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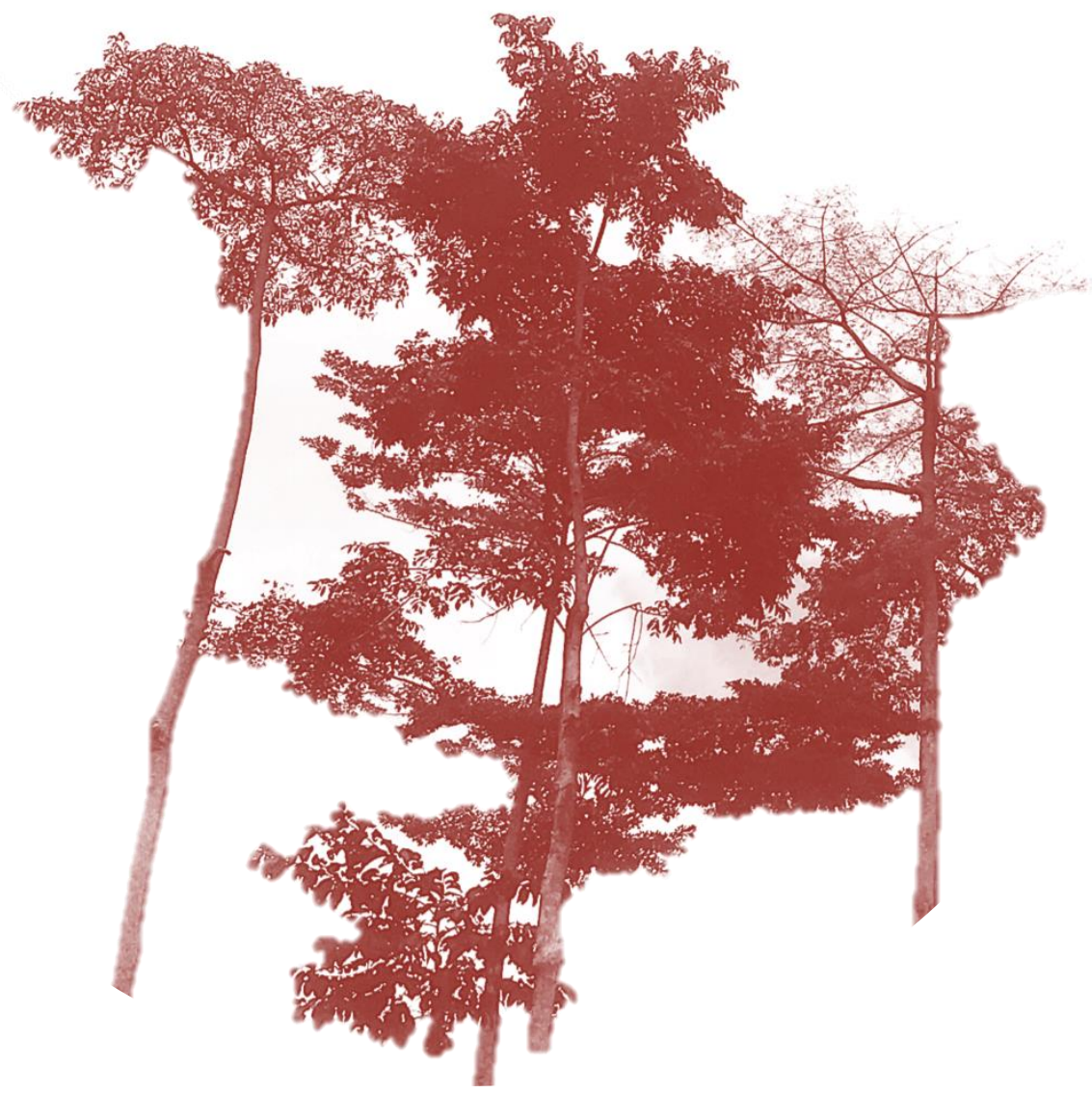


