

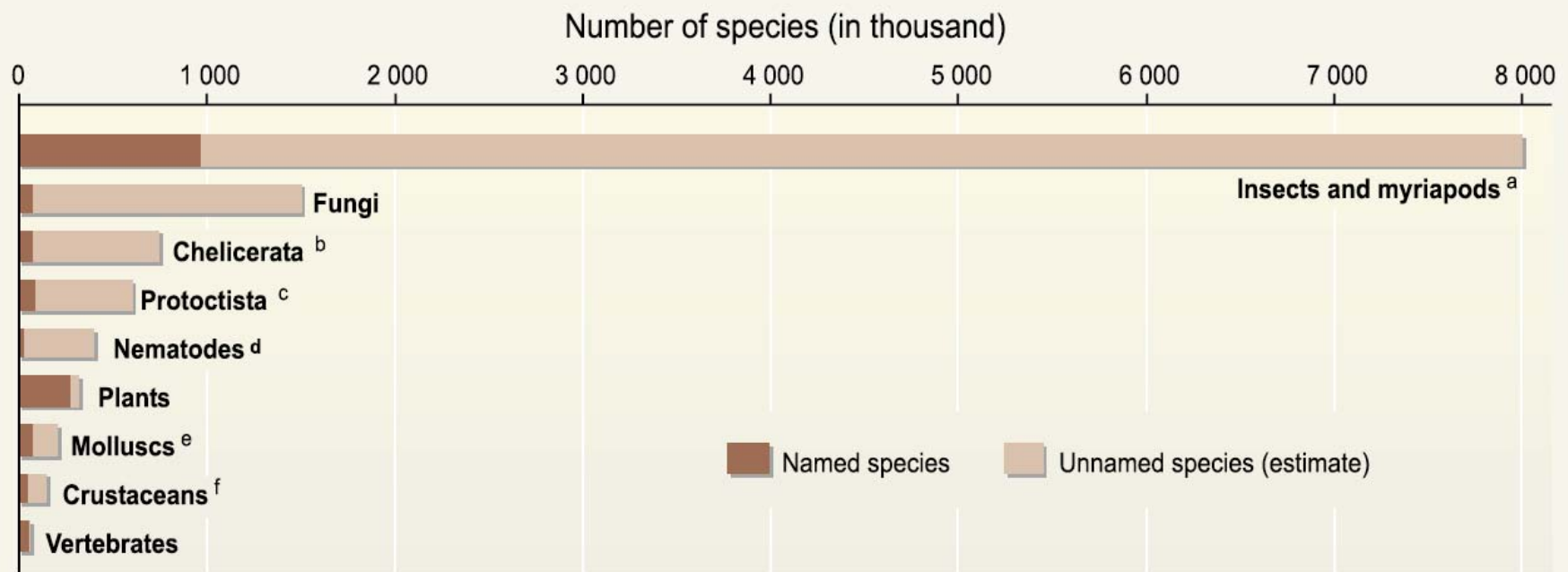
Will Biodiversity Research Become Extinct in the 21st Century?



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Estimates of proportions of named species and total number of species



^a Myriapods: centipedes and millipedes

^b Arachnids

^c Algae, slime mold, amoeboids, and other single-celled organisms (excluding bacteria)

