

Marine ecosystems are more sensitive to climate change than terrestrial ones



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Israel's State of Nature Report 2022

[Link](#)

Land use

Vegetation cover and formation

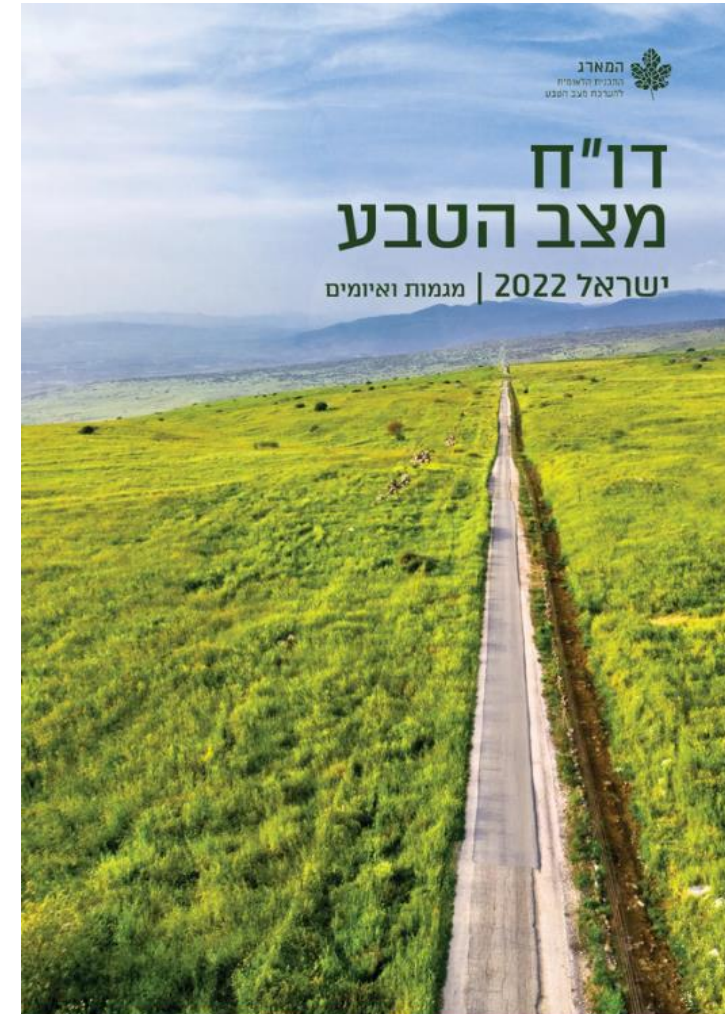
Fire in natural and afforested landscapes

Management and protection of natural and afforested landscapes

Connectivity and fragmentation of open landscapes

Light pollution – ecological and spatial aspects

[Climate change and its impact on biodiversity](#)



