



SIR JULIAN HUXLEY LECTURE

SPECIES FOR MACROEVOLUTION

Professor Andy Purvis

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**The Linnean Society,
Burlington House, Piccadilly, London**

Wednesday 7th July, 6pm

**The meeting is open to visitors
Wine will be served after the lecture to members and guests**

Abstract: Species are fundamental units for evolutionary biology. Alone among the levels of classifications into which we place individuals, the species level has the potential to have an objective reality: when we count them, we think we are counting something meaningful. If we compare number of species in different taxa, regions, or times, we are led to try to understand why the numbers are different or similar. Incomplete knowledge may lead us to use higher taxa, such as genera or families, instead, but we do so in the hope and expectation that they will reflect what good species-level data would show. I will argue: 1. That this hope is misplaced – analysing higher taxa conflates processes that should be kept separate; 2. That analysing temporal patterns in numbers of higher taxa might be particularly problematic when using large, multi-author databases; 3. That even species cannot be used uncritically in macroevolutionary analyses – even with good data (a complete phylogeny of present-day species, or a complete record of fossil species) – but that 4. The best fossil records can let us come close to the ideal species for macroevolution, letting us tackle questions that cannot be addressed any other way.