

CURRICULUM VITAE

PETER GEOFFREY HAWKES

PERSONAL DETAILS

NAME: Peter Geoffrey Hawkes
ORGANISATION: AfriBugs CC
DATE OF BIRTH: 5 December 1964
AGE: 44
MARITAL STATUS: Married
NATIONALITY: South African
ID NUMBER: 641205 5202 080
PASSPORT NUMBER: 434 754 672
DRIVERS' LICENCES: Codes 01 (15.02.1984) and 08 (15.02.1984)
(updated to new SA licences A1 & EB, 26.06.1998)
LANGUAGES: English (excellent)
Afrikaans (good)
kiSwahili (limited)

SECONDARY EDUCATION

1976-1978: Kingswood College, Grahamstown
1979-1980: Waterford-Kamhlaba School, Mbabane
1981: Woodridge College, Port Elizabeth:
Awarded Academic Honours
Top 100 in National Youth Science Olympiad
National Senior Certificate (JMB exemption):
A-aggregate, distinctions in Science and English

TERTIARY EDUCATION

1982-1984: Rhodes University, Grahamstown:
Bsc (Entomology and Biochemistry):
Distinction in Entomology (awarded Academic Half-Colours)
1985: Rhodes University, Grahamstown:
BSc(Hons):
Distinction in Entomology (awarded Academic Colours)
1986-1998: University of the Witwatersrand, Johannesburg:
Engaged in research towards a PhD in Zoology
Field of study: Sex ratios in hymenopteran parasitoids

SCHOLARSHIPS

William Waddell Trust (1984, 1985)
Duerden Scholarship (1985)
FRD Honours Bursary (1985)
Rhodes University Honours Bursary (1985)
Freda Lawenski Scholarship (1986, 1990)
FRD Masters Bursary (1986, 1987)
Wits University Senior Bursary (1986, 1987)
FRD PhD Bursary (1988, 1989)
Wits University Senior Bursary (1988, 1990)

CONFERENCE PROCEEDINGS

Hawkes, P.G. (1989), Male aggression in *Eupelmus orthopterae* Risbec (Hymenoptera: Eupelmidae). *Proceedings of the Seventh Congress of the Entomological Society of Southern Africa, 10-13 July 1989*, p65.

Crewe, R.M. and P.G. Hawkes (1992), Bouquets and blends: analysis of behavioural and physiological responses to exocrine secretions of *Camponotus*. 19th International Congress of Entomology, Beijing, China, 28 June-4 July, *Proceedings of the 19th International Congress of Entomology*, p192.

Hawkes, P.G. (2003), Diet of the Blue Swallow and food availability in relation to habitat type and weather. *Proceedings of the 14th Entomological Congress, organised by the Entomological Society of Southern Africa, Pretoria 7-9 July 2003*, p35.

Hawkes, P.G. (2003), Insect indicator groups in biodiversity evaluation and monitoring. *Proceedings of the 14th Entomological Congress, organised by the Entomological Society of Southern Africa, Pretoria 7-9 July 2003*, p36.

Hawkes, P.G. (2003), Diet of the Kihansi Spray Toad (*Nectophrynoides asperginis*), the world's most endangered frog. *Proceedings of the 14th Entomological Congress, organised by the Entomological Society of Southern Africa, Pretoria 7-9 July 2003*, p36.

PUBLICATIONS AND REPORTS

Hawkes, P.G. (1980), Notes on growth and sloughing in a captive night adder (*Causus rhombeatus*). *Journal of the Herpetological Society of Africa* **23**, pp4-6.

Motara, M.A. and P.G. Hawkes (1985), Meiosis in the Eastern Cape grasshopper *Phymateus leprosus* (Orthoptera: Pyrgomorphidae). *Journal of the Entomological Society of Southern Africa* **48**(2), pp217-221.