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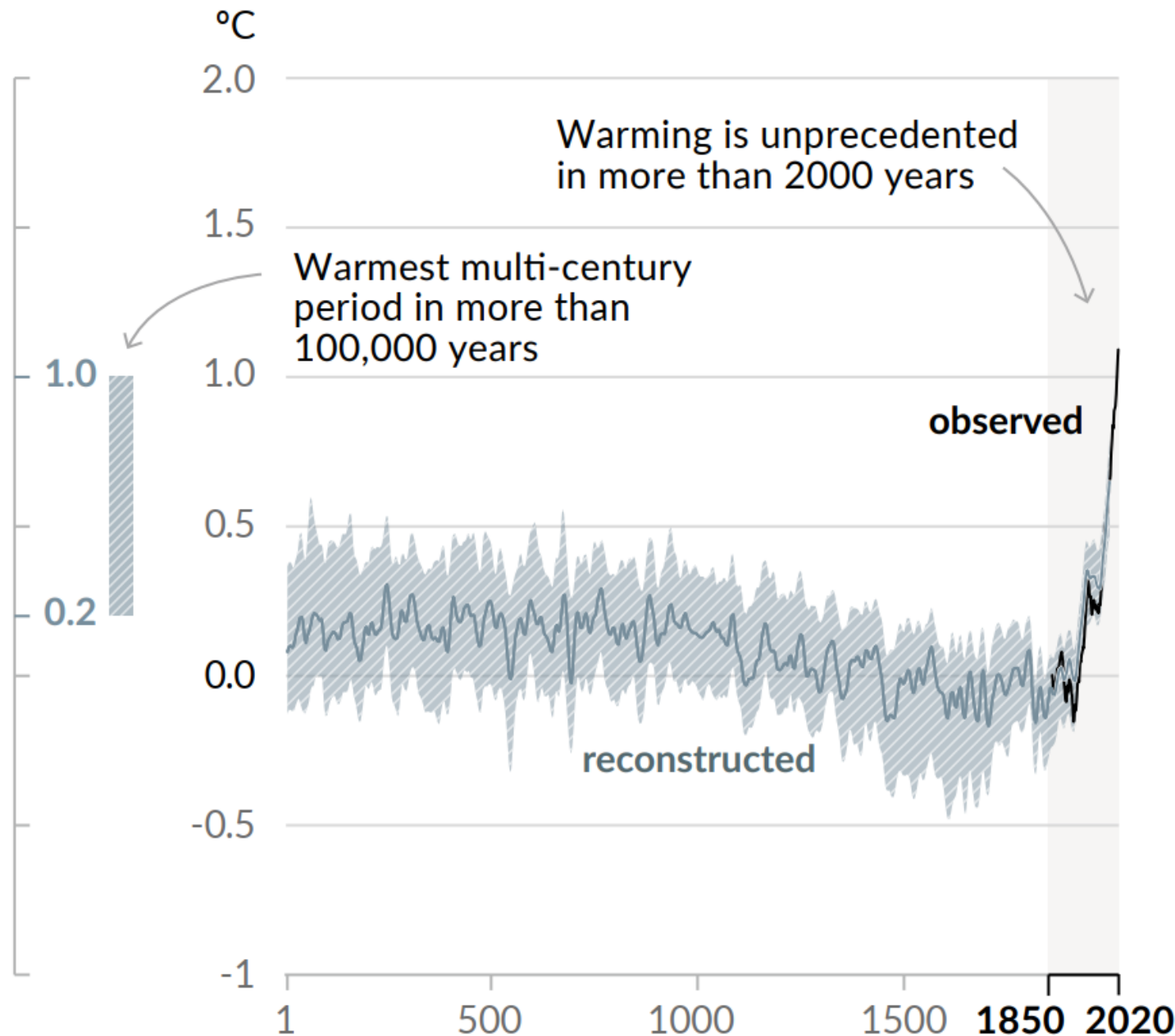




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Climate change

a) Change in global surface temperature (decadal average) as **reconstructed** (1-2000) and **observed** (1850-2020)



(Masson-Delmotte et al. 2021)

