Bernard Verdcourt, 1925-2011, prominent British malacologist, some personal memories and a summary analysis of his work

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A summary obituary of Dr Bernard Verdcourt (1925-2011), systematic botanist of note and prominent malacologist. Verdcourt was responsible for major parts of the 'Flora of East Africa' and the 'Flora Zambeziaca'. As a malacologist he successfully specialized in the non-marine Mollusca of East Africa (Kenya, Uganda, Tanzania) and produced the first checklist since 1897. Through a combination of compilation, revision and description Verdcourt increased the number of non-marine mollusc species-group taxa in East Africa from 534 (1897) to 1336 (2006). He introduced 152 East African species-group names; of a total of 1336 this represents more than 10 %. Details of his work are discussed in the context of East African malacology, interwoven with personal reminiscences.

Key words: history of malacology, checklist, non-marine Mollusca, East Africa.

The well-known British malacologist Bernard Verdcourt died on 25 October 2011. Although he had a successful career as a systematic botanist, he also became known as a malacologist of note1. Born in Luton on 20 January 1925, he obtained a degree in Radio Engineering, Physics and Chemistry at Reading University, where he also earned an external Ph.D. in 1955. His main professional occupation was the systematic botany of East Africa (Kenya, Tanzania, Uganda). He produced many hundreds of pages in series such as 'The Flora of East Africa' (where he was responsible for c. 4000 species, i.e. almost a third of the total) and the 'Flora Zambesiaca'. After an initial period at Amani in Tanganyika Territory, he was stationed in Nairobi in the East African Herbarium as Botanist in Charge (1958-1964). One of his final tasks in Amani was the removal of the herbarium to Nairobi; undaunted he drove quarter ton trucks filled with herbarium specimens over sometimes execrable roads to the Kenyan capital. After his stint in Nairobi he joined the Herbarium of the Royal Botanic Gardens at Kew (1964-

¹Incidentally, I know of two more cases of a combination of systematic botany and malacology, both Dutch biologists, Dr J.Th. Henrard (1881-1974, botanist at the Rijksherbarium and founder of the Netherlands Malacological Society) and Dr J.J. Vermeulen (*1955, well-known orchid taxonomist and specialist in the non-marine Mollusca of South-East Asia). Cases of the opposite, viz., mollusc specialists who also made their mark on systematic botany, are as yet unknown to me.

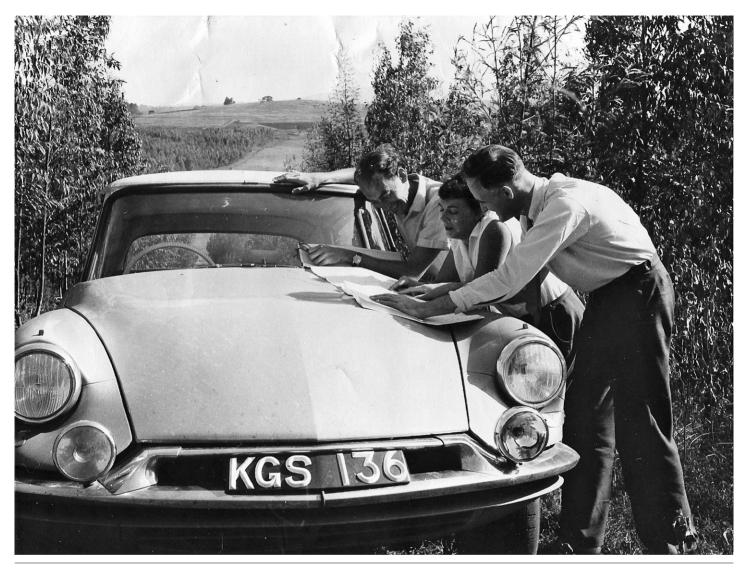


Fig. 1. Bernard Verdcourt (in the foreground) taking part in the 9th East African Safari Rally in 1961. The car is not a Peugeot. Photograph courtesy Dr H. Beentje, Royal Botanic Gardens, Kew, U.K.

1987), initially as Principal Research Fellow, later as Principal Scientific Officer. After retiring he continued his work as many biologists are wont to do and only had to give up well into the 21st century.

Malacology was one of his early interests and he soon specialized in the non-marine molluscs of East Africa.