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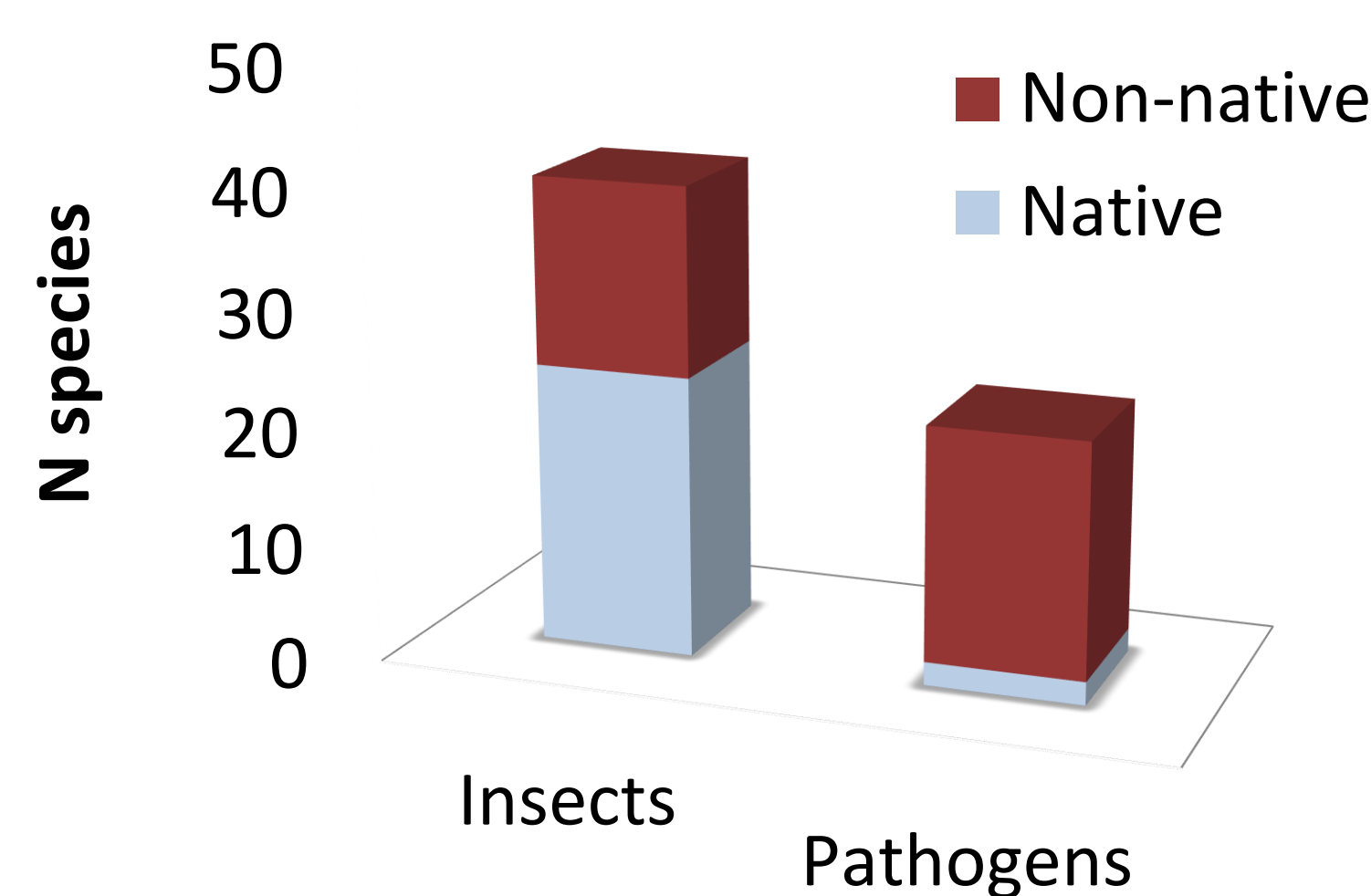
Africa: a new frontier for tree invaders?

Ignazio Graziosi^{1,2,3}, Mathias Tembo⁴, Jean Kuate⁵, Alice Muchugi⁶.