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Theory

Grey Wolf



Photo: Hamaarag's cameras

Cristataria hermonensis



Photo: Oz Rittner

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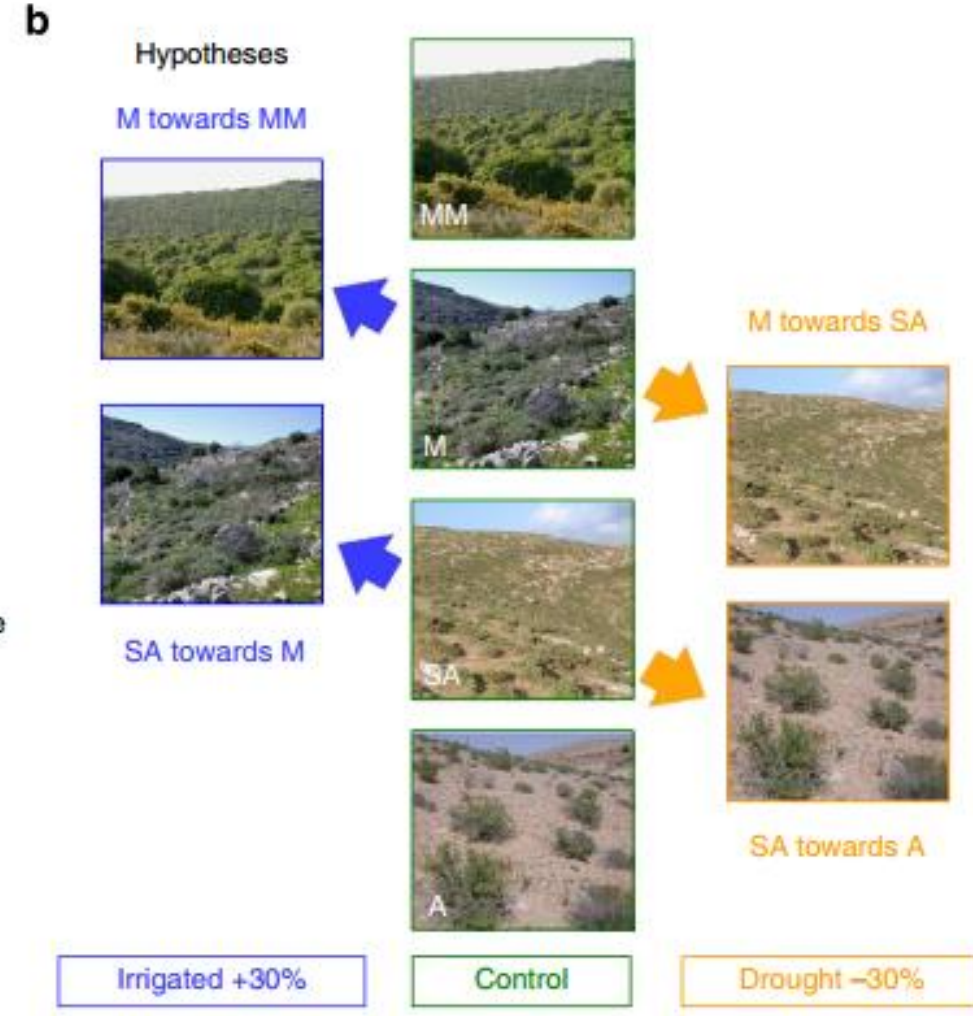
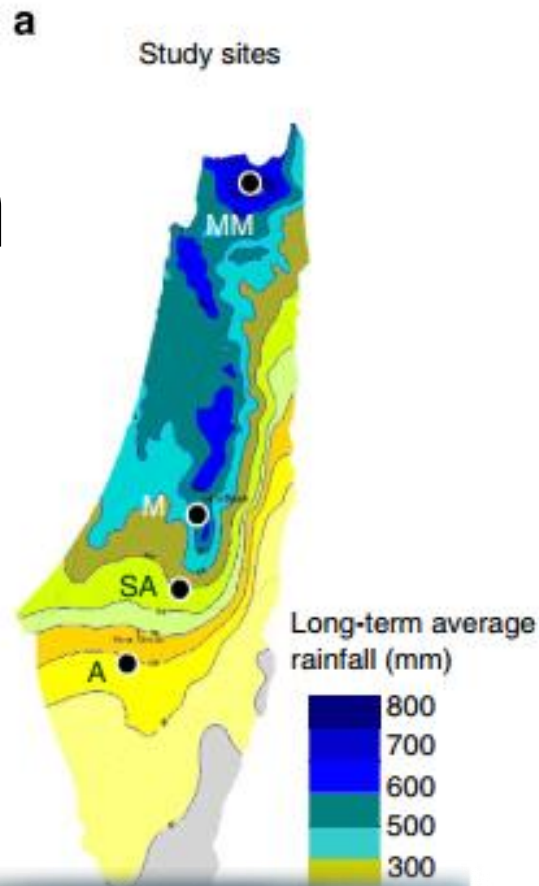


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Droughts' impacts on flora



(Tielbörger et al. 2014)



(Kröel-Dulay et al. 2022)

