

Report on bee species collected on Avontuur 2010

Collectors name and place where specimens are lodged

Dr. Michael Kuhlmann
Dept. of Entomology
The Natural History Museum
Cromwell Road
London SW7 5BD
UK

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 first results on some aspects can be expected for the coming year. This involves the description of a new basal subgenus of halictid bees that currently comprises about 4 species and is strictly endemic to the winter rainfall area of South Africa. The subgenus is key to understand the evolution of that particular group of bees. It has not been found on Avontuur so far but it is known from Papkuilsfontein and thus it is very likely that it occurs here as well.

Collecting sites and dates

Bees were collected only in fynbos (S31°16'18'' E19°02'55'') during three visits from 13th August to 14th September 2010. Collecting bees has been concentrated along the river in burned as well as unburned vegetation. Interestingly, there seem to be hardly any bees further west towards the escarpment at least for about 2 km that we explored.

A total of 46 bee species have been collected in 2010 (see list at the end of document). This years focus was on the endemic early active winter and spring bees, especially for collecting males that are unknown for many species due to their short life cycle. However, because of the relatively mild winter the season was much more advanced than expected so success was limited.

The small genus *Afroheriades* that is endemic to the Greater Cape Floristic Region (GCFR) was particularly well represented with five species two of which are rarely collected and undescribed. And again the speciose genus *Scraper* (most species endemic to the GCFR) was found in abundance including the hitherto unknown males of some species.

Again a female of the undescribed *Redivivoides* species found last year for the first time could be collected. The genus is closely related to the oil-collecting *Rediviva*, both endemic to South Africa, and will help to understand the evolution of oil-collecting in South African bees.

List of bee species collected in fynbos in 2010

Genus (Subgenus)	Species	Author
Afranthidium (Branthidium)	spec. nov. 1	
Afranthidium (Nigranthidium)	flavipes	(Friese)
Afranthidium (Zosteranthidium)	tergofasciatum	(Pasteels)
Afroheriades	dolichocephala	(Friese)
Afroheriades	geminus	(Peters)
Afroheriades	primus	(Peters)
Afroheriades	spec. EE	
Afroheriades	spec. nov. aff. primus	
Amegilla (Micramegilla)	niveata	(Friese)
Anthophora (Pyganthophora)	abrochia	Eardley
Colletes	capensis	Cameron
Colletes	fasciatus-Gr. 11	
Epeolus	amabilis	(Gerstäcker)
Epeolus	caffer	(Lepeletier)
Halictus (Seladonia)	hotoni	Vachal
Halictus (Seladonia)	jucundus	Smith
Lasioglossum (Ctenonomia)	spec. 10	
Lasioglossum (Rubrihalictus)	claripenne	(Cockerell)
Lasioglossum (Sellalictus)	spec. 1	
Megachile	spec. AA	
Megachile (Chalicodoma)	reicherti	(Brauns)
Nomada	gigas	Friese
Othinosmia (Megaloheriades)	schultzei	(Friese)
Patellapis (Chaetalictus)	minima	(Friese)
Patellapis (Patellapis)	bidentata	Timmermann
Patellapis (Patellapis)	communis	(Smith)
Patellapis (Zonalictus)	pearsoni	(Cockerell)
Plesianthidium (Spinanthidiellum)	rufocaudatum	(Friese)
Plesianthidium (Spinanthidiellum)	volkmanni	(Friese)
Plesianthidium (Spinanthidium)	calvini	(Cockerell)
Redivivoides	spec. 4	
Samba (Prosamba)	spinosa	Eardley
Scapter	albitarsis	(Friese)
Scapter	bicolor	Lepeletier & Serville
Scapter	capensis	(Friese)
Scapter	cf. nitidus	(Friese)
Scapter	cf. spec. MK 1	
Scapter	cf. spec. MK 9	
Scapter	niger	Lepeletier & Serville
Scapter	nitidus	(Friese)
Scapter	spec. 20	
Scapter	spec. 6?	
Scapter	spec. MK 12	
Scapter	striatus	Smith
Sphecodopsis	aculeata	(Friese)
Sphecodopsis	villosa	(Friese)