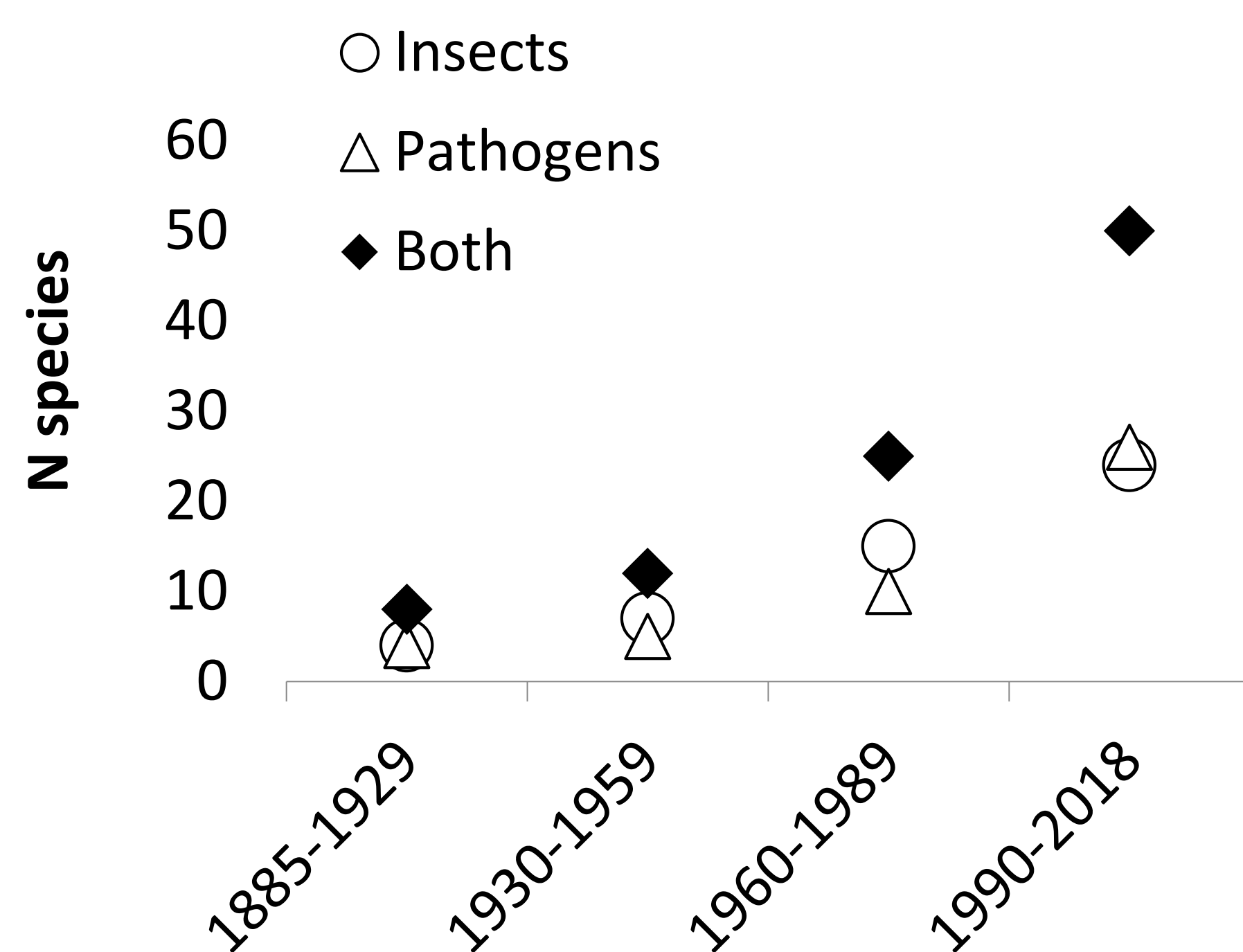
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An increasing multitude of non-native insects and pathogens are targeting indigenous **trees** of natural forests, agroforestry systems, and exotic trees in planted forests in **Africa**¹.