Notwithstanding the fact that the last comprehensive work, the book by Von Martens, was published in 1897, he started to come to grips with a variety of problems. The available literature, meagre as it was, was scattered over a long period in a variety of scientific journals in at least four languages: English, French, German and Italian. With a large dose of

perseverance and a lot of field work, mostly in his own time, he eventually composed a framework of the enormous diversity of the land and freshwater molluscs of East Africa, a malacofauna that may encompass 1500-2000 species. One of the main difficulties was that type material was lodged in a variety of museums in a number of countries. Prominent among those was the museum in East Berlin (holding the types of Von Martens) in the then Democratic Republic of Germany (D.D.R. or East Germany). At that time Europe was still divided by the Iron Curtain, which caused a lot of obstacles as regards scientific contacts. On the other hand, another crucial institute, the British Museum (Natural History) [now The Natural History Museum], was close by in London. Verdcourt could establish the range of a large number of taxa and also discovered many new species in the process. He was interested in the anatomy of the terrestrial snails and published a host of anatomical data, thereby frequently clarifying relationships.

In 1983 he had the courage to publish a first, preliminary, checklist, in the now unfortunately no longer existing specialist journal 'Achatina'. This drew a lot of interest and towards the end of his life he felt encouraged to privately publish a second, much improved, edition (Verdcourt, 2006). He also collated data on explorers and other collectors of molluscs in East Africa; this resulted in a most valuable series of thirty contributions entitled 'Collectors in East Africa' (1979-2001, see list in Verdcourt, 2006: 57-58). Of course, this was an offshoot of his botanical work because many plant collectors also contributed molluscs. He fully realized that in many cases knowledge of historical details forms the foundation of taxonomic research. In addition to his systematic work he occasionally wrote concise papers on the biogeography of the non-marine molluscs of East Africa, e.g., his presidential address to the Conchological Society of Great Britain and Ireland (1972). Later, in 1983, as invited lecturer at the 8th International Congress of Malacology in Budapest, he wrote a highly interesting offshoot of this biogeographical essay for a special volume of the proceedings of a symposium of the congress (1984).

As an old-fashioned naturalist, he kept abreast particularly of the fauna and flora of Bedfordshire, the county where he was born. His papers touch on faunistics, particu-

larly of insects, but also other groups. The wild and alien fauna of Kew gardens and its greenhouses drew his particular attention and many discoveries were duly recorded. Indeed, his work covers many fields of biological science, reason why he collated his numerous publications in a separate little volume (Verdcourt, 1997, 2002).

For an extensive obituary with lists of malacological publications and new mollusc taxa the student is referred to Rowson, Tattersfield, Gallichan & Verdcourt (2011).

Early in 1962, when I started my research on African terrestrial snails in the Natal Museum (Pietermaritzburg, South Africa), I wrote to him in Nairobi. At that time postal connections between apartheid-ridden South Africa and newly independent Kenya were not altogether easy, varying from a go-slow system to an incomplete boycott. However, in the sixties of last century there were no other connections than the postal services. After our return to Europe we visited the Verdcourts for the first time in 1967 when Helen and Bernard lived in Spring Cottage in Maidenhead with their cats and a badger sett in the gardens. This initiated a closer cooperation from which we both profited.

In many respects Bernard Verdcourt was a colourful person. He was always cheerful, had a devastating sense of humour, and was very critical indeed. Peugeot motorcars were his favourite means of transport and he soon became an expert on this subject, even writing articles for the specialist periodical 'The Peugeotist'. Travelling around in his years in Kenya (1958-1964), mainly for collecting plants, he witnessed the then almost unbelievable abundance of the game - he told us that once, in the course of a single day, he saw 42 black rhinos, a species today reduced to a few meagre populations. We ourselves also witnessed this distressing decline in the period of our almost annual East African safaris (1974-1990). He also participated in the famous Rijksherbarium project, the 'Flora Malesiana', and he visited Leiden a few times. Bernard then drove up to our house in Oegstgeest in an old Peugeot in severe winter weather and got out in his shirt sleeves – low temperatures did not harm him at all! Our cats approved of him which he whole-heartedly reciprocated. He was a hard and accurate worker; in fact, it is difficult to grasp how he found the time to write thousands of pages, while always finding opportunity to

With Compliments

Dear Jolf.

