SEEKING SPOON-WINGS

Each November, some of Australia's strangest winged insects appear. The 'spoon-winged lacewing' (*Chasmoptera* species) of south-western Australia take their common name from the strange, ladle-shaped hind wings, which contrast with the rather ordinary fore wings.

Spoon-winged lacewings are related to the more familiar antlions, which construct conical pits in dry sand or dusty soil in sheltered places (see 'Urban Antics' *LANDSCOPE*, Winter, 1997).

Antlions are a wingless larval stage and lie submerged in sand at the bases of their pits awaiting the arrival of clumsy ants, sucking their body juices through their hollow pincer-like jaws.

Once an antlion is fully grown, it pupates and metamorphoses into a winged insect called a 'lacewing'. Antlion lacewings are slender, usually drab insects and are seldom seen. Their two pairs of slender wings are clear (or mostly so) with a complex network of veins.

The spoon-winged lacewings' highly modified hind wings vary from species to species and, in some cases, are different in males and females of the one species. However, in all cases, the hind wing is slender and ribbon-like, broadening towards the tip into a vane of various shapes. In the Western Australian species, the vane has two pairs of lobes, which are twisted 90 degrees relative to one another, and ends in a curious little white appendage. The hind wings do not contribute any power to the insects' flight, being merely trailed behind them.

Apart from Australia, spoon-wings also occur in Mediterranean countries, and South America, but the insects are most diverse in the western Cape Province of South Africa, where there are 56 species in 11 genera (the world total is 90 species in 19 genera).

The sole Australian genus, *Chasmoptera*, is represented by at least seven species, only three of which have been named so far. These seven species are confined to the south-west, ranging from Shark Bay to Perth and inland to the Wheatbelt at Cunderdin and Lake Grace. Two species are still known only from single specimens and others from just a few specimens. Attempts to rediscover these species have so far failed. Perhaps some are now extinct because their habitat has been destroyed. Alternatively, their short flight seasons and restricted distributions may mean they are difficult to encounter and maybe they do not emerge every year. Terry Houston of the WA Museum would like to be informed of any sightings or, better still, receive specimens from beyond the Perth region.

Little is known about the lives of spoon-winged lacewings. Adults of some of them have been observed visiting flowers during the day, presumably to feed on nectar (and possibly pollen). The head of the adult insect is drawn into a long 'snout' with a correspondingly long proboscis that assists it to probe into the nectaries of flowers.

Larvae of only one species of *Chasmoptera* have been discovered so far. In 1947, a Perth naturalist, Mr Wallace Mathews, reported that he had sieved a number of larvae, which he presumed to be *C. hutti*, from a sandy rise at South Perth. A tiny, first instar larva, hatched from an egg, matches Wallace's figured specimen well enough that he was undoubtedly correct.

Although somewhat like an antlion in body form, these larvae have relatively short mandibles. The known larvae of some exotic spoon-wings also have relatively short mandibles and this suggests that, as a group, spoon-wing larvae feed in a manner different from the majority of neuropteran larvae. A recent report has provided some evidence of an association with ants for two Spanish spoon-wings. It was discovered that the spoon-wings' eggs were harvested by ants and taken into their nests. Moreover, the spoon-wing larvae only prospered when fed on larvae of ants. Perhaps, in time, we will find similar habits in our WA species.

Below: A female spoon-winged lacewing.

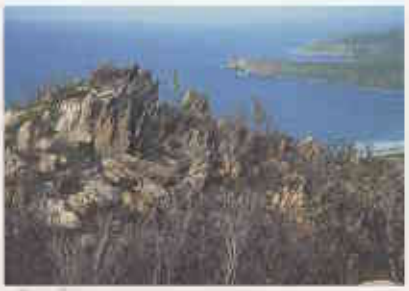
Photo – Terry Houston

Winner of the 1998 Alex Harris Medal for excellence in science and environment reporting

LANDSCOPE

VOLUME SEVENTEEN, NUMBER 1, SPRING 2001

Within 40 years, the numbat has risen from near extinction to endangered with 10 populations in WA and interstate. See 'Numbats Forever' (page 17).



The forces that shaped the geology and landforms of the south-west began more than 3,500 million years ago. Read the facinating story on page 10.

The Marine Community Monitoring Program is a new and ambitious program to involve the community in keeping our oceans clean. See page 35.

Shark Bay Marine Park provides spectacular opportunities for divers and snorkellers. No wonder it is called Bay of Delights. See page 23.

The history of Aboriginal occupation in the Leeuwin-Naturaliste region spans 50,000 years. Find out more in 'History from the Caves' (page 40).

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Leschenaultias are some of the most widely known and recognisable plants in Western Australia. They have fantastic horticultural value and provide glorious floral displays. The wreath leschenaltia is a favourite with visitors during our wildflower season. See page 23.

Cover illustration by Philippa Nikulinsky

Executive editor: Ron Kawalilak
Editors: David Gough, Carolyn Thomson-Dans
Story editors: Verna Costello, Sue McKenna
Advertising copy and editorial assistance: Caris Bailey
Scientific/technical advice: Andrew Burbidge, Chris Simpson, Keith Morris, Paul Jones and staff of Science Division
Design and production: Tiffany Aberin, Maria Duthie, Gooitzen van der Meer
Illustration: Ian Dickinson, Gooitzen van der Meer
Cartography: Promaco Geodraft
Marketing: Estelle de San Miguel ☎ (08) 9334 0296 Fax: (08) 9334 0498
Subscription enquiries: ☎ (08) 9334 0481 or (08) 9334 0437
Colour Separation by Colourbox Digital
Printed in Western Australia by Lamb Print

Please do not send unsolicited material to *LANDSCOPE*, but feel free to telephone the editors.

Visit NatureBase at www.naturebase.net

Published by the Department of Conservation and Land Management, Dick Perry Avenue, Kensington, Western Australia

DEPARTMENT OF Conservation AND LAND MANAGEMENT
Conserving the nature of WA