

## Supplementary material to:

Krug C.B., Esler K.J., Hoffman M.T., Henschel J., Schmiedel U. and Jürgens N. (2006). North–South cooperation through BIOTA: an interdisciplinary monitoring programme in arid and semi-arid southern Africa. *S. Afr. J. Sci.* **102**, 187–190.

**Table 1.** List of subprojects within BIOTA South, with number of workpackages (individual projects or tasks), German, South African and Namibian institutions involved, and number of researchers (including post-doctoral researchers) and students (Ph.D./M.Sc./B.Sc./B.Tech.) working in each subproject (some researchers are involved in more than one subproject).

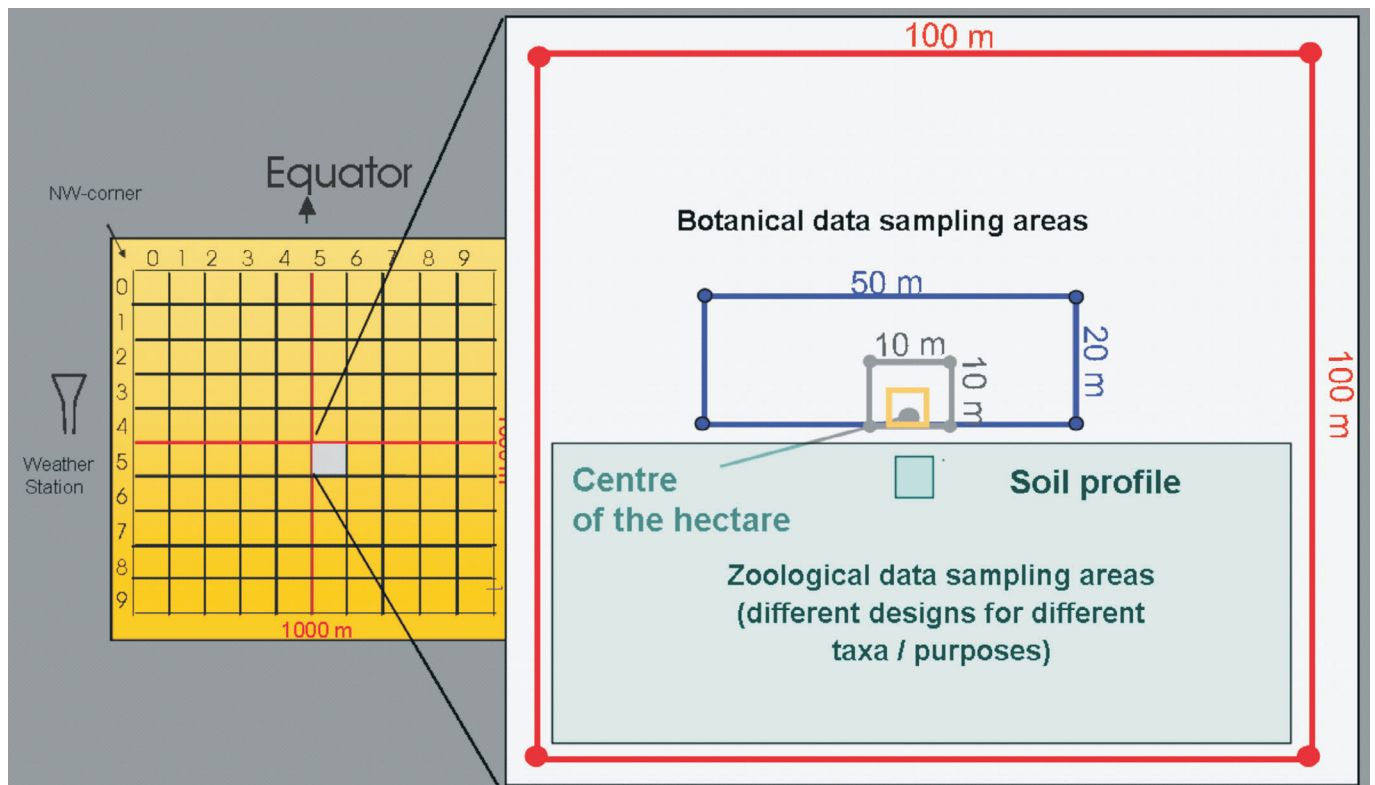
Sub-project no.	Subproject title	Institutions involved	Work packages	Researchers/ principal investigators	Students
S01	Remote sensing and GIS-based survey of spatial and temporal biodiversity dynamics and analysis of biodiversity and geodiversity interrelationships	German Aerospace Centre Max Planck Institute for Meteorology Universität Würzburg ARC-Range and Forage Institute South African National Biodiversity Institute University of Cape Town University of the Western Cape National Botanical Research Institute, Namibia Polytechnic of Namibia	5	8	7
S02	Edaphical diversity and biodiversity in mutual dependence	Universität Hamburg Stellenbosch University	5	5	5
S03a	Mycocoenoses of the soil, their species diversity and functions	Eberhard-Karls-Universität Tübingen	4	3	0
S03b	Biodiversity of rust fungi in southwestern Africa: Species monitoring, database and data analysis	Eberhard-Karls-Universität Tübingen	3	1	1
S04	Development of a storage and retrieval system for lichenological biodiversity data	Staatliches Museum für Naturkunde, Karlsruhe Universität Bayreuth National Herbarium, Pretoria Polytechnic of Namibia	2	2	0
S05	Biological soil crusts (BSCs): biodiversity, functional diversity, their environmental determinants and role in the ecosystem	Universität Hohenheim Universität Kaiserslautern Universität Leipzig Staatliches Museum für Naturkunde, Karlsruhe University of Limpopo	7	5	9
S06	Towards sustainable use of phyto-diversity: analysis of the mechanisms which control the changes caused by human land use and climate change	Universität Hamburg South African National Biodiversity Institute Stellenbosch University University of Cape Town University of Pretoria University of the Western Cape Western Cape Department of Agriculture National Botanical Research Institute, Namibia Polytechnic of Namibia	6	13	22
S08	Effects of anthropogenic changes on the diversity of Namibian Odonata: modelling on differentgeographical scales	Pädagogische Hochschule Karlsruhe Tierärztliche Hochschule Hannover Technische Universität Braunschweig National Museum of Namibia	5	6	4
S09	Structural, functional and species diversity in semiarid savannas of southern Africa: scaling-up and modelling-based integration	Philips-Universität Marburg Universität Potsdam Universität Regensburg Universität Tübingen University of Cape Town University of Pretoria	5	10	13
S10	Arthropods as ecosystem engineers: the impact of ants, termites and tenebrionids on soil properties and vegetation	Universität Würzburg Desert Research Foundation of Namibia Gobabeb Training and Research Centre	2	2	3
S11	Socio-economics of biodiversity management: Policy, institutions and land use concepts	Justus-Liebig-Universität Giessen Philipps-Universität Marburg Universität Hamburg University of Cape Town University of Zululand Desert Research Foundation of Namibia University of Namibia	6	7	14
S12	Zoological diversity in transformed landscape of the Western Cape, South Africa	Stellenbosch University	4	4	3
Total			54	66	81

