

### 3. Discoveries on Succulent Karoo insects



An astonishing world of previously unknown and rare insects has been discovered by a team of SKEP project scientists working in the Kamiesberg Uplands, a remote, magnificent and mountainous corner of Namaqualand. A total of 164 species were recorded in the 12 month study – including over 20 new species, some of which are highly significant as they are similar to their ancestors of hundreds of millions of years ago.

It is one of the most exciting finds in the region and has researchers hopping to return to this Garden of Eden. Jonathan Colville of the University of Cape Town's Zoology Department and Plant Conservation Unit, one of the lead researchers on the project, says the find highlights the critical need to address the conservation status of Kamiesberg and Succulent Karoo insects, which is very poor at present. Some of the key discoveries that the study made include:

- **Monkey Beetles of the Kamiesberg:** Brightly coloured and charismatic Monkey Beetles are one of the most abundant and important pollinators in the region and males, with their large claw-like hind legs, can be found tussling on pollen-rich flowers like sumo wrestlers trying to toss each other from the ring. A remarkable 17 new species were found and one species, last seen 80 years ago, was re-discovered. One of the most eye-catching new finds is a beetle covered with iridescent pink scales and thick white hairs. This shimmering gem is a high altitude fynbos specialist and is only found on the Rooiberg Mountain, the highest peak in the area.
- **Three new species of Ribbon-wing Lacewing:** Unlike their bustling, bulbous neighbours the Monkey Beetle, Lacewings are graceful, delicate ballerinas of Namaqualand and of extreme rarity. With their uniquely elongated thread-like hind wings, they are remarkable but mysterious creatures. Very little is known about the biology of many species of Lacewings, with the larvae of most species completely unknown. Colville says Ribbon-wing Lacewings have the potential to be a conservation flagship species for the Kamiesberg Uplands, and the Succulent Karoo in general, due to their beauty and rareness.
- **A new population of Southern Stoneflies:** The finding of a new species of Southern Stoneflies in the Kamiesberg Uplands reflects a substantial range extension for this group and is a significant discovery. Stoneflies belong to a small primitive, aquatic order of insects and are restricted to cool, well oxygenated, unpolluted mountain streams. Colville says they are a vulnerable insect species due to their specific habitat needs.

In addition to unearthing new species, the research also turned up some interesting new data on the way insects are ecologically linked to the flora and fauna in their habitat, and some insight into their unusual lifestyles. Some species, for example, have larva that live in symbiotic association with heuweltjies (termite mounds) or dung middens, while some adult beetles only appear intermittently for just a few days, often in response to atypical rainfall events such as large summer thundershowers.

Colville says the rich diversity of insects encountered by the researchers and the intricate and critical

relationships between organisms was the key take-away from the project. "This must inform conservation efforts in the future," he says.