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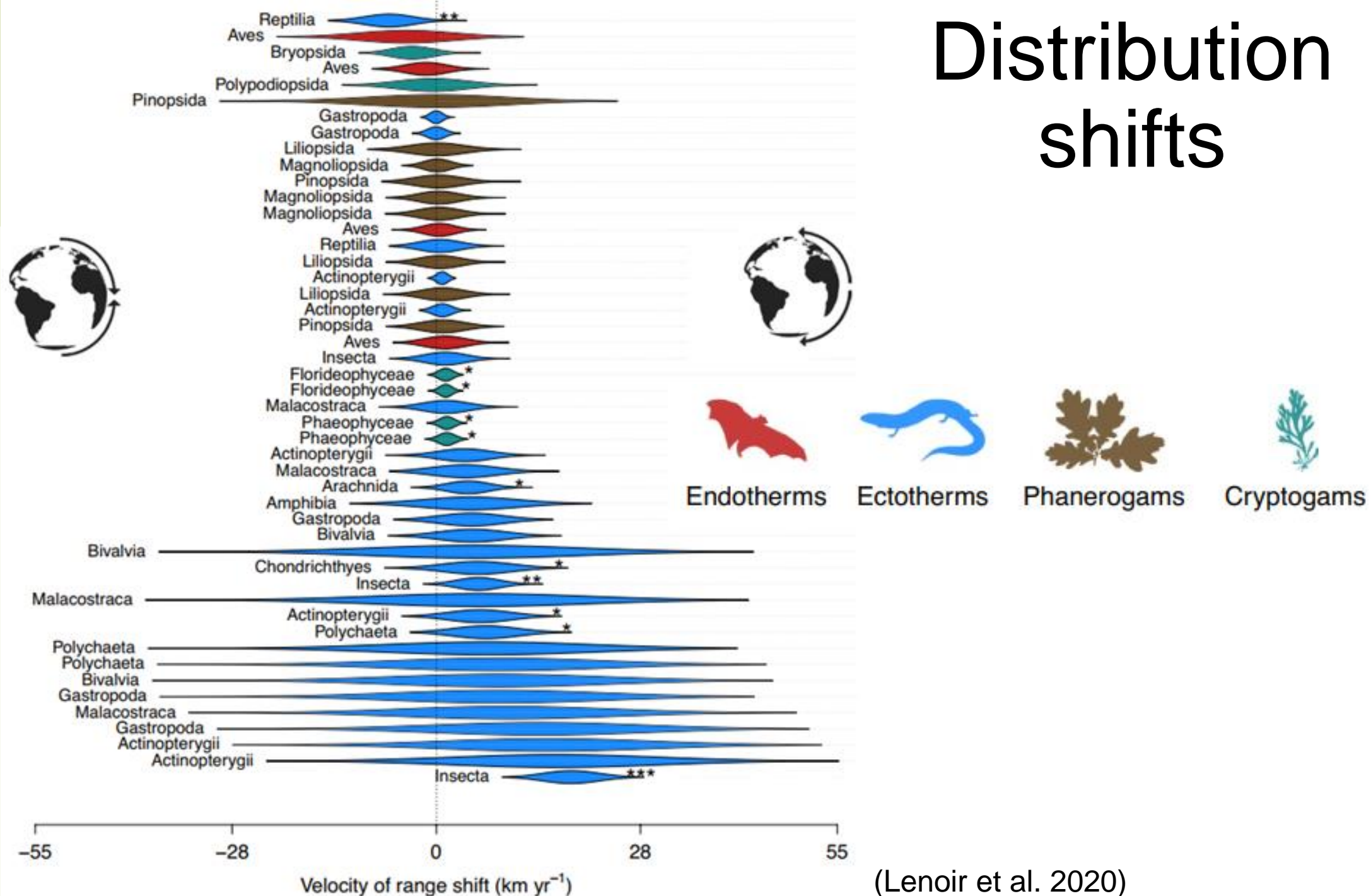
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Distribution shifts



(Lenoir et al. 2020)

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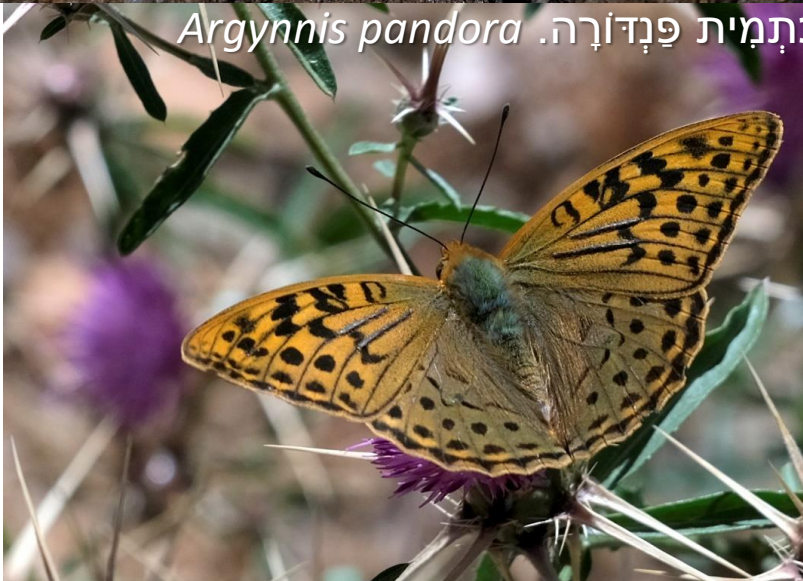
Distribution shifts



Pyrgus serratulae. אַפְרִית הַחֶמְשָׁן.



Parnassius mnemosyne. שְׁלֵגָן חֶרְמוֹנִי.



Argynnis pandora. אֶתְמִית פְּנִדוֹרָה.



Callophrys rubi. יֶרֶקִי אִירוּפִי.

