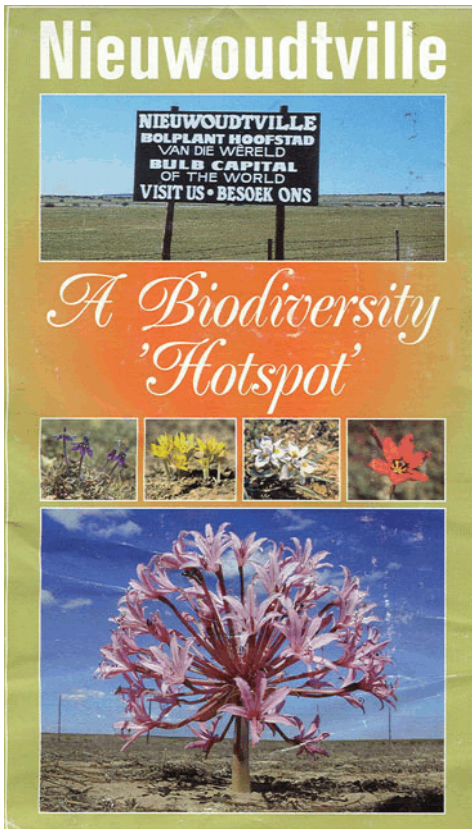


# Skaphion

The Platygastroidea PBI Newsletter

## *South African survey reveals further *Nixonia* gems*

A long-term inventory survey was implemented at the end of last year in a semi-arid region of South Africa on the farm Glenlyon near Nieuwoudtville 300km north of Cape Town. A short term survey was carried out at the same site eight years ago as part of a Conservation Farming project investigating the impact of different land use practices on biodiversity, but the scelionids still have to be worked up from these samples. Nieuwoudtville is touted as the geophyte capital of the world with spectacular displays of floral diversity bursting across the landscape in autumn and spring.



Bulb diversity dominates the local flora (40%) and has extremely high densities reaching up to 25 000 bulbs per square meter! For the rest of the year the landscape appears superficially mundane and rather boring by comparison. The habitat, however, comprises two components of Renosterveld, which is a highly threatened vegetation type. Most Renosterveld has been transformed into wheat fields to further fuel the destructive human sub-organism.

Glenlyon was previously run by owner Neil MacGregor as a Merino sheep stud farm with some wheat cultivation to supplement income. Luckily Neil was conservation minded and also used the farm for ecotourism ventures, with the result that large tracts of land remain relatively undisturbed. The farm was recently purchased by the South African National Biodiversity Institute and has been proclaimed as the 9<sup>th</sup> National Botanical Garden in South Africa. The Nieuwoudtville National Botanical Garden comprises over 6300 ha of land situated on the Bokkeveld Plateau where 1350 plant species have been recorded, including

80 endemics (6% of the flora) of which almost a third are threatened with extinction.



The first “gems” (in Lubo parlance) from the current survey are just starting to surface from the well-oiled sample processing machine run by Aisha and Speech. Two species of the “most plesiomorphic living genus of the family Scelionidae” *Nixonia* were collected during the first two months of sampling from 11 Malaise traps (the samples from three other Malaise traps were destroyed by gale force winds and some of the *Nixonia* from the remaining samples were so battered around in the collecting head that they have lost their legs and antennae). **Bettina Koelle** of **Indigo Development and Change** kindly provided accommodation and serviced the traps when I could not make it up there. The haul so far comprises 5 specimens (2 females and 3 males) of *N. corrugata* and 39 specimens (10 females, 29 males) of a new species (photo, above) related to *N. gigas*. *Yebo gogga!* This is even more remarkable in that a total of only 121 *Nixonia* specimens representing 14 species were known at the time of Norm and Lubo’s 2006 revision, 77 of these belonging to two widely distributed species and seven species only known from singletons, illustrating the historical lack of intensive collecting in the right spots at the right time. Norm, Lubo & Lu did extract further *Nixonia* from my samples in 2007, but I do not have the details at hand.