Make you for your letter of the CIA.

We were Richmond, Surrey, TW9 3AB, England

Kew, Richmond, Surrey, TW9 3AB, England

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Telephone central +44. (0)181-332 5000 Fax central +44. (0)181-33

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See-level without occasional trouble.

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Fig. 2. Many of the letters by Bernard Verdcourt were written on small Kew notelets ($98 \times 210 \text{ mm}$); sometimes he needed a whole bunch to complete his letter – pp. 1 (top) and 6 (bottom) of his letter of "8-2-1995" to the present author are shown here.

quietly enjoy a cup of coffee or a meal with wine (his wife was a cat judge and wine merchant!) and at the same time discuss scientific issues. He was known for his poignant observations – once, when he stayed with us and we took him to a restaurant in neighbouring The Hague, my better half was at the steering wheel. After endless difficulties she squeezed the car into the last available, far from easy, park-

ing space in the centre of town; Bernard complimented her by summarily stating "Wendy, you drive like a man!"

Repeatedly Verdcourt offered manuscripts to the editorial board of 'Basteria' (papers published in the period 1950-2006), which we considered a compliment to our journal. When I as editor-in-chief at times hesitatingly started remonstrating that the paper was fine, but that he was not a

mollusc group	number of taxa in Verdcourt, 2006	number of taxa in Von Martens,1897	comments
land snails	1078	306	Von Martens: inclusive of 22 slugs (13 Veronicellidae and 9 Urocyclidae), enumerated by Simroth, 1895
freshwater molluscs	227	216	this is a rough calculation because Von Martens did not enumerate all species in a number of genera and also recognized many varieties in the bivalves
semi-marine molluscs	31	12	molluscs that live in coastal brackish water, in mangrove environments and on the beach, e.g., Ellobiidae
TOTAL	1336	534	-

Table 1. Comparison between the checklist by Verdcourt (2006) and the treatise by Von Martens (1897) inclusive of the paper by Simroth (1895) as regards numbers of taxa of East African non-marine molluscs (nominal taxa, i.e., species-group names inclusive of subspecies and varieties and also unidentified taxa).

member of the society, he immediately sent an envelope full of banknotes, initially Pounds Sterling, later Euro. Also, he was generous with regard to his material; many of his types are in the Rijksmuseum van Natuurlijke Historie/National Museum of Natural History, Leiden (now Naturalis Biodiversity Center). Until some years before his death we had a fairly intensive contact and four times (1965, 1968, 1993, 2002) we published together on African land snails. It is remarkable that among his few malacological co-authors there is another Dutchman, L.A.W.C. Venmans, with whom he published in the years 1950-1956, also four times. With other co-authors he published only once or at most twice: D.S. Brown (1998), P. Halliday (1973, 1979), C.F. Hemming (1956) and Hemming & C.E. Hayslip (1984), T. Pain (1962), R.M. Polhill (1961), S. Urban (1960), J.J. van Mol (1968), A.H. Wood & B. Rowson (2003). For bibliographical data of co-authored papers one should refer to Verdcourt (1997, 2002) and Rowson et al. (2011).

Three times I had occasion to name an African land snail after Bernard Verdcourt, i.e., *Gulella verdcourti* Van Bruggen, 1966 (South Africa, Limpopo Province), *G. bernardi* Van Bruggen & Van Goethem, 1997 [together with a colleague,

nom. nov. for *Gulella sexdentata* Taylor, 1880, non *Gulella sexdentata* (Von Martens, 1869)], and, finally, *G.* (*Primigulella*) augur Van Bruggen, 1988 (Tanzania, Uzungwa Mts.), not shown in the list of Rowson et al. (2011: 703). They cannot be blamed for this as the new name was coined tongue-incheek as follows (Van Bruggen, 1988: 130) "augur, Lat. = prophesier or prophet, as a noun in apposition, particularly referring to Dr. Bernard Verdcourt, who in 1956 and 1984 predicted that more *Primigulella* would be found in the mountains of southern Tanzania. In view of the existence of *Gulella verdcourti* Van Bruggen, 1966 (South Africa: Transvaal), the here proposed new name seems a fitting tribute to a much appreciated colleague".