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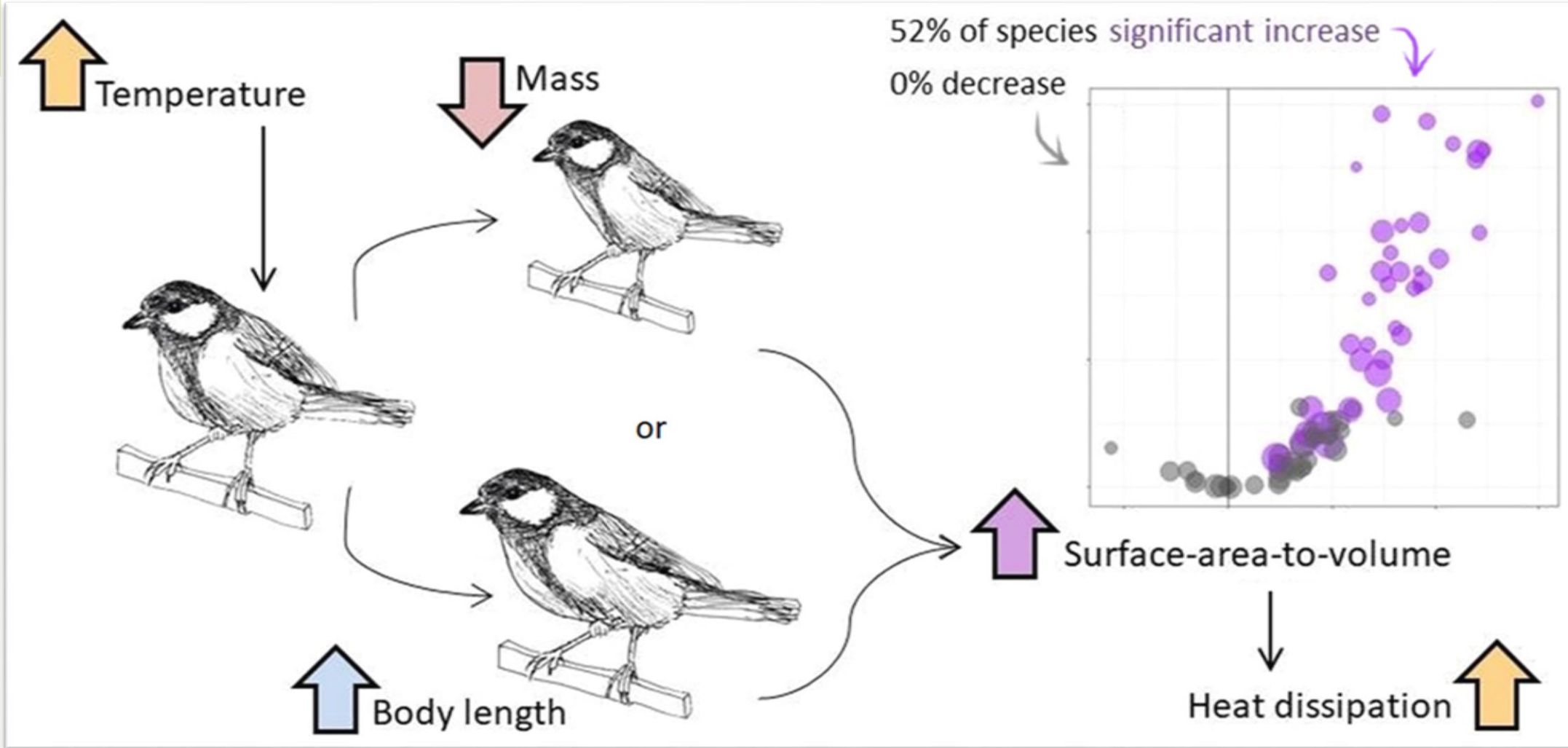


Photos: Moshé Laudon

(Comay et al.
2021)



Morphological Shifts



(Dubiner & Meiri 2022)



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Extreme Events



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(Genin et al. 2020)

Photos: Yoav Lindman, Eric Diamant, Assaf Zvuluni and anonymous photographers



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Wide scale local extinctions

rocky intertidal



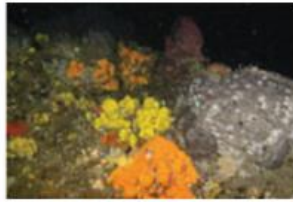
rocky subtidal



soft subtidal



mesophotic



תצלום: Ivo Gallmetzer

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(Albano et al. 2021)



Summary

- Climate change is already here, and it will exacerbate the more we ignore it
- Its impacts on biodiversity include body size reduction , distributional shifts, local extinctions and mass mortality events
- Marine ecosystems are more severely impacted than terrestrial ones, probably due to lower heat tolerance



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