Biology of *Nixonia* species is poorly known, but one species, *N. watshami* has been recorded as an egg parasitoid of an Armoured Ground Cricket, *Acanthoplus discoidalis* in Namibia and Botswana. The local species of these fearsome looking crickets,

*Heterodes pupus* (photo, right), is a nuisance in the Malaise traps, taking up residence at the entrance to the collecting head and feasting on a continual supply of rare insects. No doubt they have enjoyed snacking on a *Nixonia* or two and it would not surprise me if the two *Nixonia* species are parasitoids of their eggs. Tit for tat.



Robust, hard plastic yellow pan traps were initially deployed on Glenlyon and produced a single male of *N. corrugata*, but the traps were not functional in the long term as they could only be serviced on a monthly basis. Previously I have managed to successfully deploy yellow pans for a month using propylene glycol as the collecting fluid, but on Glenlyon the resident insectivorous Bat-eared Foxes and inquisitive Porcupines play havoc with the pans. I swear that they use them as Frisbees in the middle of the night, as pans get scattered far and wide, often disappearing off the face of the earth. They are either exceptional Frisbee throwers or they consume the whole bang shoot when they feast on the insects - has to be a Gary Larsen cartoon in that somewhere. I am in the process of developing a mammal-proof long-term yellow pan trap contraption that will only require servicing every month or so – more on that in the future.

A further exciting *Nixonia* discovery emerged from processing of samples collected in Kogelberg Biosphere Reserve (50km east of Cape Town) eight years ago, another floral hotspot in terms of both endemism (150 species) and species richness - 1880 species recorded. Unfortunately, only three males of a new species related to *N. lamorali* were collected, but the species may usurp *N. gigas* as the largest *Nixonia*, because one of the specimens measures 9mm and the females may be larger. Entices implementation of further sampling in Kogelberg, but then there are so many other habitats that have not been sampled and some of the month has to be spent in the lab working up the output! In that regard I have modified Norm and Lubo's 2006 key to *Nixonia* species incorporating the two new species in an online interactive version using Lucid Phoenix: <http://www.waspweb.org/Platygastroidea/Keys/index.htm>. Enjoy!

*Simon van Noort reporting from the wilds of Africa.*

#### Reference

Johnson, N.F. & Masner, L. 2006. Revision of world species of the genus *Nixonia* Masner (Hymenoptera: Platygastroidea, Scelionidae). *American Museum Novitates* **3518**: 1-32.