The book by Eduard von Martens (1897) was a landmark in East African malacology; it constituted the first checklist for this part of Africa. Apart from Von Martens (1831-1904), who were Verdcourt's main predecessors as regards studies on the non-marine Mollusca of East Africa? First of all there were three British citizens. Edgar A. Smith (1847-1916), long employed in the then British Museum (Natural History) (1867-1913), published on African non-marine Mollusca in the years 1872-1916 (vide Trew, 1993). The somewhat maligned

family	number of taxa
Streptaxidae	367
Subulinidae	242
Urocyclidae s.l.	227
TOTAL	836

Table 2. Numbers of taxa in the three dominant families of land snails in East Africa in the checklist by Verdcourt (2006). Urocyclidae s.l. includes Gymnarionidae and maybe a few Ariophantidae or Helicarionidae. Counts consist of all nominal taxa (species-group names), i.e., inclusive of subspecies and varieties and also unidentified taxa. Together these constitute 77 % of the total.

Hugh B. Preston (1871-1945), a shell dealer in London, published extensively on African non-marine molluscs in the period 1905-1916 (vide Adam, 1971). The famous Matthew W.K. Connolly (1872-1947), a professional soldier, published on non-marine molluscs from Africa in the years 1910-1945 (vide Adam, 1971). Among the non-English speaking, the German Johannes Thiele (1860-1935) shares pride of place with the Frenchman Louis Germain (1878-1942). Additionally, of course, the famous American malacologist Henry A. Pilsbry (1862-1957) will always be remembered for his 1919 and 1927 treatises on the then Belgian Congo, the second volume together with the Belgian/American Joseph Bequaert (1886-1982). A host of others contributed a few papers each among which were several important publications.

Major taxonomic monographs relevant to Subsaharan Africa have always been scarce – the few that come to mind are Bequaert (1950: Achatinidae p.p.), Forcart (1953: African Veronicellidae), Van Mol (1970, s.n. Urocyclidae, mostly semislugs), and Van Goethem (1977, Urocyclidae, slugs

Krauss	1848	South Africa (first ever African faunistic treatise)	
Morelet	1868	Angola (first and so far only faunistic treatise)	
Jickeli	1874	North-east Africa	
d'Ailly	1896	Cameroon s.l.	
Bourguignat	1889	North-east and East Africa	
Von Martens	1897	East Africa (should include Simroth, 1895, for slugs)	
Sturany	1898	Southern Africa (first checklist southern Africa)	
Germain	1908	Central-north Africa	
Kobelt	1909	North-east Africa	
Connolly	1912	Southern Africa (first really comprehensive check-list)	
Pilsbry	1919	Belgian Congo (now D.R. Congo; land snails, major monograph)	
Germain	1920	East Africa	
Germain	1923	East Africa (second part of Germain, 1920)	
Connolly	1925	Portuguese East Africa (now Mozambique)	
Pilsbry & Bequaert	1927	Belgian Congo (now D.R. Congo; freshwater molluscs, major monograph)	
Connolly	1930	South West Africa (now Namibia)	
Degner	1934	West Africa	
Connolly	1939	Southern Africa (comprehensive monograph non-marine molluscs)	
Bacci	1951	Abyssinia/Somalia (now Ethiopia and various states to the East)	

Table 3. Major faunistic works on the non-marine malacofauna of Subsaharan Africa – these cover about a century. This table reflects the first century of specialist work on the subject and these works formed the basis for Bernard Verdcourt's subsequent work.

only). Minor monographic treatments are available but equally rare.

Verdcourt's 2006 checklist encompasses 1078 land snail species-group taxa (nominal taxa, i.e. inclusive of subspecies and varieties: indeed, the variety of today is the species of tomorrow and often vice versa). This includes many undescribed taxa, but does reflect a minimum count because of many unnamed taxa not shown (see table 1). Comparison with the numbers calculated from Von Martens's book shows the enormous progress made in the intervening 110 years. The total figures show that Verdcourt could enumerate 3.5 times as many land snail species (1078) as Von Martens (306)— an astonishing score for roughly a century! In the list of new taxa in Rowson et al. (2011) on pp. 695-703 they enumerate "186 species-group names (including 46 for subspecies or varieties)". Of these 34 refer to non-East African taxa, leaving a total of 152, among which are a limited number of fossils. On a total of 1336 for the three habitats for East Africa this represents more than 10%, witness of the industry with which Verdcourt worked on his beloved malacofauna. The total figures also show that with 1336 Verdcourt could enumerate 2.5 times as many non-marine molluscs for East Africa as Von Martens did (534), again a most remarkable score for roughly a century.

