# Message to the Polylepis congress from Jon Fjeldså

**Dear friends**

**We all share a vision for a better environment, and an interest in the Polylepis forests of the Andes.**

**Unfortunately, too many private and job-related obligations these days forced me to cancel my plans to join you, but my thoughts are with you.**

- In the next slides, I will emphasize some highlights from my past work in the Andes,
- some fragments of my current research in many other parts of the world.
- and a comment on why Polylepis forests still stand out as something special.

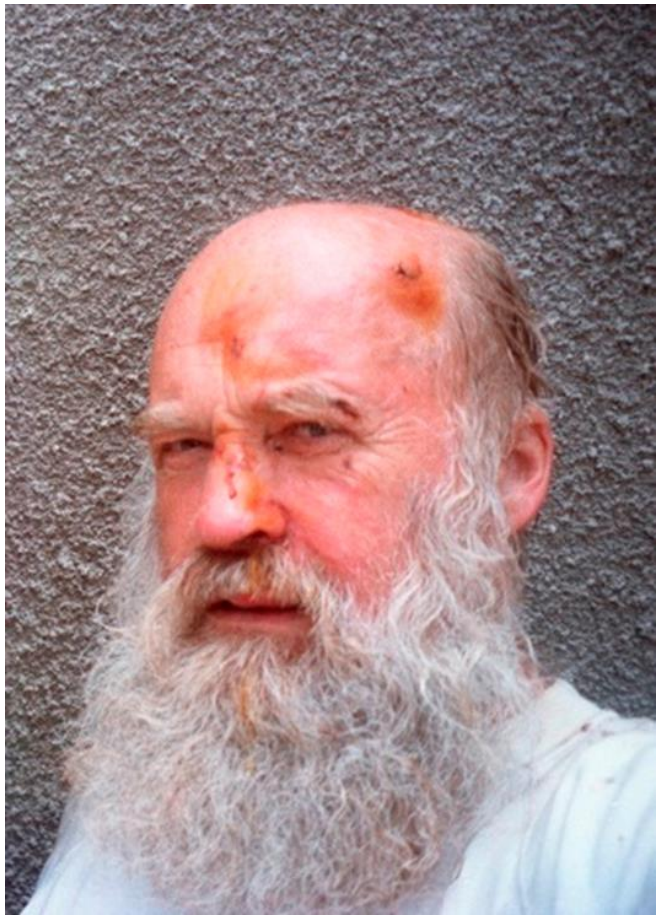


Photo with some bruises obtained during fieldwork

1980s: Little was known about Polylepis forests, when Niels Krabbe and I explored the Andes to collect data for the 'Birds of the High Andes'. *Polylepis-Gynoxys* forests, *Puya* stands, etc., were known as rare habitat patches. Few people had considered them as representing a significant – and vanishing -ecosystem.

# 1987: Our first comprehensive survey for *Polylepis* forests, with 62 campsites through Peru and Bolivia. Supplemented with the studies by Michael Kessler, and leading to development of the first map and analysis to explain the role of human behaviour in causing the patchy distribution of *Polylepis*.

**4.1.E. Potential cover of forest in the highlands**

We show below the present distribution of *Polylepis* forest, woodlands, and bushlands above 3,500 m elevation (Fig. 4-4), together with our best estimates of the potential areas for this kind of vegetation under present-day climatic conditions (Fig. 4-5). This is based on criteria given in chapter 6.1, and careful examination of topographic maps and satellite maps.

It should be noted that the individual black dots in Fig. 4-4 represent an area within which forest patches exist, but the individual patches are often only of few hectares extension. Detailed data are provided in Appendix II.

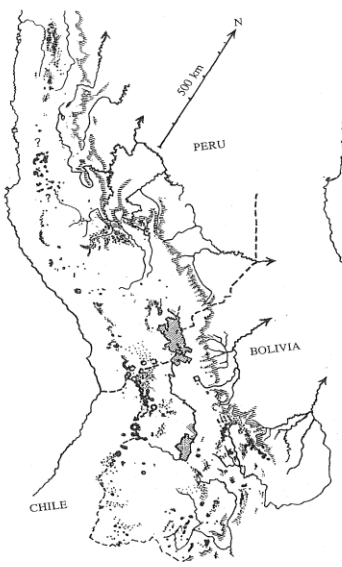



*Figure 4-4. The present distribution of* Polylepis. *Black dots: areas where small or larger patches are still found (for Peru: <2% of the original cover, for Bolivia 10% of the original cover). Horizontal shading: humid treeline, potentially with some admixed* Polylepis.

