

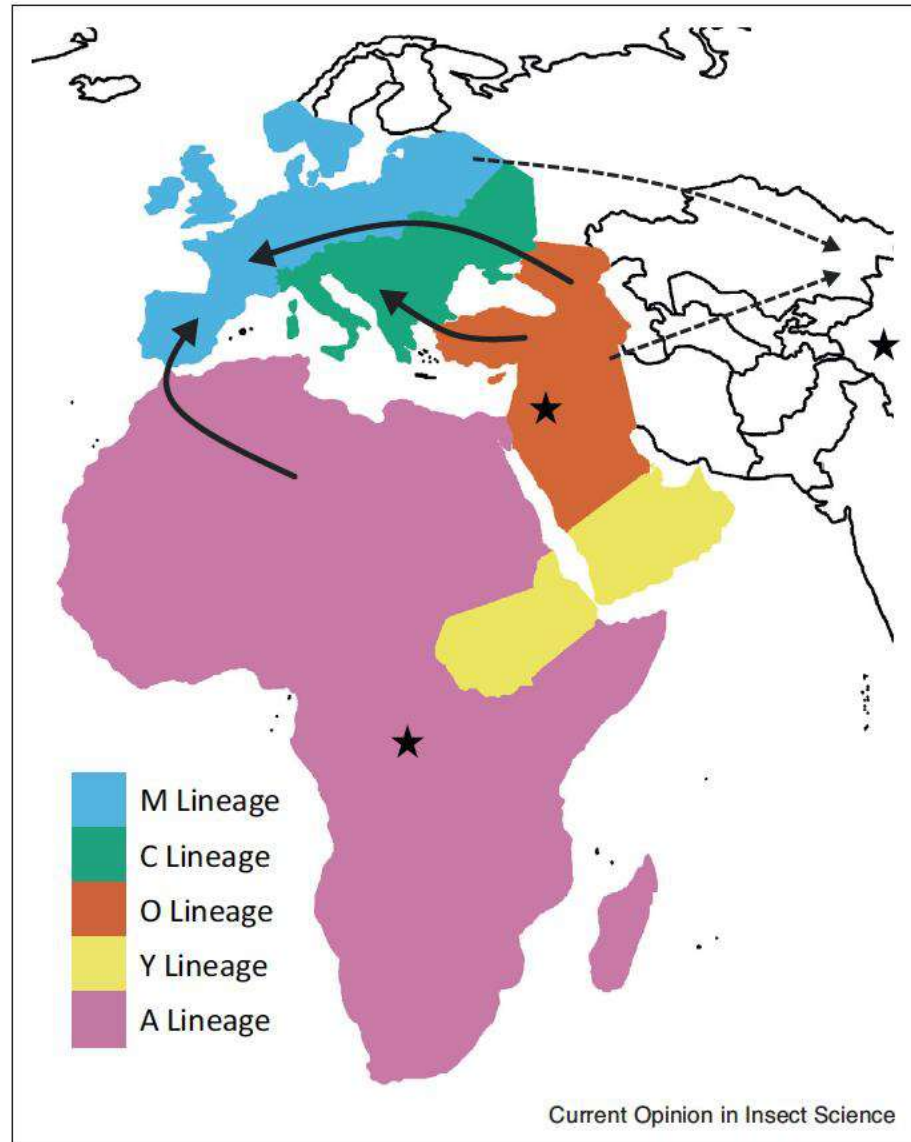


Genetics, Barriers to Trade & Transforming Beekeeping

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African Bee Genetic Diversity

