

EDIT Workpackage 5 – Interview 8 Model Detail

The taxonomist in this case works in the Royal Botanic Gardens, Edinburgh. His work focusses largely around the Zingiberaceae family (common name ginger), in which he is currently compiling a monograph of S.E. Asia. Other projects include a checklist of the vascular plants of Laos, along with post-graduate supervision at RBGE.

The following table describes the individual steps of the process model in detail.

Activity	Select a sub-group to work on	Many factors influence the choice of which group to focus on; <ul style="list-style-type: none"> - the focus of the institute - personal choice - areas in which knowledge is lacking or dated - areas currently not under study - areas in which funding is available - guidance from journals
Activity	Search Literature	Broad activity describing the identifying and gathering together of background literature.
Action	Identify existing literature	Early papers of the Zingiberaceae family are catalogued in the Das Pflanzenreich (Neumann, 1880) which in it's later editions is considered complete for all publications prior to the 20 th century. Other source of literature include: <ul style="list-style-type: none"> - personal knowledge of the field - internet search engines, both general and those specific to science - indexes such as IPNI - Floras specific to the field - citation trail from other literature <p>The aim is to produce a checklist of the group</p>
Action	Gather existing literature	Papers will either be found in the institute library or acquired through inter-library loan.
Activity	Collecting activities/ Field work	Broad activity describing the arranging and conducting of collecting activities. In the past, the taxonomist visited Laos yearly, for trips lasting several weeks involving some 20 people. The main partners in these expeditions were: <ul style="list-style-type: none"> - National Agriculture and Forestry Research Institute - University of Laos - IUCN Laos
Action	Arrange permits and practicalities	These will include <ul style="list-style-type: none"> - travel and accommodation arrangements during the field work - obtaining the necessary permits - the hiring of guides and other collaborators - other practicalities - budgeting and applying for grants, one example being the Darwin Initiative <p>MOU's exist between the RBGE and regular partners. Specific permits will be required for local regions. The Zingiberaceae family is not covered by</p>

		CITES restrictions.
Action	Conduct collection	<p>The collection proper. Trips tend to have multiple goals, such as covering a geographical region, production of a specific project, or to boost a collection. As such, collecting is general, rather than targeted towards a specific group at the expense of others. Combining goals can also help with funding applications.</p> <p>Specimens are stored in alcohol on first collection, then at the first opportunity dried for permanent storage.</p> <p>Location is recorded by GPS.</p>
Action	Transport specimens home	Specimens will be packaged appropriately then sent by sea-mail. Commonly, six examples of each specimen will be collected; 3 to remain in Laos, then one each for the collections in Paris, Leiden and Edinburgh.
Activity	Gather existing specimens	Broad category covering the identification and gathering together of existing specimens of the group.
Action	Identify existing specimens	<p>Existing specimens can be identified from:</p> <ul style="list-style-type: none"> - checklists - speculative visits or requests to Herbaria - knowledge of a collector's career and where their collection will be held - rarely, specimens may be found in private collections - scientific papers <p>At a minimum, all the type specimens should be identified.</p>
Action	Gather existing specimens	Either approach the institute housing the specimen and request a loan, or visit the herbarium and examine the specimen there. Broad requests for all examples of a group can be submitted, but these take time and are often only delivered in stages.
Action	Quarantine specimens	All incoming specimens are quarantined by cold for 3 days.
Activity	Apply nomenclatural rules	A broad category representing the application of the rules of nomenclature to the specimen groups.
Action	Resolve type specimens	Type specimens are assigned to each group, according to the rules of the ICBN.
Action	Resolve nomenclature	Nomenclature is resolved for the type specimens in each group.
Activity	Examine specimens	Broad category describing the preparation and examination of specimens.
Activity	Prepare specimens	Specimens are prepared for examination. This can

		involve the boiling of specimen parts to return them to their appearance in life, and the preparing of microscope slides.
Action	First visual examination	First visual examination, involves a broad overview of the specimens in order to take in their general characteristics.
Action	Sort specimens	Specimens are physically sorted into groups, first by the broad morphological characters, later by finer details. This helps distinguish their similarities and differences.
Action	Detailed visual examination	Detailed examination reveals finer details. This is performed with the light microscope, up to 10x magnification.
Decision	Further analysis?	A decision as to whether further analysis of the specimens is required.
Action	Further analysis	SEM is available, though this examination is rarely necessary. In addition, any description that relied on SEM observations would be of little use in routine identification. Other methods can include statistical analysis of figures and phylogenetic analysis.
Action	Assess emerging theory	A review of the developing theory, and an assessment of whether it is complete.
Activity	Prepare paper	Activities pertaining to the preparation and submission of a scientific paper.
Action	Compile manuscript	Compile the paper, according to the editorial guidelines of the journal, using a word processing package. Papers will include the standard requirements of a taxonomic review, and also other items such as tables, and any other information or analysis appropriate to the study. The RBGE in-house collection database, PADME, contains a tool used to generate descriptions automatically, though the taxonomist prefers to produce them himself.
Action	Friendly review	Send the manuscript to colleagues for an informal review. This will remove the reviewer from the pool for formal review though, and in a limited field this can become an issue.
Action	Revise paper	Revise the paper according to the comments of the reviewer.
Action	Submit to journal	Papers are submitted electronically, in accordance with the editorial guidelines of the journal in questions.
Activity	Curation activities	Broad activity representing the processing of specimens after the study is complete.

Action	Label specimens	Specimen labels are printed out.
Action	Return loaned specimens / send out paratypes	Specimens are returned from whence they came. This task is usually performed by departmental assistants.
Action	Place specimens in local collection	Specimens are placed in the local collection.
Action	Update collection database	The institute's collection database is updated. The RBGE uses the BG BASE database system for both the living collection and the herbarium specimens. Separate databases exist for the Zingiberaceae and Laos collection.