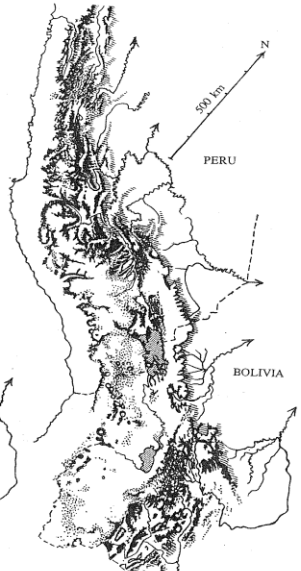
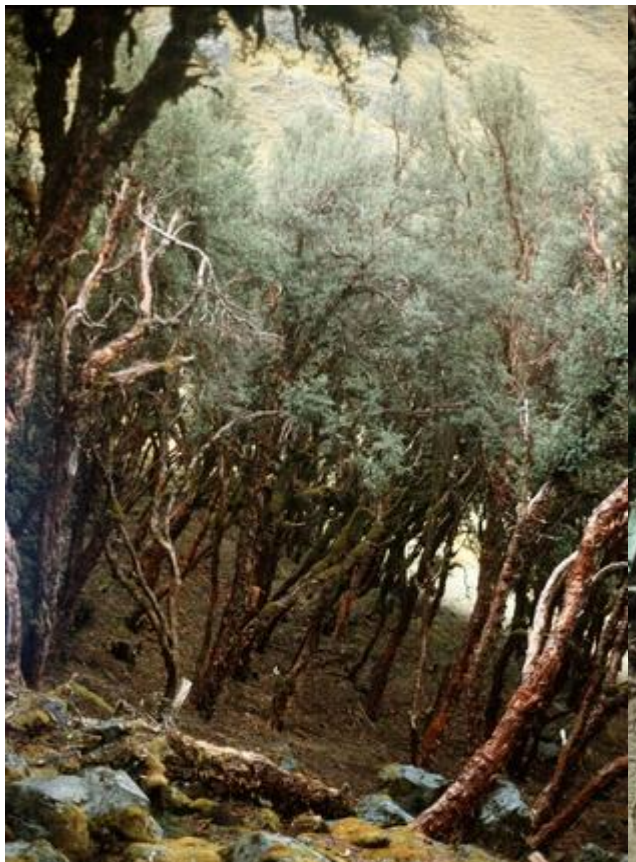



*Figure 4-5. The potential distribution of* Polylepis *under present-day climatic conditions.*

1989. The avakening of Tino! We spent two weeks together, in beautiful *Polylepis* forests in highlands SE of Abancay.

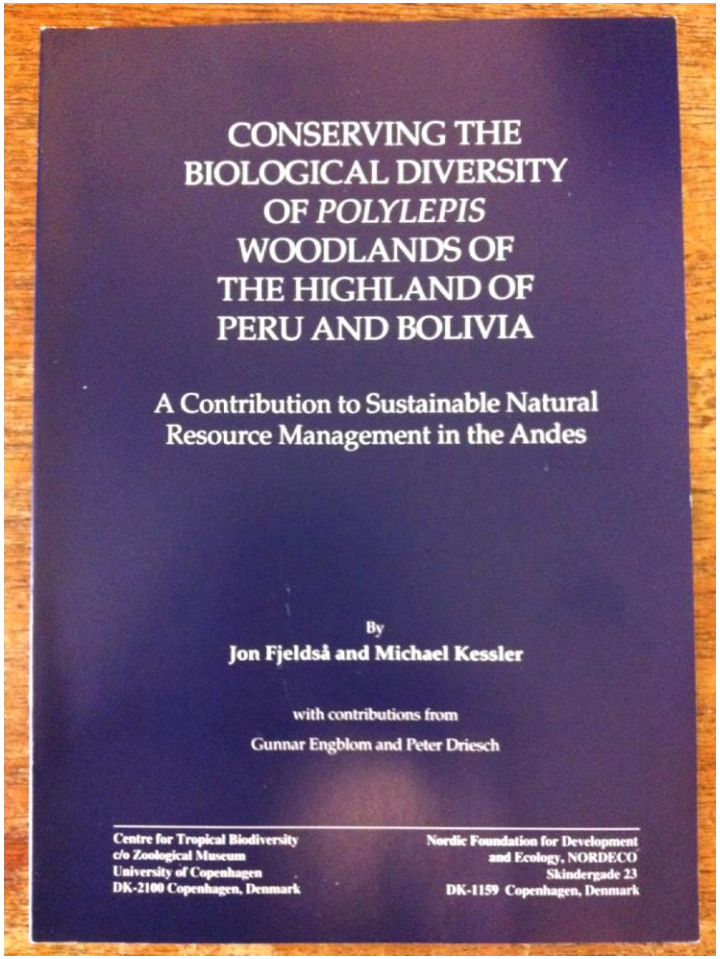
I told Tino to find his own niche: ”You don’t need to join all those who run for the money that was available for saving the Amazon rainforest. Your challenge is right at your doorstep - in the highland! So work to restore the vanishing highland environment with the unique Polylepis woodlands.”

