BRISBANE'S INVERTEBRATES UNEARTHED

Invertebrates rule the world! They occur in virtually every habitat on earth and dominate in both numbers and biomass. Currently, there are approximately 40,000 to 50,000 vertebrate animal species in the world. In comparison, there are some 1.4 million described invertebrate species including protozoa, worms, molluscs, spiders, crustaceans, millipedes and insects.

In Australia, the pattern is the same: as many as 300,000 species of terrestrial invertebrates. In comparison, a mere 5,000 vertebrate species call Australia home. Every year, some 15-20,000 new invertebrate species are described.

Importantly, invertebrates play a fundamental role as pollinators, decomposers, predators and food sources in the food chains of the world's ecosystems. They are also increasingly being recognised as important 'bio-indicators' of the health of ecosystems. Unfortunately, we know little about many of them, their lives and what they may tell us about the health of our environment.

To rectify this knowledge gap in our part of the world, Council and the Queensland Museum's Queensland Centre for Biodiversity are working together to unearth the largely unknown world of Brisbane's invertebrates.

The initiative involves a survey of the City's terrestrial (land-based) invertebrates. The project aims to:

- give us a better understanding of just what invertebrates we have
- what role our natural areas play in conserving this wealth of biological diversity
- what role invertebrates can play in monitoring the health of the City's habitats and the effectiveness of our management actions.

Ten sites across Brisbane's natural areas, representing a diverse range of ecosystems are being surveyed as part of what is a year long pilot project.

Select invertebrate groups considered to be potential bio-indicators, and for which some existing data and expertise exists, are being targeted in the surveys. These include ants, spiders, ground beetles, sucking bugs, dragonflies, butterflies and land snails.

Autumn-Winter (2003) and Spring-Summer (2003-2004) surveys have now been completed and preliminary data is already unearthing invaluable insights into the City's invertebrate riches.

During surveys in Karawatha Forest Park, a very rare species, the spiny ant (*Polyrhachis euterpe*), was discovered. This species was first described from a single specimen collected in the vicinity of Mackay. Only three other specimens of this species are known to Queensland Museum experts.

The survey is also revealing a far more diverse range of spiders in Brisbane than collections previously indicated. This survey and others are providing a greater understanding of the distribution of the newly discovered 'anyphaenid' spider species, recently found on North Stradbroke Island. The nearest relatives of this species are in Chile, South America.

So far, 10 species of 'Ant spiders', have been identified in the surveys. These spiders are habitat-specialists and associate with particular ant species which makes them good bio-indicators. Three of the ant spider species found in the surveys are brand new discoveries and await description.

Work is still under way on sorting, identifying and analysing results, so stay tuned for further updates in future Regenerators. For more information about the surveys contact Council's Flora and Fauna officer Stacey McLean on 3403 4906.