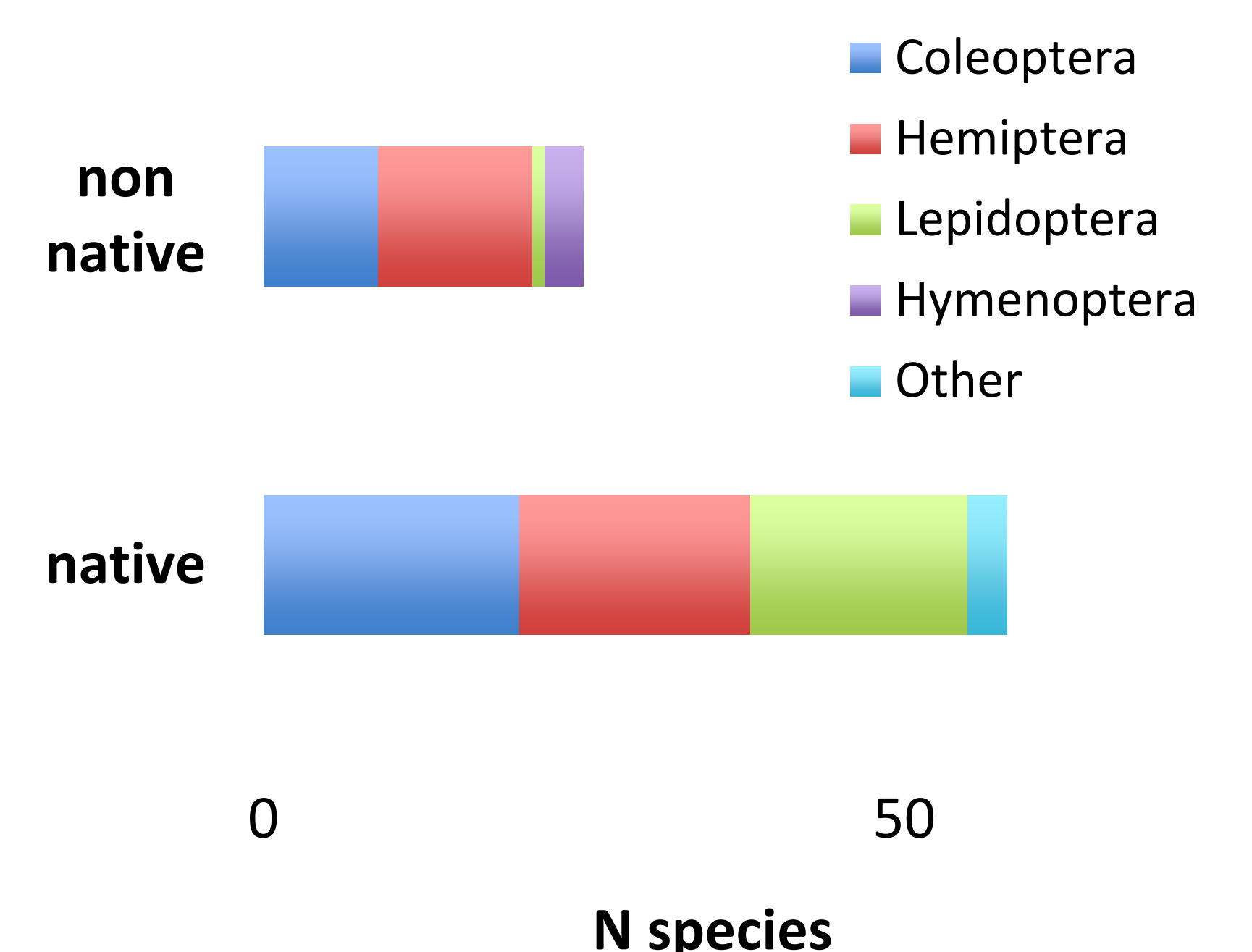


The **accelerating introduction** of non-natives, and the damage to tree-based landscapes from native pests and diseases is a threat to rural livelihoods, economic development and biodiversity.



Several **destructive forest insect pests** have been established and are spreading since 2000², including:

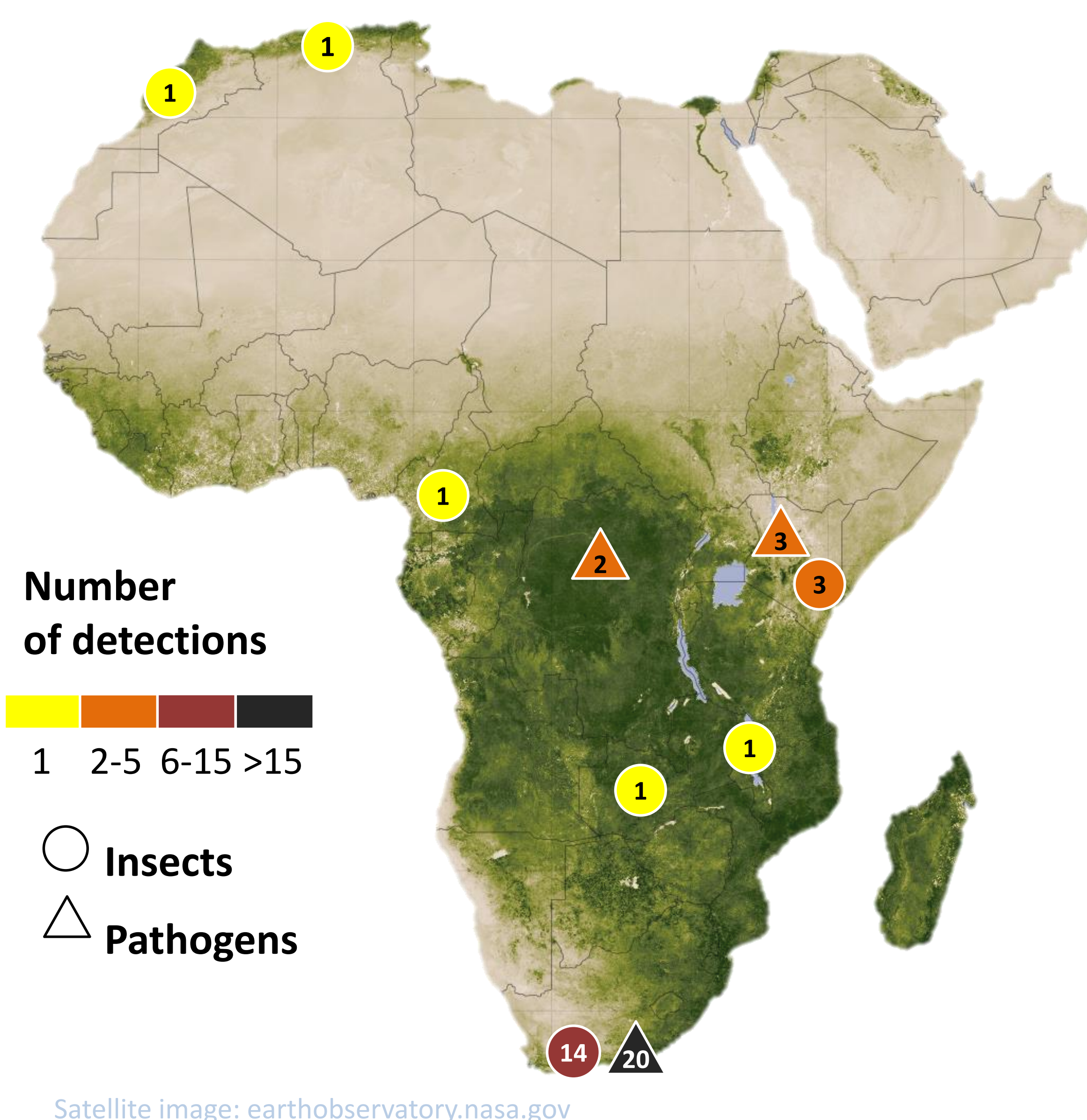
- Blue gum chalcid *Leptocybe invasa* (Hymenoptera: Eulophidae).
- Sirex wasp *Sirex noctilio* (Hymenoptera: Siricidae).
- The recently detected polyphagous shot hole borer *Euwallacea whitfordiodendrus* (Coleoptera: Curculionidae)³.



Number and distribution of non-natives are affected by⁴:

- The higher capacity of some country-level plant protection organizations to detect introductions.
- Introduction of invasives through international exchange of plant material for forestry.

Data availability and limited biosecurity of some countries are **limiting** the ability to tackle these invasions.



Biological control and forest management practice are being used to **manage some invasives**:

- But other pests and pathogens remains poorly characterized and managed.
- Gene banks for indigenous and exotic trees in Africa are available⁵, and offer a chance to promote programs based on **tree resistance**.

Improving knowledge of taxonomy, distribution and damage will be crucial for:

- Enhancing country and regional-level **intervention capacity**.
- Developing continent-wide strategies to manage this emergency.

References: ¹Graziosi et al., Plants People Planet (2019); ²Hurley et al., Biological Invasions (2017); ³Paap et al, Australasian Plant Pathology (2018), ⁴Wingfield et al., Nature (2015), ⁵Dawson et al., Forest Ecology and Management (2014).

To learn more: *Pests and diseases of trees in Africa: a growing continental Emergency* (<https://nph.onlinelibrary.wiley.com/doi/full/10.1002/ppp3.31>), ICRAF Genetic Resources Unit (<http://www.worldagroforestry.org/products/grunew/>).

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