- Hawkes, P.G. (1992), Sex ratio stability and male-female conflict over sex ratio control in hymenopteran parasitoids. *South African Journal of Science* **88**, pp423-430.
- Hawkes, P.G. (1995), Report on a preliminary investigation of the potential impact of the Lower Kihansi Hydropower Project on the insect fauna. *Lower Kihansi Hydropower Project, Environmental Impact Assessment*. Tanzania Electric Supply Company Limited.
- Hawkes, P.G. 1998. Lower Kihansi Hydropower Project: Long-term monitoring. Entomological component: Interim report 1; Results of October 1997 collections. Report for NORPLAN/Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania.
- Hawkes, P.G. 1998. Lower Kihansi Hydropower Project: Long-term monitoring. Entomological component: Interim report 2; Results of October 1998 collections. Report for NORPLAN/Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania.
- Hawkes, P.G. 2000a. Lower Kihansi Hydropower Project: Long-term monitoring. Entomological component: Interim report 3; Results of October 1999 collections. Report for NORPLAN/Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania.
- Hawkes, P.G. 2000b. Lower Kihansi Hydropower Project: Long-term monitoring. Entomological component: Preliminary report on October 2000 collection trip. Report for NORPLAN/Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania.
- Hawkes, P.G. 2000c. Blue Swallow Diet Study: Report on Phase 1. Report prepared for Birdlife South Africa/Endangered Wildlife Trust, South Africa.
- Hawkes, P.G. 2001. Lower Kihansi Hydropower Project: Long-term monitoring. Entomological component: Interim report 4; Results of October 2000 collections. Report for NORPLAN/Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania.
- NORPLAN, 2001a. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Report on Site Visit & Planning for IREM - Insect Studies*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- NORPLAN, 2001b. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Entomology Field Report, May 2001*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- NORPLAN, 2001c. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Entomology Field Report, July 2001*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- NORPLAN, 2001d. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Entomology Field Report, September 2001*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- NORPLAN, 2001e. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Additional Entomological Studies 2000/2001*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania

- NORPLAN, 2001f. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Entomology Field Report, October 2001*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- NORPLAN, 2001g. *Lower Kihansi Hydropower Project. Long-term Environmental Monitoring Programme. Final Report - Entomological Component*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- NORPLAN, 2001h. *Lower Kihansi Hydropower Project. Immediate Rescue and Emergency Measures. Final Specialist Report: Entomology*. Report prepared for Tanzania Electric Supply Company Ltd. (TANESCO), Dar es Salaam, Tanzania
- Hawkes, P.G. 2003a. *Entomological survey report, February/March 2001*. Report produced for De Beers Mining Company Ltd. (De Beers), Cullinan, South Africa.
- NORPLAN 2003a. *Entomology field report, September 2002*. Report produced for Lower Kihansi Environmental Management Project (LKEMP), Dar es Salaam, Tanzania.
- NORPLAN 2003b. *Lower Kihansi Hydropower Project: Lower Kihansi Environmental Management Project. Long-term Environmental Monitoring. Entomology Field Report, September 2002*. Report produced for Lower Kihansi Environmental Management Project (LKEMP), Dar es Salaam, Tanzania.
- NORPLAN 2003c. *Lower Kihansi Hydropower Project: Lower Kihansi Environmental Management Project. Draft Final Report: Intermittent High Flow Manipulations and Ecological Studies*. Report produced for Lower Kihansi Environmental Management Project (LKEMP), Dar es Salaam, Tanzania.
- Hawkes, P.G. 2003b. *Blue Swallow Diet Study: Phase II - Insect abundance at the Kaapse Hoop BSNHS, September-December 2002*. Report produced for the Endangered Wildlife Trust - Blue Swallow Working Group, Johannesburg, South Africa.
- Hawkes, P.G. 2004a. *Assessment of the Hadogenes gunningi population at the proposed Mount Grace Hotel development site*. Report produced for Eco Assessments CC, Johannesburg, South Africa.
- Hawkes, P.G. 2004b. *Invertebrate Assessment of the proposed Blair Athol Country Estate site*. Report produced for Ecological Management Services, Kimberly, South Africa.
- Hawkes, P.G. 2005. *Invertebrate Assessment of the proposed Olifantsfontein sand mining site*. Report produced for Umhlaba Environmental Consulting CC, Johannesburg, South Africa.
- Hawkes, P.G. 2006a. *Coega ant community analysis*. Report prepared for African Sky Projects (Pty) Ltd, Pretoria, South Africa.
- Hawkes, P.G. 2006b. *Invertebrate assessment of the proposed Fort West Village site*. Report prepared for Rob Taylor and Associates, Johannesburg, South Africa.
- Hawkes, P.G, Zilihona, I.J.E. and Ndangalasi, H.J. 2006. *Host plant use of Kihansi spray wetland indicator insect species*. Report produced for Lower Kihansi Environmental Management Project (LKEMP), Dar es Salaam, Tanzania.

