

## Report on bee species collected on Avontuur 2012

### Collectors name and place where specimens are lodged

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Type material of all newly described bee species will be housed in the National Collection of Insects (c/o Dr. Connal Eardley) in Pretoria.

The bees collected on Avontuur are part of a much wider long-term project to study the taxonomy of the bee fauna of the Cape and to understand their evolution. Specimens have to be accumulated over years to become useful including material collected in ethanol for DNA extraction for developing molecular phylogenies. Some of the projects are in collaboration with bee experts world wide and further results can be expected for the coming years.

In the last year two papers have been published including bees collected on Avontuur (pdfs sent to Noel Oettle):

Kuhlmann, M. (2013): *Eupetersia avontuurensis* nov.sp., first record of the bee genus in the South African winter rainfall region (Hymenoptera, Apoidea, Halictidae). – Entomofauna 34: 185-189.

Pauly, A.; J. Gibbs & M. Kuhlmann (2012): *Capalictus*, a new subgenus of *Lasioglossum* Curtis, 1833 from South Africa, with description of three new species (Hymenoptera, Apoidea, Halictidae). – European Journal of Taxonomy 28: 1-28.

Two more publications are in preparation: One on the phylogeny of the genus *Melitta* including the description of the new subgenus *Plesiomelitta* for the basal new species *Melitta avontuurensis* and the other is a revision of a species-rich group of bees within the genus *Scrapter*. Of the latter a couple of species have been found on Avontuur and two are planned to be “auctioned off” to raise funds for WWF (see images below). *Melitta avontuurensis* will help to better understand the evolution of this genus and the evolution of oil-collecting in bees in general because its closest relatives are the oil-collecting *Rediviva* bees.

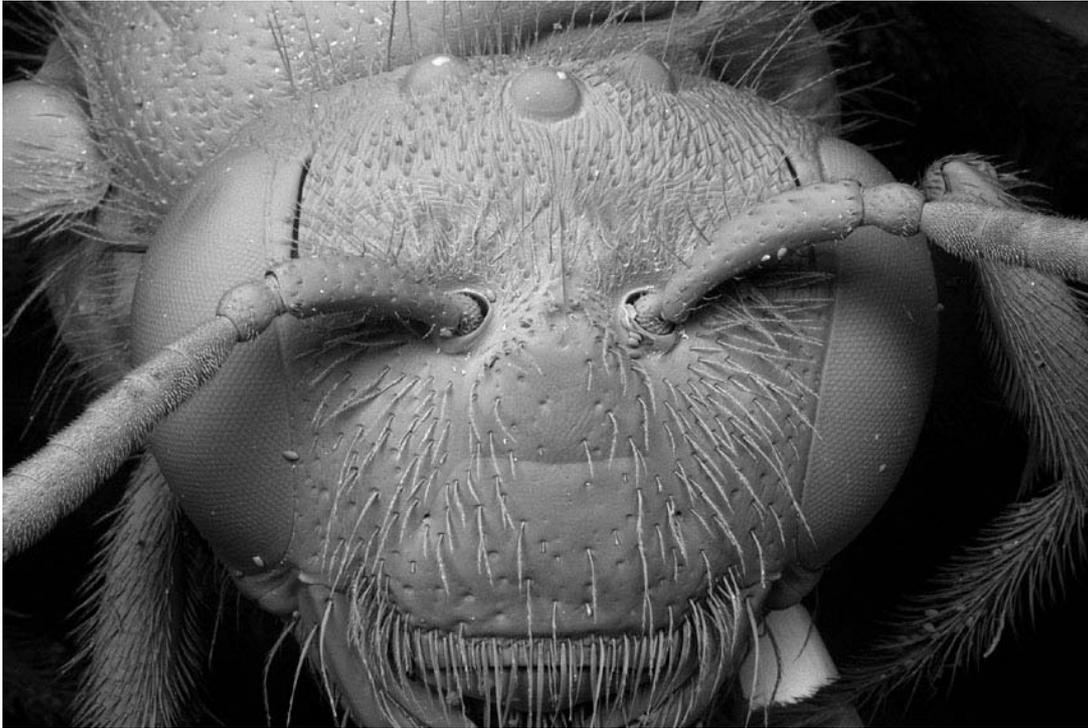
### Collecting sites and dates

Bees were collected only in fynbos this year (S31°16'18'' E19°02'55'') during four visits from 10<sup>th</sup> August to 3<sup>rd</sup> September 2012. Collecting bees has been concentrated along the river in burned as well as unburned vegetation.

A total of 34 bee species have been collected in 2012 (see list at the end of document). Again, this years focus was on the endemic early active winter bees, especially for collecting males that are unknown for many species due to their short life cycle. Due to the unusually cold winter it was possible to study the earliest emerging bees and to get a better understanding of bee activity patterns in fynbos.

## List of bee species collected in fynbos in 2012

<b>Genus (Subgenus)</b>	<b>Species</b>	<b>Author</b>
Anthophora (Pyganthophora)	abrochia	Eardley
Anthophora (Pyganthophora)	krugeri	Eardley
Ceylalicus (Atronomioides)	halictoides	(Blüthgen)
Halictus (Seladonia)	hotoni	Vachal
Heriades (Michenerella)	spec. 2	
Lasioglossum (Capalictus)	cf. timmermanni	Pauly, Gibbs & Kuhlmann
Lasioglossum (Capalictus)	mosselinum	(Cockerell)
Lasioglossum (Capalictus)	timmermanni	Pauly, Gibbs & Kuhlmann
Lasioglossum (Ipomalictus)	rufomarginatum	(Smith)
Othinosmia (Megaloheriades)	schultzei	(Friese)
Othinosmia (Megaloheriades)	spec. 13	
Patellapis (Chaetalictus)	disposita	(Cameron)
Patellapis (Patellapis)	bidentata	Timmermann
Patellapis (Patellapis)	communis	(Smith)
Patellapis (Zonalictus)	vittata	(Smith)
Plesianthidium (Spinanthidiellum)	rufocaudatum	(Friese)
Rediviva	intermedia	Whitehead & Steiner
Rediviva	intermixta	(Cockerell)
Rediviva	longimanus	Michener
Rediviva	parva	Whitehead & Steiner
Scapter	"lobus"	
Scapter	capensis	(Friese)
Scapter	cf. ruficornis	(Cockerell)
Scapter	leonis	Cockerell
Scapter	niger	Lepeletier & Serville
Scapter	nitidus	(Friese)
Scapter	spec. MK 12	
Scapter	spec. MK 20	
Scapter	spec. MK 6?	
Scapter	spec. MK 8	
Scapter	"spinipes"	Kuhlmann
Sphecodopsis	capensis	(Friese)
Sphecodopsis	capicola	(Strand)
Sphecodopsis	spec. B	



“Portrait” of the female of the undescribed *Scapter* spec. MK 6?.



Male of the undescribed bee species *Scapter* spec. MK 12.