst](#)
GBIF.org. (18 September 2025). GBIF occurrence download. <https://doi.org/10.15468/dl.p66uty>
MET Norway, 2025. Frost API. Norwegian Meteorological Institute. Available at: <https://frost.met.no> [Accessed 12 October 2025].
Hatteland, B.A., Roth, S., Andersen, A., Kaasa, K., Støa, B., Solhøy, T., 2013. Distribution and spread of the invasive slug *Arion vulgaris* Moquin-Tandon in Norway. *Fauna Norv.* 32, 13–26. <https://doi.org/10.5324/fn.v32i0.1473>



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