- Hawkes, P.G. 2006c. *Invertebrate assessment of the Gomes Zimbiwa Sand and Stone mining site*. Report prepared for Umhlaba Environmental Consulting CC, Johannesburg, South Africa.
- Hawkes, P.G. 2006d. *Invertebrate assessment of the proposed development on Zwartkoppies 364JR*. Report prepared for Rob Taylor and Associates, Johannesburg, South Africa.
- Hawkes, P.G. 2006e. *Repeat Invertebrate Assessment of the proposed Sterrewag Ext. 3 sewer line tie-in in the Groenkloof Nature Reserve*. Report prepared for KWP Landscape Architects, Pretoria, South Africa.
- Channing, A, Finlow-Bates, K.S., Haarklau, S.E. and Hawkes, P.G. (2006). The biology and recent history of the critically endangered Kihansi Spray Toad *Nectophrynoides asperginis* in Tanzania. *Journal of East African Natural History* **95**(2) 117-138.
- Hawkes, P.G. 2007a. *Invertebrate Assessment of the proposed extension to the mining area at Willow Quarries, February 2007*. Report produced for Willow Quarries (Pty) Ltd., Pretoria, South Africa.
- Hawkes, P.G. 2007b. *Invertebrate Assessment of the KH-2 water pipeline alignment in the Groenkloof Nature Reserve*. Report prepared for African EPA, Pretoria, South Africa.
- Hawkes, P.G. 2007c. *Invertebrate Assessment of the KK 1, 2 & 3 water pipeline alignment on the Klapperkop ridge*. Report prepared for African EPA, Pretoria, South Africa.
- Hawkes, P.G. 2007d. *Invertebrate Assessment of the proposed Kommandonek development*. Report prepared for VC Management Services CC, Rivonia, South Africa.
- Hawkes, P.G. 2007e. *Invertebrate Assessment of the proposed Midwater Estate*. Report prepared for Rock Environmental Consulting CC, Pretoria, South Africa.
- Hawkes, P.G. and Edge, D.A. 2008. *Nuclear 1 EIA and EMP. Specialist study for Environmental Impact Assessment. Specialist Study: Terrestrial Invertebrates*. Report produced for ARCUS GIBB, South Africa.

Note that 1) all reports listed under NORPLAN, with the exception of NORPLAN 2003c (jointly produced with several other authors) were prepared by me; most of these were subsequently incorporated in whole or in part into other reports (not listed here) produced by NORPLAN A.S for TANESCO, 2) reporting on many recent projects (2007-2008) has taken the form of compilation of sections within overall jointly authored reports submitted by the lead consultants concerned, and these reports are not listed above.

PROFESSIONAL REGISTRATION

South African Council for Natural Scientific Professions: Professional Natural Scientist (Zoological Science): registration number 400411/04 (23 September 2004)

MEMBERSHIP OF SOCIETIES

Entomological Society of Southern Africa: life member (1985-).

Botanical Society of South Africa: life member (1986-).

International Association for Impact Assessment South Africa (IAIASa) (2002-).

REVIEWING OF MANUSCRIPTS

I have carried out peer review of scientific papers for:

African Journal of Ecology (member of international reviewer panel since 2008)

African Plant Protection

Journal of East African Natural History

South African Journal of Science

ADDITIONAL INFORMATION

I am in excellent health and a keen hiker, camper and rock-climber and am thus well-suited to projects requiring field-work in remote areas. I have considerable experience with polyester resin casting, wood- and metal-working and related crafts and am able to custom-build equipment when required for specific projects. During my studies I worked as a vacation assistant on several projects, including the production of permanent insect displays, analysis of herbarium records for the Endangered Plants Project (CSIR, South Africa), maintaining cultures of numerous insect species and carrying out experimental work on several of these. Through this varied work experience, as well as through my studies and lifelong interest in insects and plants, I have developed an aptitude for collecting, cultivating and rearing a wide variety of species. I enjoy field-work and have a keen eye for unusual specimens in the field, and have collected specimens of numerous previously undescribed species of insects. I have over 28 years of experience in photography with an emphasis on macrophotography, and have built up a comprehensive set of equipment for this purpose. I have also developed micro-dissection and slide-mounting skills through my work on scale insects, parasitoid wasps and glandular secretions of ants. I work well under pressure and am capable of sustained intensive work.