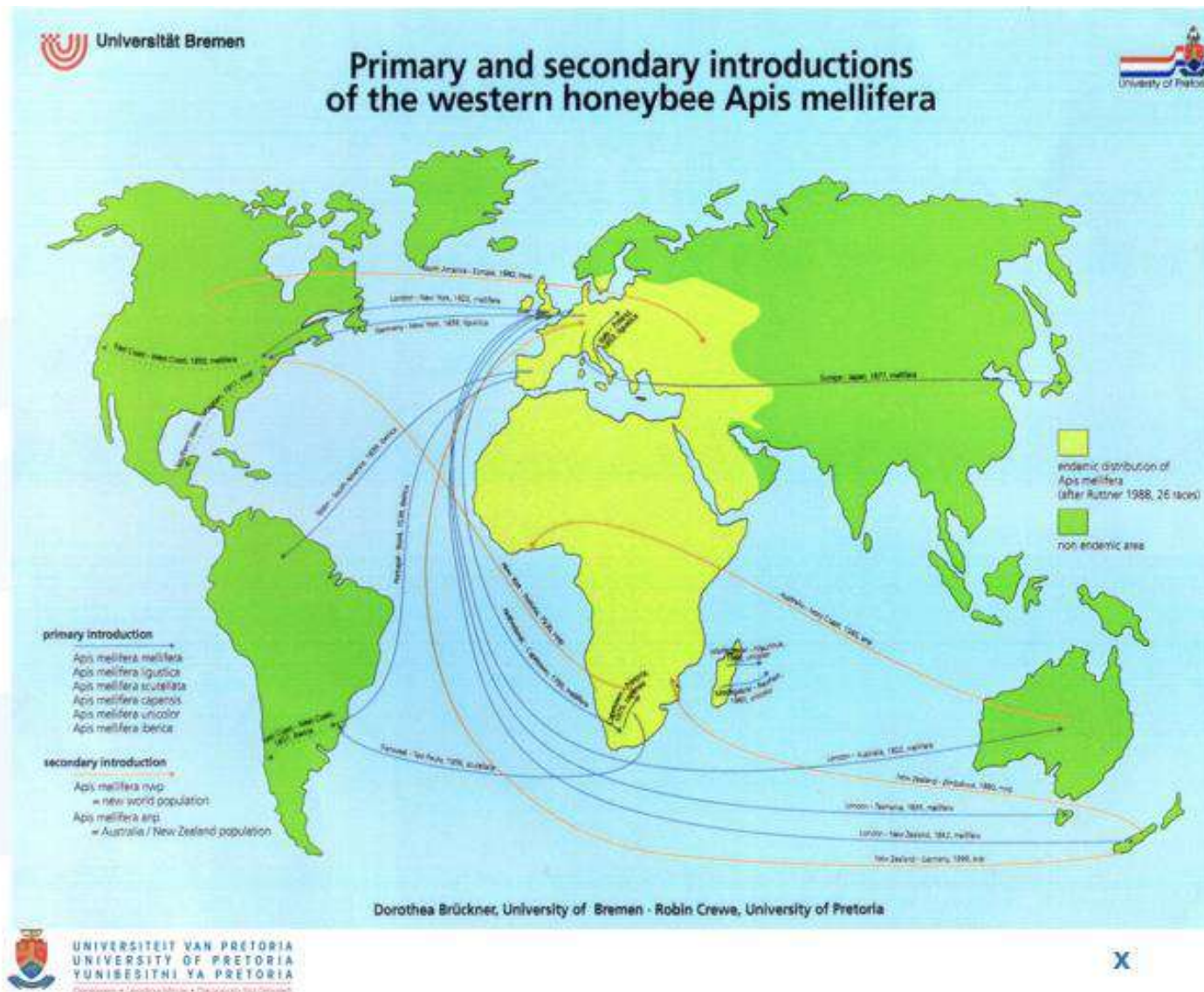


11 sub-species in Africa

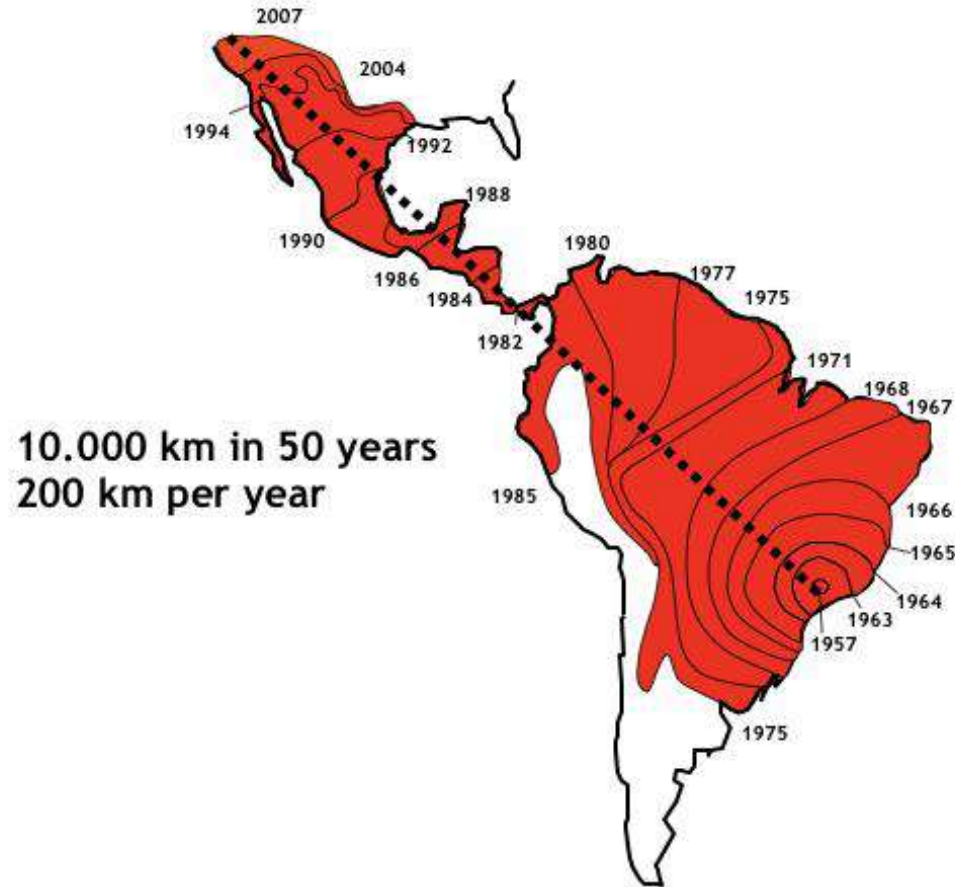
300 million wild colonies

Dogantzis & Sayed
2019 Current
Opinion
In Insect Science

Apis mellifera trade



“Africanised” bees in Americas



Testing of Honey as Barrier to Trade

- Honey samples from Africa should be subjected to advanced profiling - NMR & LC-MS
- This profiling should be used to determine origin and purity of honey samples
- Some of the current analyses may result in false positives with unjustified rejection
- Commitment to unadulterated, natural honey



Transforming Beekeeping

- Product quality and quantity limited by use of traditional beekeeping methods
- Modern commercial beekeeping practises crucial
- Commercial crop pollination for food security and job creation
- Beekeeping to be based on the sustainable use of **indigenous bee populations** adapted to local conditions and disease resistant.



Resources for Pollination



Commerical Pollination SA

Crops	Average hive per ha	Total area planted 2018	Pollination units required (total hives)
Apples	2	24176	48352
Pears	4	12319	49276
Peach	1	6586	6586
Blueberries	4-8	1600	8000
Almonds	4-5	2500	12500
Apricots	1-2	2737	5474
Plums	4-6	5486	27430
Macadamia	2-4	40 000	160 000
Litchi	2	1740	3480
Avocado	2	17500	35000
Nectarines (depends on cultivar)	0-2	2100	2100
Cherry	2	388	776
Onions	2-5	6088	18264
Vegetable seeds (includes carrots & onions)	3-5	1500	6000
Melons	3-5	450	1800
Tomatoes	4-5	2900	11600
Vegetables (e.g. butternut)	2-5	138	552
	Total	128208	397190

