Sometimes you just have to have the right person in the right place, at the right time. This was the case in late spring 2011, when Parks and Wildlife botanist Juliet Wege discovered a new species when on an expedition to collect a new and poorly known triggerplant in the Stirling Range National Park.

Triggerplants (*Stylidium*) are a fascinating and diverse genus of small to medium-sized plants found in a range of habitats in Australia, particularly in the south-west and the Kimberley. Their common name derives from a flower structure and pollination mechanism unique in the plant world; when a pollinating insect probing for nectar visits, most triggerplants respond by belting their visitor with a spring-loaded contraption formed from the fused style (female) and stamen (male) parts of the flower. For the triggerplant, at least, this is a great strategy. The male anthers deposit a dab of pollen onto the insect, ready for a female stigma to pick up when the insect gets whacked the next time. What the insect thinks about the whole deal no-one knows.

Triggerplants have been Juliet's research interest (and passion) since she started her PhD in 1995. She has exhaustively studied the many species occurring in south-west WA, naming more than 20 new species and solving many taxonomic puzzles. Her work involves a painstaking study of the herbarium's specimens, historical detective work in centuries-old botanical literature in some of the most venerable herbaria in Europe and North America, and a great deal of field work (much of it spent head down on granite boulders, and in tick-ridden sandplains and snake-infested swamps).

In November 2011, Juliet travelled to the Stirling Range to try to solve the mystery of a single pressed specimen which was collected in 1980 and filed under a widespread and common species. But Juliet was pretty sure it was a new species. To help identification, Juliet needed to survey the original collecting site – a sheltered, rocky mountain slope in the Stirlings – and collect the necessary material so the specimen could be named and described.

This coincided with a visit from colleague Professor Scott Armbruster from the University of Portsmouth, England. Scott was collaborating with Juliet to investigate whether the genus's remarkable pollination mechanism enables the many species found in WA to co-occur. The idea is that differing flower shapes and orientations of the trigger mechanism enable many different triggerplant species to share one pollinator. Some belt it on the head, some on the back, some come in from below and belt it on its belly, and some from behind on its backside. The pollinator may wonder whether feeding from triggerplants is a good option, but if different triggerplant species can keep their pollen separate, they will reduce the chance of interbreeding or wasting pollen.

Stylidium lithophilum

S. oreophilum

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At the Stirlings, Juliet, Scott, and Mamoru Matsuki from The University of Western Australia, located the original collecting site of the 1980 specimen, and Juilet confirmed that it was indeed a new, un-named species. Then came the bonus. While Juliet was busy collecting specimens, Scott and Mamoru clambered higher to look at the view, joking that they'd find another new species for her. And, while photographing other triggerplants along the way, they did just that. One of the plants they photographed was only in bud, but Juliet immediately identified it as an undescribed species. A subsequent trip enabled her to collect flowering specimens. She named them the mountain bouquet and bushy mountain triggerplants (*Stylidium lithophilum* and *S. oreophilum*, meaning rock-loving and mountain-loving respectively).

Two new species in one day is uncommon but not unheard of for botanists at the Western Australian Herbarium who, with colleagues in other herbaria, discover and name about 100 new Western Australian plant species each year. In Juliet's group, there are undoubtedly many species still undiscovered. Who knows whether the next one will be found through painstaking study of the Western Australian Herbarium's existing collections or through sheer serendipity while watching triggerplants belting their long-suffering pollinators.

Photos – Juliet Wege/Parks and Wildlife