**Table 2.** Disciplines represented within BIOTA South, and number of German, Namibian and South African researchers working within the different disciplines. Researchers are listed only once, according to their main discipline.

Discipline	German	Namibian	South African	Total
Economics & Social Sciences	4	3	0	7
Earth & Atmospheric Sciences	5	0	5	10
Biological & Life Sciences	17	2	12	31
Applied Sciences	0	1	2	3
Total	26	6	19	51

**Table 3.** Contact details for the German BIOTA South head office, and the Namibian and South African steering committee chairs and liaison officers.

Head Office BIOTA South	BIONASC	SABSC
Norbert Juergens Biocentre Klein Flottbek and Botanical Garden University of Hamburg Ohnhorststr. 18 22609 Hamburg Germany	BIOTA Namibia Steering Committee Ibo Zimmermann (Chair) Patrick Graz (Co-Chair) Agriculture Department Polytechnic of Namibia Private Bag 13388 Windhoek Namibia	South African BIOTA Steering Committee Nicky Allsopp (Chair) ARC-Range and Forage Institute c/o University of the Western Cape Private Bag X17 Bellville 7535 South Africa
<b>Coordinator:</b> Ingo Homburg Tel: +49 (0)40 428 16409 E-mail: ihomburg@botanik.uni-hamburg.de	<b>Liaison Officer:</b> Bertchen Kohrs Tel: +264 (0)61 227 913 E-mail: bertchenk@iway.na	<b>Liaison Officer:</b> Tessa Oliver Tel: +27 (0)21 959 3381 E-mail: tolover@uwc.ac.za



**Fig. A.** Design of the 1-km<sup>2</sup> observatories. Biodiversity research focuses on a number of randomly selected hectares within the observatory; the number of hectare plots investigated differs between subprojects. Soil, lichenological and botanical sampling plots are set on predefined, fixed points whereas other disciplines work outside of these within each hectare sampled.

**Table 4.** Total number of southern African students at B.Sc., M.Sc. and Ph.D. level supported by BIOTA South at South African, Namibian and German tertiary education institutions.

Institution	Degree	Female		Male	
		Total	PDI*	Total	PDI
University of Cape Town	B.Sc.(Hons)	2		2	
	M.Sc.			3	1
University of the Free State	Ph.D.	3(1)	1(1) <sup>†</sup>	1	
	Ph.D.			1(1)	
University of Pretoria	B.Sc.(Hons)	1(1)			
	M.Sc.	1		1	
University of Stellenbosch	Ph.D.	(1)			
	B.Sc.(Hon)			1	
University of the Western Cape	M.Sc.	2			
	Ph.D.			2	
	B.Sc.(Hons)			1	
Polytechnic of Namibia	M.Sc.			1	
	Ph.D.			1	
	B.Tech	2	2	2	2
University of Namibia	LLB	2	2	5	5
	M.A.			1	1
	Ph.D.			(1)	(1)
Universität Göttingen	Ph.D.			(1)	(1)
Universität Hamburg	Ph.D.			(1)	(1)
	Total	16	6	24	10

\*Previously disadvantaged students, i.e. as understood in contemporary South Africa (meaning black or mixed-race students, and women). Only 10% of the South African students are drawn from these groups compared to 80% of the Namibian students.

<sup>†</sup>Brackets denote number of Namibians studying at South African or German institutions.

**Table 5.** Aspects of on-the-job training of the BIOTA South para-ecologist programme.

The courses and on-the-job training comprise the following:

- general skills (e.g. to facilitate workshops, to conduct interviews, to share research activities and objectives with local communities, to promote environmental awareness in the community, to develop self-help);
- the use of technical equipment (e.g. GPS, maps, cameras, computers);
- collection and identification of plants and animals;
- assessment and documentation of monitoring data on flora, fauna and soils;
- assessment of socio-economic information;
- the ecology of and threats to the respective ecosystems they work and live in.



**Fig. B.** Para-ecologists proudly displaying their certificates after successfully completing the training course held at Gobabeb, Namibia, in October 2004.