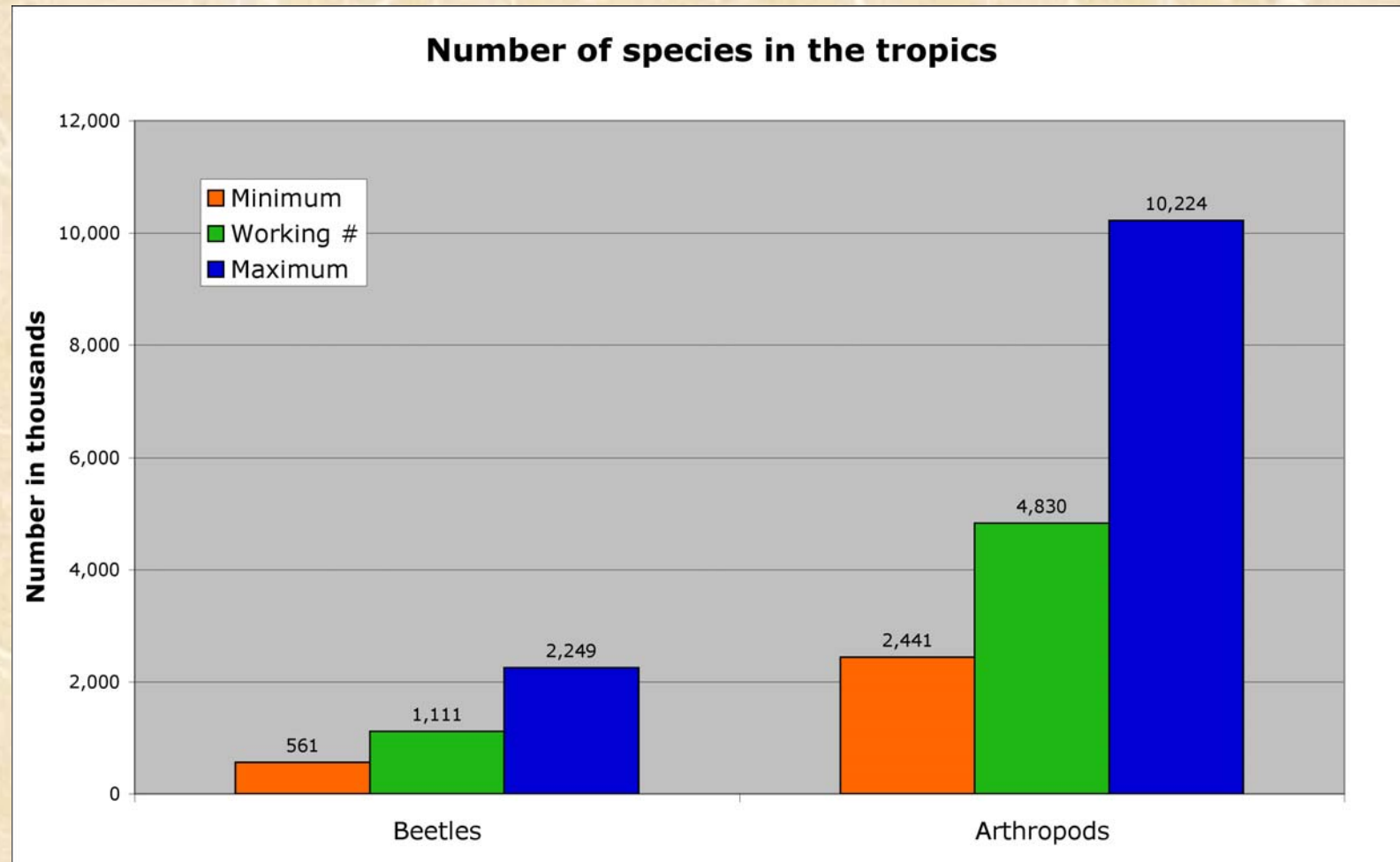
^d Roundworms

^e Snails, clams, squids, octopuses, and kin

^f Barnacles, copepods, crabs, lobsters, shrimps, krill, and kin

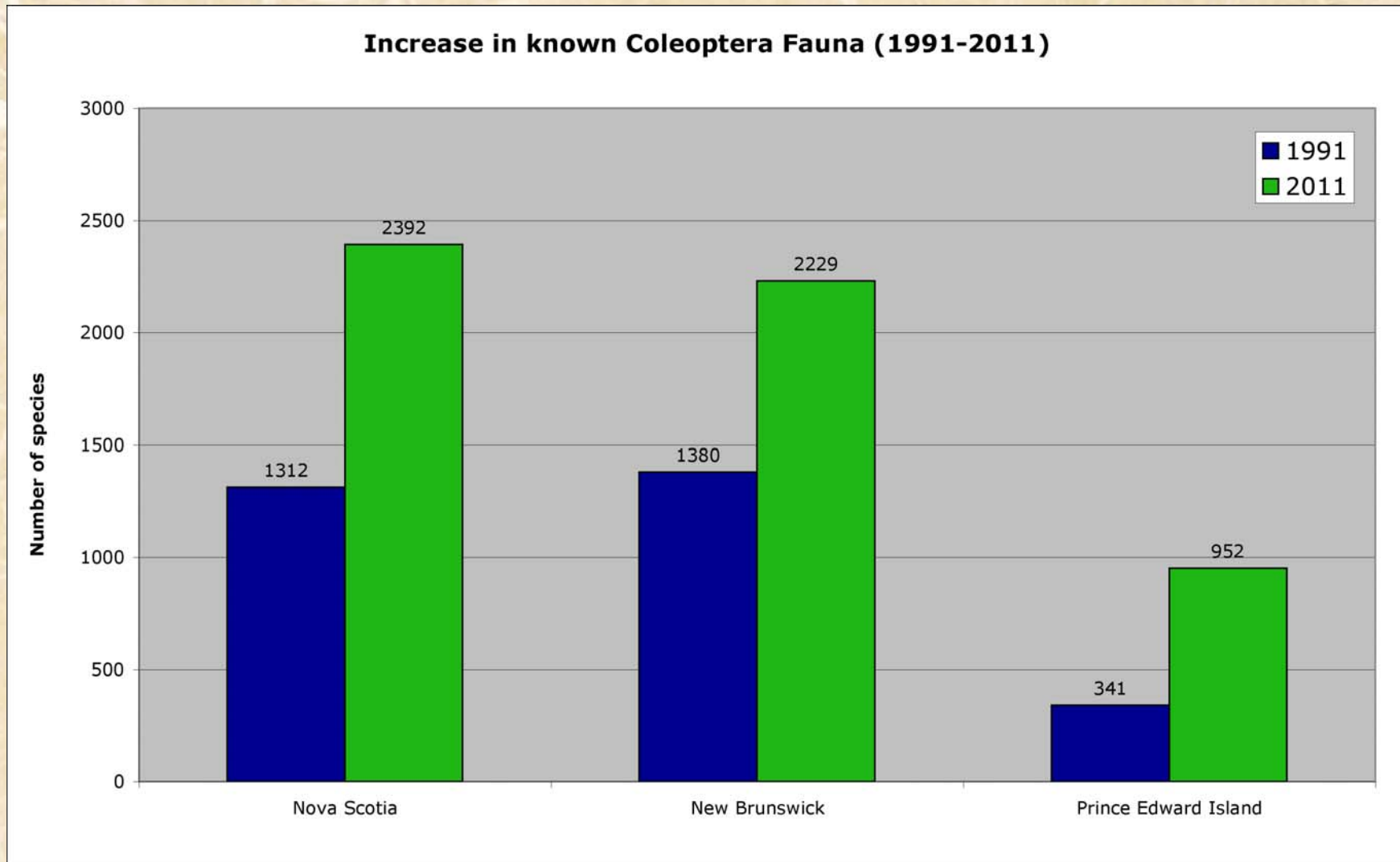
Source: Millennium Ecosystem Assessment

Number of beetles and arthropods in the tropics



Odegaard, F. 2000. How many species of arthropods? Erwin's estimate revised. *Biological Journal of the Linnaean Society* 71: 583–597.

Change in known Coleoptera fauna: 1991–2011



Gaps in Canadian biodiversity research

- 1) Canada has gaps in species description and geographic distribution data, and lags behind other countries in digitization, systematic inventories, and support for national contributions to international biodiversity data sharing;
- 2) There is an absence of national collections strategies and standards;
- 3) Many collections are housed in outdated and inadequate facilities with little capacity for growth;
- 4) Highly qualified personnel are being lost because of low job prospects and stagnant research funding levels;
- 5) Taxonomists and naturalists are aging/retiring and not being replaced;
- 6) Traditional and community knowledge is at risk.

Consequences of gaps in Canadian biodiversity research

- 1) Insufficient capacity to adequately manage, conserve, and utilize Canadian biodiversity;
- 2) Limited capacity to evaluate the response of Canadian biodiversity to global change, and its value for mitigation and adaptation;
- 3) Limited ability to respond to the risk of invasive species and the spread of pests;
- 4) Limited capacity of taxonomy to provide fundamental support to other elements of biodiversity science;
- 5) Limited ability to identify components of biodiversity in a Canadian context; and
- 6) A loss of interest, particularly on the part of young Canadians, in biodiversity and ecosystems.

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The Council of Canadian Academies, Ottawa, Ontario. Canada. 126 pp.

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