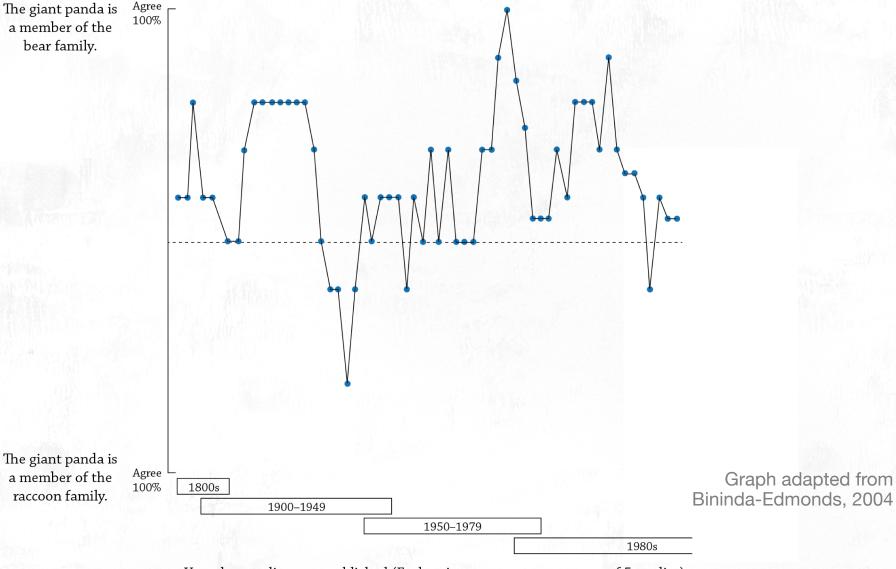
A Tale of Two Pandas

Conclusion: Consensus is a process



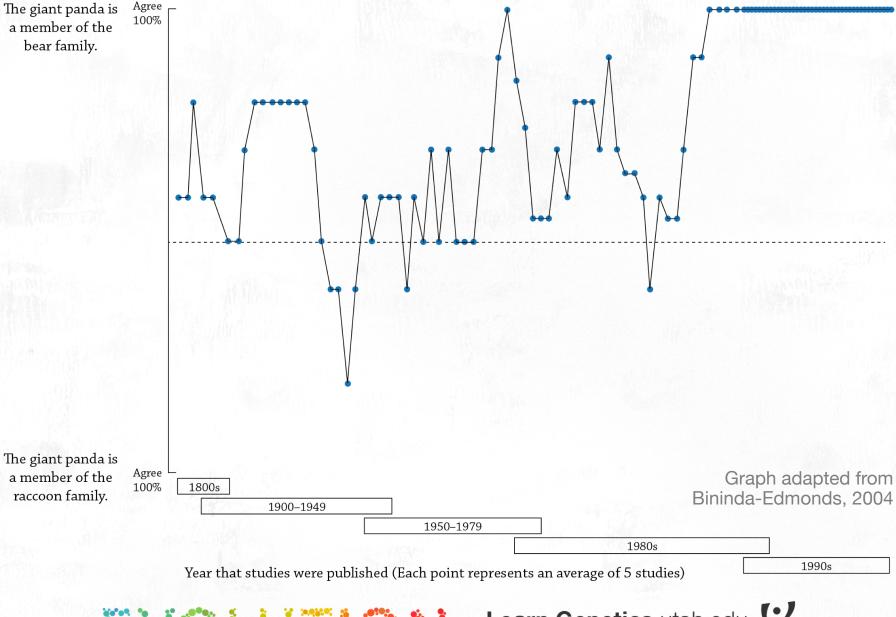




Year that studies were published (Each point represents an average of 5 studies)



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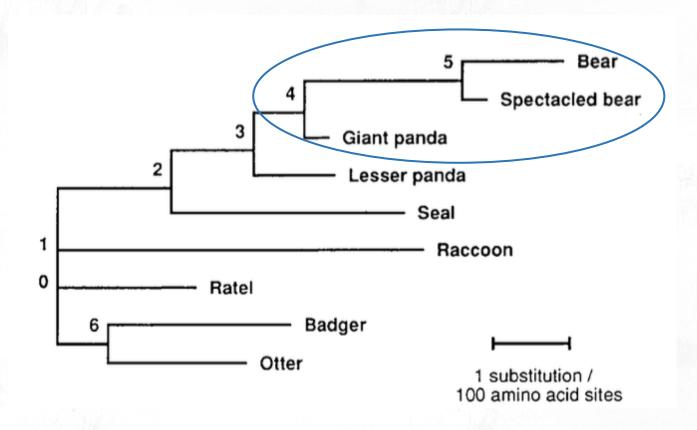
In 1993, researchers revisited the hemoglobin study. They looked at more amino acids across more species.

Giant panda is similar to spectacled bear.

Table 1. Pairwise amino acid differences in 287 sites through α - and β -hemoglobin sequences among carnivore species

						(Ursidae)			
		(Muster	Otter	Lesser panda	Giant panda	Bear (Ursus)	Spectacled bear	(Procyonidae) Raccoon	(Phocidae) Seal
(Mustelidae)	Badger	13	12	17	16	22	21	17	18
	Ratel		11	14	15	21	18	18	17
	Otter			9	12	19	16	20	11
	Lesser panda				6	15	12	18	15
	Giant panda					11	8	20	15
(Ursidae)	Bear (Ursus)						5	21	14
	Spectacled bear							23	17
(Procyonidae)	Raccoon								21

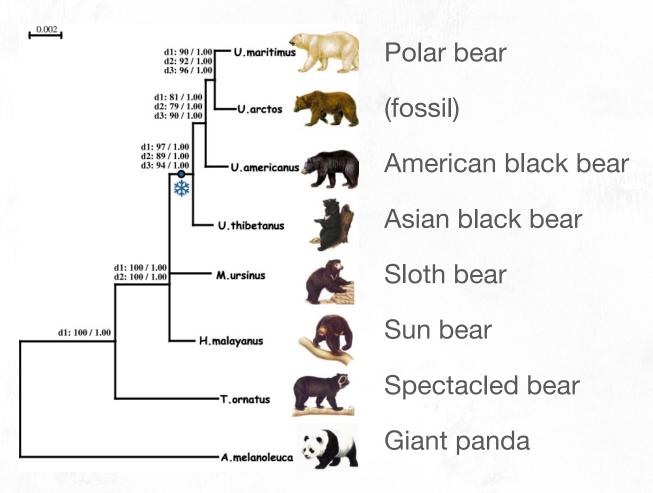
The new data supported a different tree:







In 2008, a DNA analysis of 14 genes across 8 species of bears supported this tree:









The giant panda genome was published in 2009

LAURA SANDERS, SCIENCE NEWS

2.13.09 5:05 PM
EREVEALS

GIANT PANDA GENOME REVEALS WHY IT EATS SHOOTS AND LEAVES

WHAT'S BLACK AND white and read all over? The giant panda genome. All 2.4 billion DNA base pairs of a 3-year-old female panda named Jingjing have been cataloged, researchers report online Dec. 13 in Nature. The information will help researchers understand panda traits such as finicky diets. A thorough understanding of panda genetics may aid conservation efforts for the endangered bear.

www.wired.com/2009/12/giant-panda-genome/



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"Why is there so much uncertainty in those branches of science in which observation provides the major material for scientific theories? In the case of the relationship of the giant panda we have seen that the very same evidence was evaluated very differently by anatomists and by students of behaviour. There was no other way to determine which of the two conclusions was correct except by providing additional data and analysing each piece of evidence more critically. When this was done, everything fell into place."

—Ernst Mayr



