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COVID-
19

RECESSION

CLIMATE
CHANGE

BIODIVERSITY
COLLAPSE

Biodiversity loss – we don't know what we are losing

- a staggering 86% of all species on land and 91% of those in the seas have yet to be discovered, described and catalogued

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PLOS BIOLOGY

How Many Species Are There on Earth and in the Ocean?


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Abstract

The diversity of life is one of the most striking aspects of our planet; hence knowing how many species inhabit Earth is among the most fundamental questions in science. Yet the answer to this question remains enigmatic, as efforts to sample the world's biodiversity to date have been limited and thus have precluded direct quantification of global species richness, and because indirect estimates rely on assumptions that have proven highly controversial. Here we show that the higher taxonomic classification of species (i.e., the assignment of species to phylum, class, order, family, and genus) follows a consistent and predictable pattern from which the total number of species in a taxonomic group can be estimated. This approach was validated against well-known taxa, and when applied to all domains of life, it predicts ~8.7 million (± 1.3 million SE) eukaryotic species globally, of which ~2.2 million (± 0.18 million SE) are marine. In spite of 250 years of taxonomic classification and over 1.2 million species already catalogued in a central database, our results suggest that some 86% of existing species on Earth and 91% of species in the ocean still await description. Renewed interest in further exploration and taxonomy is required if this significant gap in our knowledge of life on Earth is to be closed.

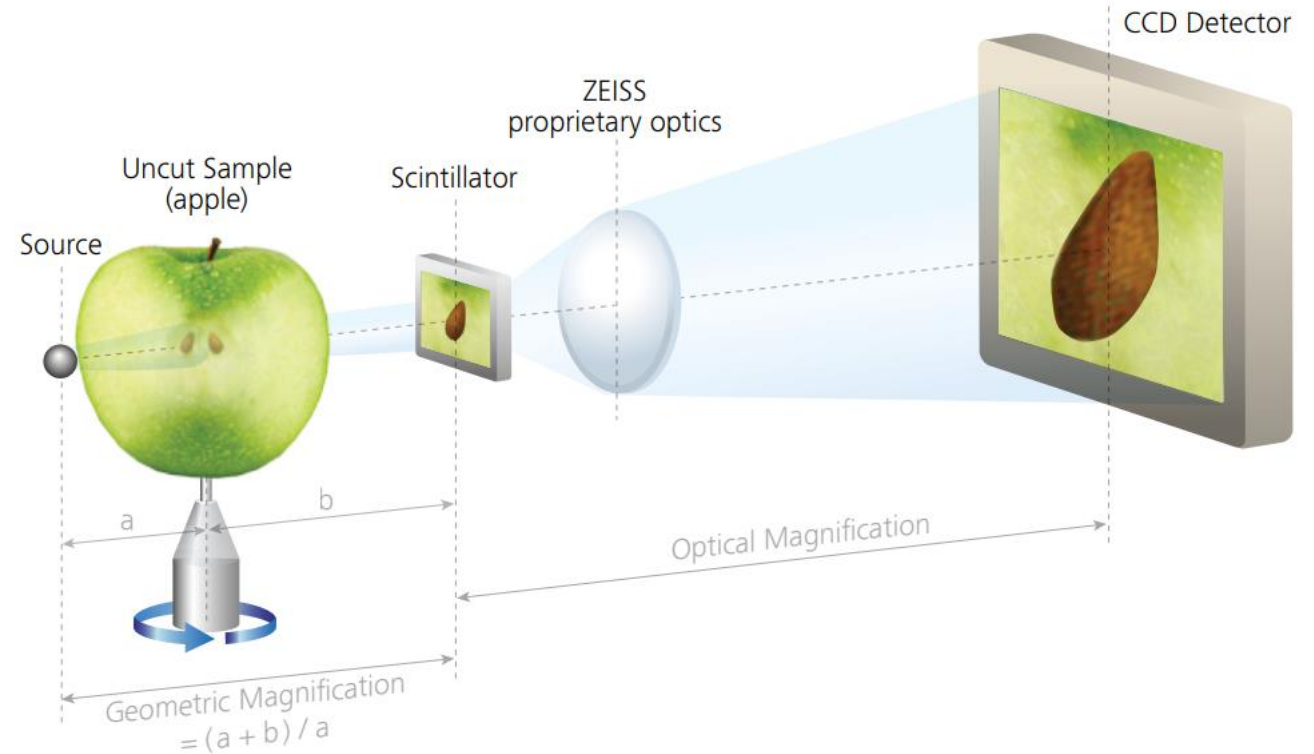
A workflow including microtomography can overcome this problem



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UArctic Thematic Network on Microtomography of Arctic Marine Organisms



Priapulopsis bicaudatus, external and internal morphology. Size of specimen, ~3 cm

Echinoderes sp., external morphology. Size of specimen, ~350 μ m

- Host
 - UiT – the Arctic University of Norway
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Network is open for collaborations and new members