On the other hand, over the same period, the number of taxa of freshwater molluscs shown in both publications remains approximately the same, which first of all is probably due to early interest generated in these molluscs, particularly those of the great Rift Valley lakes, but may also be due to excessive splitting – later lumping having been compensated by the discovery of new taxa. Von Martens's figures are also somewhat inflated because of his recognition of numerous varieties in the bivalves. Only in 1988 Mandahl-Barth published a summary treatise of all African freshwater bivalves. Unfortunately this volume is not as well-known as it should be because of the limited edition. Of course, David Brown's work (second edition 1994) sets the standards for the 21st century for the freshwater gastropods of Africa.

Bernard Verdcourt mainly worked on the terrestrial snails of East Africa. Four families of Caenogastropoda (formerly Prosobranchia) are represented, while the Eupulmonata belong to 17 families. The total of the

Caenogastropoda on land (formerly Prosobranchia), 37, is small as is the case elsewhere in Subsaharan Africa (see also Van Bruggen, 1982). There are three dominant families among the Eupulmonata (as is usual elsewhere in Subsaharan Africa, see table 2), together with 836 species-group taxa (= 77 % or slightly more than three-quarters of the total), i.e., 367 taxa of Streptaxidae, 242 Subulinidae, and 227 Urocyclidae s.l. (214 + 13 slugs, Gymnarionidae are not shown separately; also, some taxa enumerated here may belong to the Ariophantidae or Helicarionidae). Von Martens shows 69 Streptaxidae which amounts to more than 22% or less than 1 in 4 of the total score. Verdcourt enumerates 367 which equals 34%, or 1 in 3, i.e., either about one third of all land molluscs in East Africa are streptaxids or Verdcourt particularly diligently worked on the group. Admittedly, the Streptaxidae are in many respects a highly attractive and dominant group - also, many taxa have small shells which may have escaped early collectors.

What did Verdcourt do? First of all, he collated all data generated by a series of workers and secondly he made his own contributions by describing new taxa and finding new distribution data for others. The major faunistic works he consulted are shown in table 3. His first paper on African molluscs treats freshwater gastropods (1950) and his first paper on land snails dates from 1951. His final paper appeared in 2007.

Workers on African non-marine Mollusca, particularly terrestrial snails, were few and far between in those days and, indeed, still are. The first papers on this subject of the post-war period (i.e., after 1945) were Bequaert (1950), Mead (1950), Adam (1954), Dartevelle & Venmans (1951), Van Bruggen (1961), Van Mol (1968), and Van Goethem (1968) – these were Verdcourt's contemporaries and colleagues, in many cases resulting in prolonged correspondence and cooperation. Other people published a few papers on African terrestrial malacology and were usually also included in Verdcourt's network. Many of those predeceased him, others like Van Goethem (*1943) and Van Bruggen (*1929) continued their research. The now defunct newsletter 'Achatina' (1970-1985) reflects the at that time great interest in the study of the non-marine molluscs of Africa and the fruits of the work of the people involved. Fortunately also some new

stars arose with a thoroughly modern approach so that African terrestrial malacology may confidently expect a new future.

Bernard Verdcourt's main contribution to East African malacology has been to collate and review all relevant data adding his own conclusions in the process – his work has opened the way for further studies because of his building the solid basis. Of course, future studies will heavily rely on molecular data but all the time we will have to return to the support of old-fashioned taxonomy. Bernard Verdcourt's name here will be one of the giants on whose shoulders we continue to stand.

The following five obituaries have come to our notice: Beentje, Polhill & Lewis (2011), Van Bruggen (2012), "Colleagues at RBG, Kew" (2011), Rowson, Tattersfield, J. Gallichan & B. Verdcourt (2011), Tattersfield, Rowson & Gallichan (2011). There is a statement in Vol. 100 Parts 1 & 2 of the Journal of East African Natural History, 2011, reading: "This issue is dedicated to the memory of Bernard Verdcourt who spent most of his life studying the plants and molluscs of East Africa." Undoubtedly more obituaries, particularly in the field of systematic botany, are either available or will be in print soon.

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