



General Information for the case study:

WRL reference	M04 D03
Module	M04 Ecosystems – Tropical Rainforests
Data Set	D03 The effect of altitude on dung beetle community structure
Research objectives	<ol style="list-style-type: none"> 1. How do you identify the different species of dung beetle? 2. What is the effect of altitude on dung beetle community structure? 3. What other environmental and habitat variables might affect dung beetles?
Keywords	Biological indicators; biodiversity; Climate change; case studies; Data handling; Deforestation; Ecosystems; Environmental monitoring; Field techniques; Human impact; Dichotomous keys: Rainforest; Sampling; Taxonomy; Transects;
Potential Curriculum links	AQA 3.2.8; 3.2.11; 3.4.1; 3.9
	Edexcel How Science Works; Unit 3; Unit 4; App 10
	IB Topic1; Topic 5; G1; G2; G.4.1; 5.sampling
	Camb.Pre-U 2.4; 5.1; 5.2
	OCR 2.3.1; 2.3.2; 2.3.4; 3.3; 5.3.1
	WJEC 2.1; 5.8; BY6
	SQA Case studies; FH2J (3); HOAL (1); HOAM
	CCEA 2.2; 2.3; 4.4; Maths and Stats knowledge
Summary	<p>Dung beetles are important organisms in rainforest habitat maintenance and they can also be used as sensitive biological indicators of disturbance and biodiversity change. In 2013 there was an extensive survey of dung beetle communities in the Cloud Rainforest of Cusuco National Park in Honduras. 123 sites were sampled for dung beetles using baited pitfall traps: 14363 beetles were captured, identified and their distribution and number related to a large number of variables, in particular elevation/altitude (Abundance and species richness). This data set looks at how you identify dung beetles using a dichotomous key, investigates the relationship between dung beetles and altitude and then a wider consideration of numerous other factors which might affect their community structure.</p> <p>Research objectives 1 (keys) – Difficulty 6/10 Research objective 2 – Difficulty 7/10 Research Objective 3 – Difficulty 8/10</p>