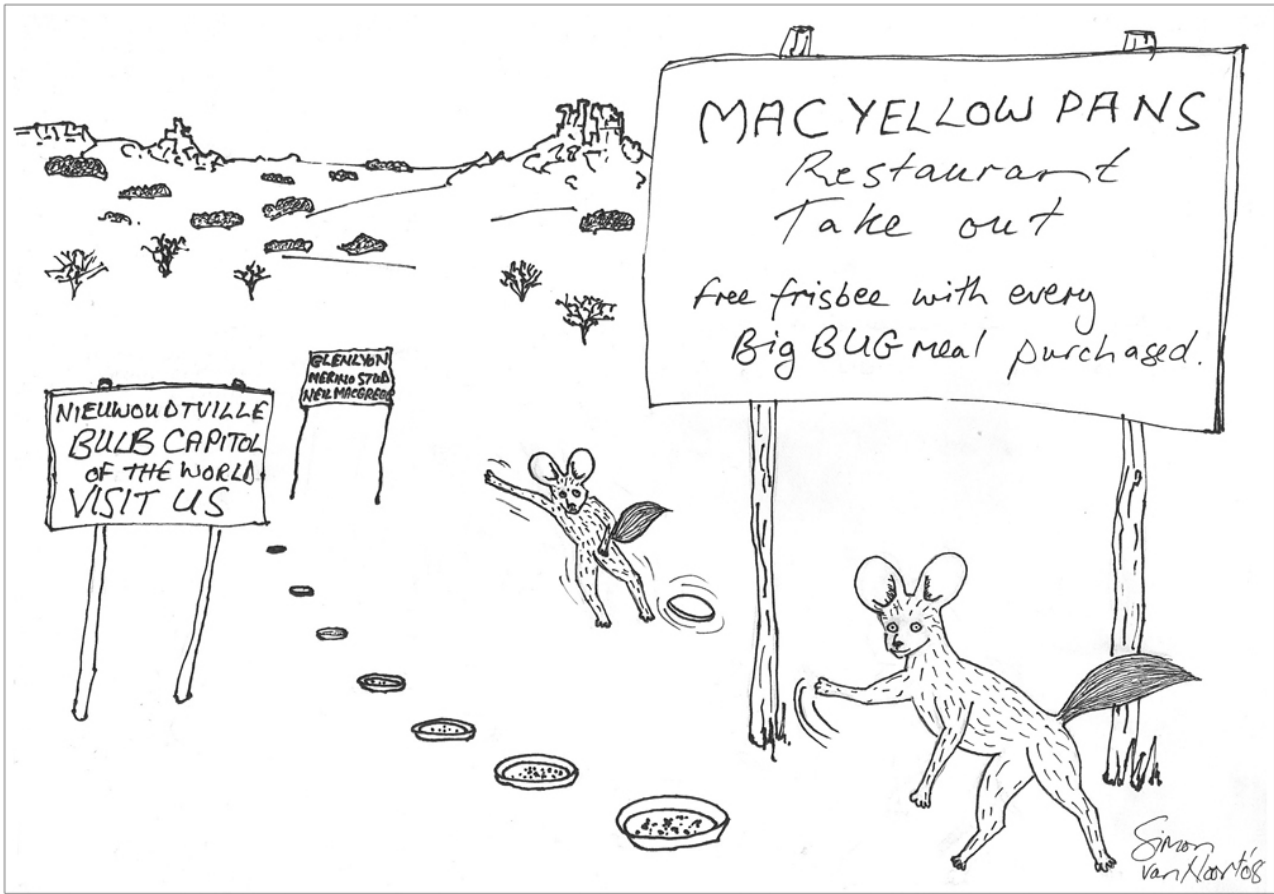
Malaise trap in Shale Renosterveld (left and top right); malaise trap in Roggeveld Dolerite Renosterveld (bottom right)

## Share images or stories related to the Platy PBI Project with the group.

Skaphion will publish news from your lab, such as: recent publications, presentations, grants, travels, museum visits, collecting trips, student and staff achievement awards and recognitions, visitors to your lab, website updates, TV and newspaper interviews, etc. Pictures of lab activities and personnel, including those of your lab pets, are welcome.

Send it all, plus comments and suggestions to [johnson.2@osu.edu](mailto:johnson.2@osu.edu)

Please help keep our Calendar up-to-date by sending news of upcoming events.



" Never had so much fun in all my life"

## Skaphion

**Skaphion** is the weekly newsletter of the Platygastridea PBI Project. The skaphion in Scelionidae is an anterior subdivision of the mesoscutum [Gr. skaphion: a small bowl or basin; a bowl shaped like a boat; a hemispherical vase.]

## The Project

The Platygastridea Planetary Biodiversity Inventory Project is funded by a grant from the National Science Foundation (NSF) to Norman Johnson at The Ohio State University & Andrew Austin at the University of Adelaide, Australia. The 3 broad objectives of this project are:

- ▶ species description,
- ▶ collecting in areas where fauna of Platygastridea is poorly known, and
- ▶ phylogenetic analysis of a monophyletic group.

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## Credits for this Issue

*Editing & Design:* Norman Johnson & Luciana Musetti

Images: All images submitted by Simon van Noort

## Calendar:

- 20th International Congress of Zoology, 26-29 August, 2008, Paris, France. <http://icz2008.snv.jussieu.fr>
- International Congress of Entomology, 6-12 July, 2008, Durban, South Africa <http://www.ice2008.org.za/>
- Entomological Society of America Annual Meetings, 16-19 November, 2008, Reno, NV <http://www.entsoc.org/am/fm/2008/index.htm>