Tino, you kept your promise!




The first action: a poster, inspired by the experience from the highland SE of Abancay … and specifically designed for the locals of this area … distributed to all households in the area. Every local forest patch remains today, judging from satellite imagery.

1996: our best attempt (as non-natives) to analyze and understand the situation, and advice on how conservation could be achieved in the Andean highland.



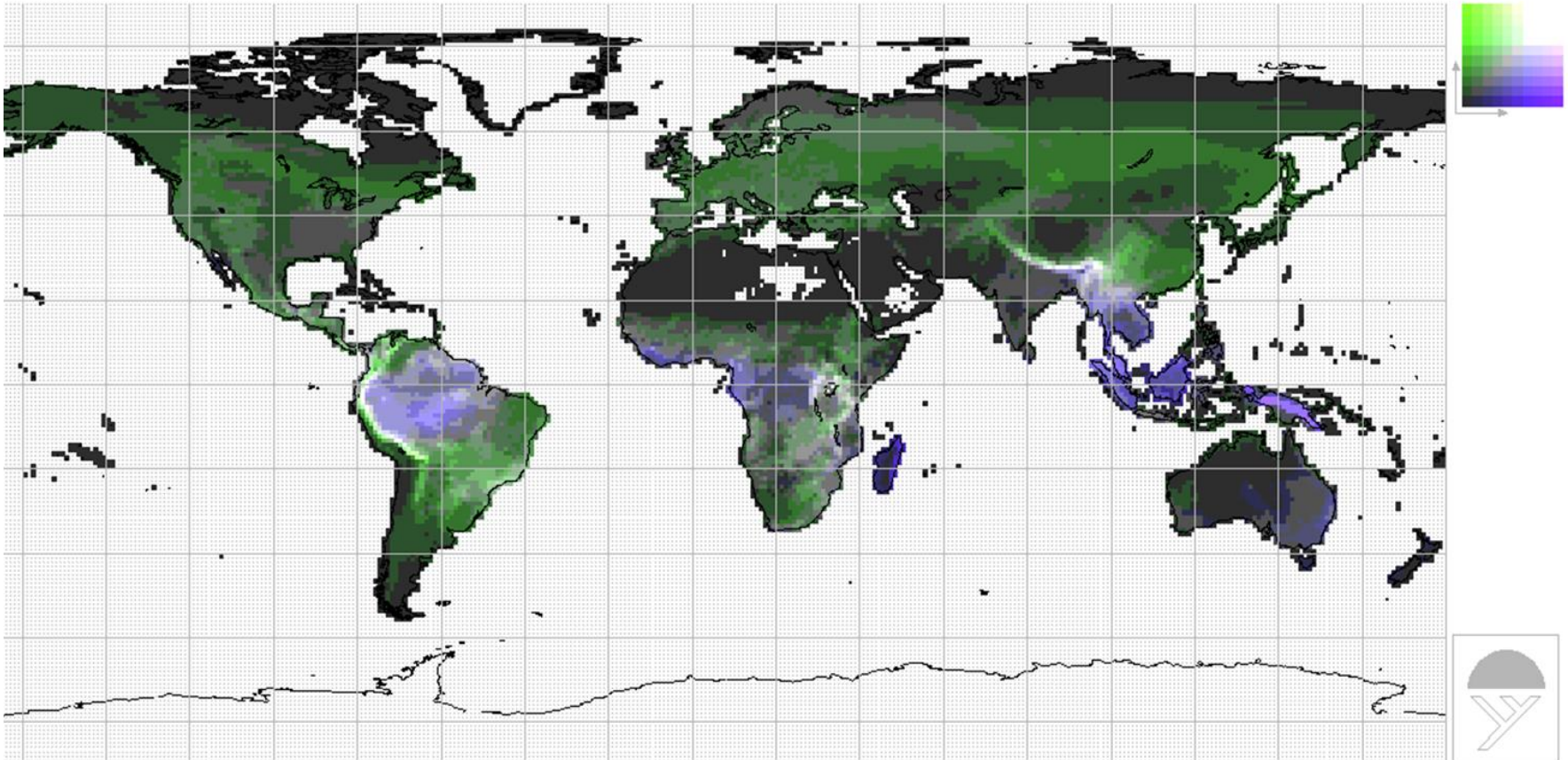

- My appeal to the 3rd Polylepis Conference:
- I hope – and I am sure – that you can come up with a better map, and better and more realistic approaches for conservation
- And that the next years will see even greater results.