My report-writing skills are excellent and I routinely use the Microsoft Office suite (mainly Word, Excel and Powerpoint) and Statistica, but am also familiar with Adobe Photoshop, CorelDraw and many other software programmes. I am currently involved in an informal collaborative project (with Dr Max Clark of African Sky Projects) on the development and evaluation of protocols using insect indicator groups for biodiversity assessments and rehabilitation monitoring in Southern Africa. In July 2003 I was invited to present a lecture on biodiversity for the SA Road Federation course on Integrated Environmental Management for the Roads Industry. I have worked extensively in the environmental field in Tanzania since 1994 and am familiar with the challenges of working in developing countries. I am currently the principal investigator and co-principal investigator respectively of two ongoing three-year research projects on insect biodiversity, one in Tanzania/Kenya and the other in Gauteng Province, South Africa.

EMPLOYMENT & PROJECT HISTORY

Oct. 1994- Present: freelance environmental consulting (through AfriBugs CC since July 1999) including:

- Invertebrate assessment for Biodiversity Action Plan for Anglo Coal New Denmark Colliery (ongoing - September 2008 - April 2009), subcontracted by Nepid Consultants.
- Terrestrial invertebrates specialist study for ESKOM Nuclear 1 EIA and EMP (August - September 2008), subcontracted by Arcus Gibb.
- Survey for new *Afroxydris* ant species at Cullinan Diamond Mine (ongoing - August 2008 -), contracted by Petra Diamonds.
- Survey of distribution of new *Camponotus* (sugar ant) species at proposed Everest North Platinum mine (ongoing - July 2008 -), subcontracted by Metago Environmental Engineers.
- Invertebrate assessment for EMP and impact assessment of proposed opencast extensions at Two Rivers Platinum, Limpopo Province (ongoing - January 2008 -) subcontracted by Ecorex.
- Invertebrate assessment of proposed Mohale's Gate development adjacent to Cradle of Humankind World Heritage Site (July - November 2007) subcontracted by Rob Taylor and Associates.
- Participation in the Population and Habitat Viability Assessment (PHVA) for the Kihansi Spray Toad, Bagamoyo, Tanzania, 14-17 May 2007. Invited by the Lower Kihansi Environmental Management Project, Tanzania.
- Invertebrate assessment of proposed Groot Letaba Water Resources Development Project, Limpopo Province (ongoing - April 2007 -) subcontracted by Ecorex.
- Invertebrate assessment of proposed Kommandonek development, North-West Province (April - October 2007) subcontracted by VC Management Services CC.
- Invertebrate assessment of proposed KH-2 and KK1,2&3 water pipelines in the Groenkloof and Klapperkop Nature Reserves (February 2007 - August 2007); subcontracted by Insitu Pipelines.
- Invertebrate assessment of proposed Everest North Platinum Mine, Mpumalanga Province (ongoing - February 2007 -) subcontracted by Ecorex.
- Entypesa ?schoutedeni relocation at Willow Quarries, Pretoria (April 2007). Contracted by Willow Quarries (Pty) Ltd., Pretoria, South Africa.
- Invertebrate assessment of the proposed extension to the mining area at Willow Quarries, Pretoria (February 2007). Contracted by Willow Quarries (Pty) Ltd., Pretoria, South Africa.
- Invertebrate assessment of proposed opencast extensions to Everest South Platinum Mine, Mpumalanga (November 2006 - February 2007) subcontracted by Ecorex.
- Invertebrate assessment of proposed VHL chrome mine, Mpumalanga (ongoing - September 2006 -)

