Development of an Interactive Key to West Australian species of Hibbertia (Dilleniaceae)

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This Honours project will develop an interactive identification key to the 51 *Hibbertia* species recorded from the Swan Coastal Plain using Lucid Builder. It will address the difficulty of distinguishing morphologically similar taxa by compiling diagnostic vegetative and floral characters from taxonomic literature, authoritative resources such as Florabase, and preserved specimens held at the Western Australian Herbarium. These collections provide a permanent record of species occurrence, verifiable evidence of plant diversity and distribution, and material that enables identifications to be checked over time.

The student will define diagnostic characters and character states, score each species in a Lucid matrix, and evaluate which features most effectively distinguish taxa. Lucid Builder supports lists of entities and features, multiple scoring methods, and multimedia attachments, making it well suited to a flexible, image-rich identification resource. The resulting random-access key will allow users to select any observable combination of characters rather than follow a fixed sequence of couplets.

Most of the project will be computer- and herbarium-based, involving specimen examination, character scoring, data verification, key construction, and iterative testing against reliably identified material. Targeted fieldwork will complement the herbarium study by obtaining high-quality images of whole plants, leaves, indumentum, flowers, and other diagnostic features that are poorly represented in preserved specimens. The project will deliver a validated interactive key, a structured character matrix, and a curated image library, together with an assessment of ambiguous characters, difficult species groups, and remaining taxonomic or photographic gaps.

The project will therefore produce an accessible identification tool, and a reproducible framework that can later be expanded to include all Western Australian *Hibbertia* taxa—more than 115 described species, and updated as additional specimens, species data, and images become available.