Bits of my current work:

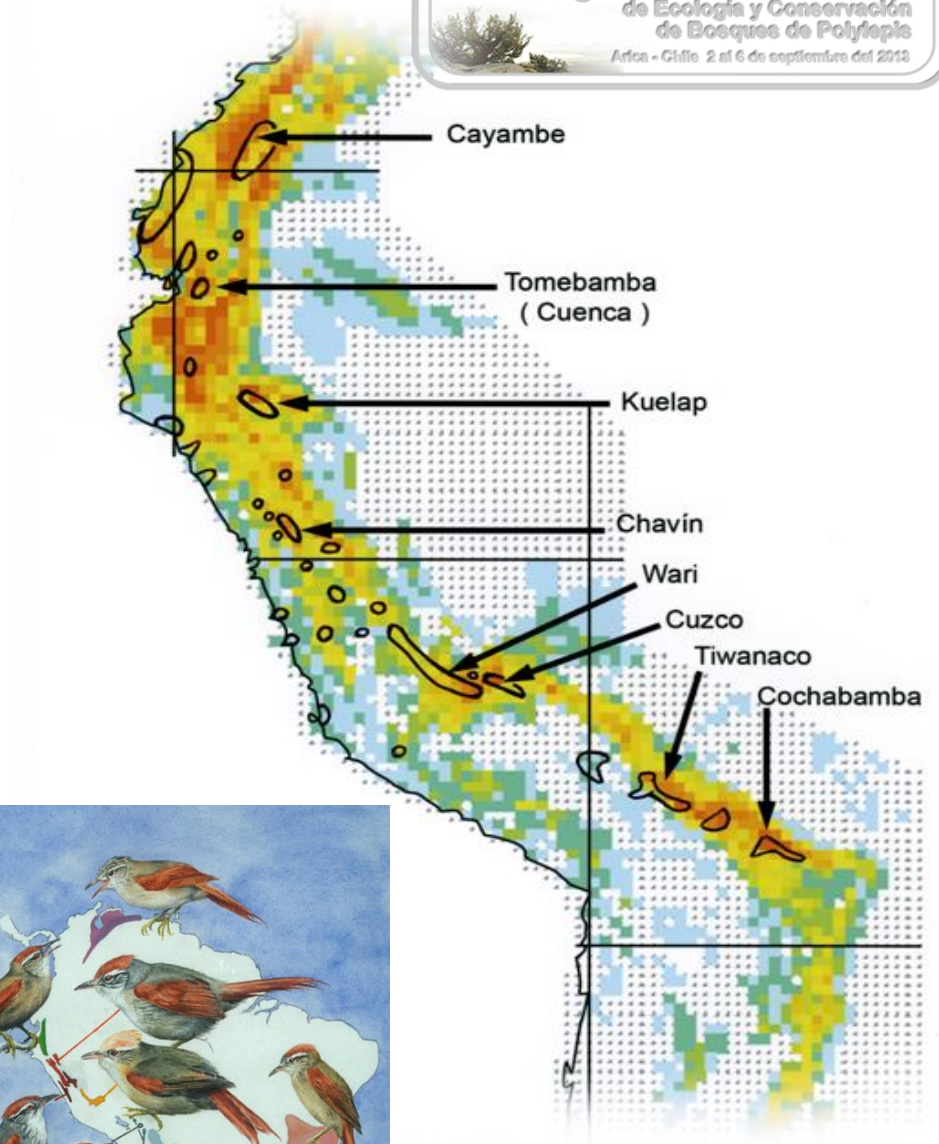
My career, as researcher, brings me around the world, as my aim is to gain broader insights into what governs the variation in biodiversity, globally. However, it is always a great challenge to make the results useful for those who do practical conservation work.

# By working globally I try to find out what is behind the global variation in biodiversity.

On this map passerine birds, species richness expressed as varying degrees of brightness, the most ancient bird species are shown in purple, those representing speciation during the Pleistocene as green.