- Invertebrate assessment of proposed Midwater Estate development, Gauteng (September 2006 - July 2007)
- Environmental compliance monitoring of Sterrewag Ext. 3 sewer line tie-in in the Groenkloof Nature Reserve (Oct 2006 May 2007); Contracted by Waterkloof Golf Estate.
- Invertebrate assessment of proposed sewer line tie-in in the Groenkloof Nature Reserve (June -Dec 2006); subcontracted by KWP Landscape Architects.
- Invertebrate assessment of the Gomes Zimbiwa Sand and Stone mining site (April 2006); subcontracted by Umhlaba Environmental consulting CC.
- Invertebrate assessment in the Waterpoort area of the Northern Soutpansberg (**ongoing**, April 2006 -); subcontracted by African Sky Projects (Pty) Ltd.
- Invertebrate assessment of the proposed development on Zwartkoppies 364JR (March-April 2006); subcontracted by Rob Taylor and Associates.
- Invertebrate assessment of the proposed Fort West Village site (February-March 2006); subcontracted by Rob Taylor and Associates.
- Red Data invertebrate scan of the National Chick Mooiplaats site (January 2006); subcontracted by P&N Environmental Development Consultants, Utrecht, South Africa.
- Assessment of ant communities at the Coega Industrial Development Zone (Dec 2005); subcontracted by African Sky Projects (Pty) Ltd.
- Invertebrate assessment relating to a mining right application on Oliantsfontein 402 IR (October 2005); subcontracted by Umhlaba Environmental consulting CC.
- Biodiversity assessment and monitoring of the insect fauna of the Eastern Arc Mountains and Coastal Forests hotspot using ground-dwelling ants and beetles as indicator groups. Principal Investigator; project in Tanzania & Kenya funded by the Critical Ecosystem Partnership Fund; **ongoing**, April 2005 - September 2008.
- Gauteng Insect Biodiversity Project funded by Ernest Oppenheimer & Sons; **ongoing**, January 2005-December 2007.
- Host plant use of Kihansi spray wetland indicator insect species. Research project carried out on behalf of Lower Kihansi Environmental Management Project, Dar es Salaam, Tanzania (May 2005 - May 2006).
- Invertebrate assessment of a proposed sand quarry on Olifantsfontein farm (February-March 2005); subcontracted by Umhlaba Environmental consulting CC.
- Compilation of South African International Pollinator Initiative stocktaking report (November-December 2004); subcontracted by African Sky Projects (Pty) Ltd.
- Invertebrate assessment of the proposed Blair Athol Country Estate site (October 2004); subcontracted by Ecological Management Services.
- Expert evidence at BioWatch/Syngenta Bt11 maize appeal hearing (September 2004); contracted by BioWatch.

- Assessment of the *Hadogenes gunningi* population at the proposed Mount Grace Hotel development site (March 2004); subcontracted by Eco Assessments CC.
- Lower Kihansi Environmental Management Project (Sept 2002 – Sept 2003); subcontracted by Norplan A.S.
- Blue Swallow Dietary Study Phase II (June 2002 – Dec 2003) on behalf of the Endangered Wildlife Trust (Private bag X11, Parkview 2122, South Africa)
- Immediate Rescue and Emergency Measure Project for the Lower Kihansi Hydropower Project in Tanzania (Jan 2001 – June 2002); subcontracted by Norplan A.S.
- Environmental Impact Assessment and baseline data collection for rehabilitation trials at the De Beers Premier Diamond Mine in Cullinan, South Africa (Feb 2001 - Feb 2002).
- Blue Swallow Dietary Study Phase I (April 1999 – December 2000) on behalf of the Endangered Wildlife Trust (Private bag X11, Parkview 2122, South Africa)
- Environmental Management Programme Report compilation (May 1998 –), on behalf of Clean Stream Environmental Services (433 Durr Street, Waterkloof Glen, Pretoria, South Africa).
- Environmental impact assessment (Oct 1994) and longterm monitoring (Dec 1996 – Dec 2001) of the Lower Kihansi Hydropower Project in Tanzania; subcontracted by Hydrosphere Resource Consultants and Norplan A.S.

Apr. 1992- Dec 1994: University of the Witwatersrand: Department of Zoology

- Research Assistant (part-time):
Experimental work on behavioural and metabolic responses of ants (*Camponotus* and *Crematogaster spp.*) to their exocrine secretions. Collection and maintenance of colonies of *circa* 12 species of ants and maintenance of cultures of isopods, millipedes, termites and cockroaches used as food sources. Assistance with field and experimental work and supervision of Honours degree students.

Jan. 1992-Mar. 1992: University of the Witwatersrand: Department of Zoology

- Vacation Assistant:
Experimental work on *Camponotus brevisetosus* behavioural responses to exocrine secretions, maintenance of ant colonies and cultures of food organisms.

Dec. 1983-Jan. 1984: Rhodes University: Department of Zoology and Entomology

- Vacation Assistant:
Culture of, and experimental work on, scale insects (*Saissetia oleae*) and their parasitoids (*Coccophagus bartletti*) on potato sprouts and Natal Mahogany (*Trichilia emetica*).

Dec. 1982-Feb. 1983: Albany Museum and Rhodes University: Department of Botany

- Vacation Assistant:
Analysis of herbarium records and specimens for the Endangered Plants Project, CSIR.

Dec. 1981-Jan.1982: Rhodes University: Department of Zoology and Entomology

- Vacation Assistant:

Collection and identification of insect specimens and production of permanent insect displays.

REFERENCES

1. John H. Gerstle
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