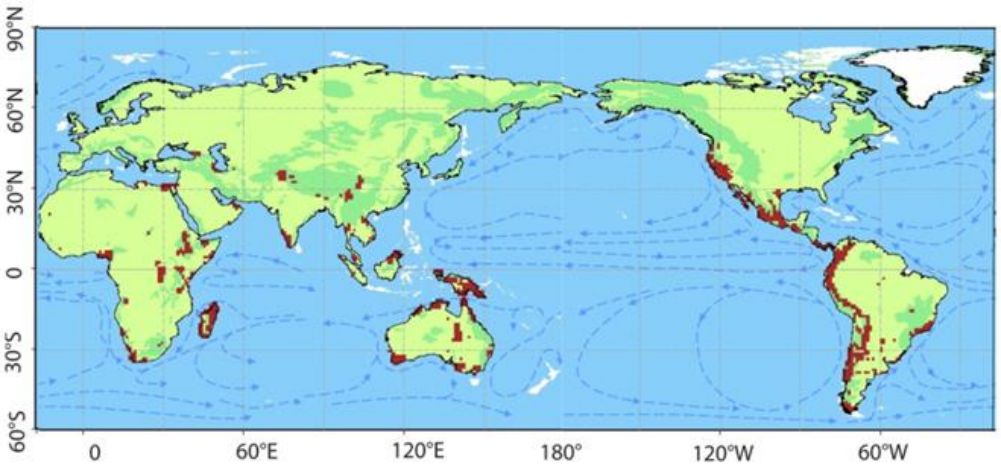


A key question has always been why certain montane regions have so high numbers of small-ranged (endemic) species (warm colours), and why centers of human population growth were so often in the same places (black outlines)




- Around the world, predictable local conditions allow species – and people – to persist in their local environment - and specialize
- High biodiversity also means high diversity of food resources
- This also implies that conservation strategies must focus on how to maintain healthy environments where there are many people!

New insights emerge from the newest research. The best predictor of endemism, globally, appears to be the thermal stability of certain oceanic currents! Through the interaction with topography, oceanic breezes create predictable local environments within montane regions, and this allows species can persist *in situ*, evolve and specialize over millions of years.

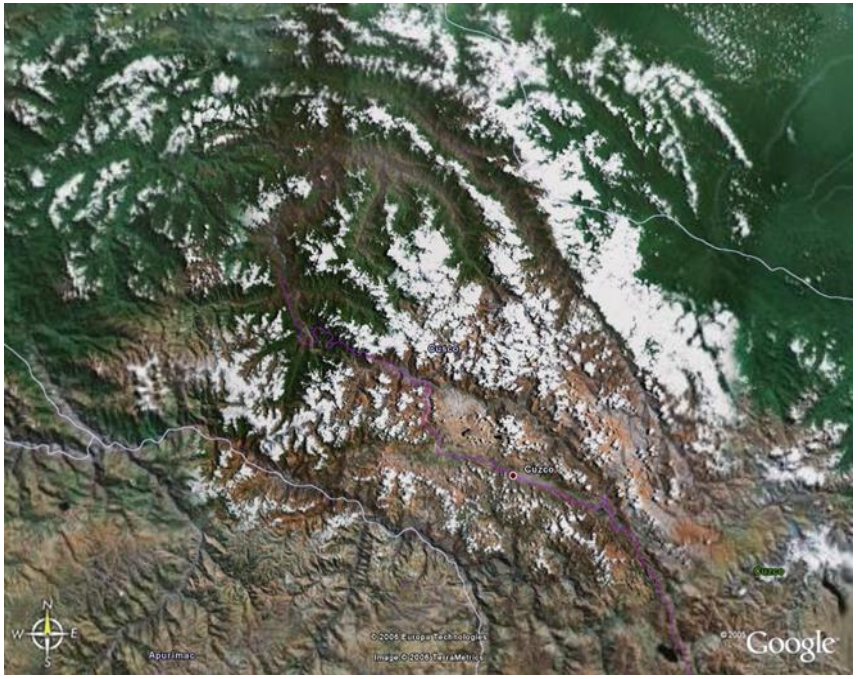



Red areas on the map have more small-ranged vertebrate species than expected from macroecological null models (note that this modelling was not applicable to small islands)

The biological community of Polylepis forest is associated with local environments where predictable climate conditions allowed species to persist and specialize.

- Montane areas with local aggregation of endemic species represent the most unique areas for biodiversity.
- So – please - continue to concentrate conservation efforts in such places.

The interaction between wind systems and complex topography in the Andes create special local environments. Landuse that maintains healthy ecosystems in these complex areas as essential for biodiversity as well as for the livelihood for the people that live in these areas.



**I am happy and proud to know how conservation work has developed in the Andes, following the ideas that Michael Kessler and I outlined based on our work nearly 30 years ago.**

**I am also proud for the recognition of my contribution to putting Polylepis forests on the conservation agenda.**

**Good luck with the next 30 years of conservation efforts!**


Photos: from my visit to Abra Malaga conservation area during the NOC in 2011