

A checklist of the Spionidae (Annelida: Polychaeta) of Southern Africa, including South Africa, Namibia, Mozambique and Madagascar.

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### **Abstract**

A checklist of the Spionidae in Southern Africa, i.e., South Africa, Namibia, Mozambique and Madagascar, was compiled using mainly published records of species' descriptions. Distribution records were augmented by species listings in ecological studies conducted in the country. Forty-four species, in 17 genera, have been identified to species level. Of these, only 10 are considered endemic to the region. Five records (four genera) remain unconfirmed owing to lack of representative specimens or descriptions.

### **Introduction**

The 1950's and 1960's represented a golden age in polychaete taxonomy in Southern Africa; spearheaded by Prof. John Day, it culminated in the publication of a two-part monograph (Day 1967*a* & *b*). This and other publications by John Day remain seminal references in Southern Africa and are used regularly to identify polychaetes during ecological studies (e.g., Kalejta & Hockey 1991; Schlacher & Wooldridge 1996; Teske & Wooldridge 2003). However, since few taxonomic studies or revisions have been conducted in the region since the late 1960's, many species names are now outdated, and these names may be perpetuated in the literature (e.g., *Nerinides gilchristi* in Schlacher & Wooldridge, 1996). Since the 1990's there has been an increase in the interest in the shell-infesting members of the *Polydora*-group (Spionidae) owing to the impact that these worms have on cultured oysters and abalone (e.g., Scheyler 1991;

Simon *et al.* 2006; Simon 2009a; Simon *et al.* 2010) while other spionids are commonly encountered during ecological studies (e.g., Kalejta & Hockey 1991; Schlacher & Wooldridge 1996; Teske & Wooldridge 2003; Pillay 2006). The Spionidae is also one of the largest taxonomic groupings of polychaetes (Rouse & Pleijel, 2001). This makes this family a logical point to start updating the record of polychaetes in the region. The countries included in this checklist are the same as those included by Day (1967a & b).

This checklist is based primarily on taxonomic descriptions. In some cases distribution records are augmented by published ecological studies although no identifications have been confirmed and no preliminary descriptions for the unidentified specimens are available. These identifications should therefore be treated with caution.

Key:

\*: reference used to check the validity of the taxon name

#: original text not consulted; unless otherwise stated, it is cited in the following reference in the list of synonymies.

Refer to Figure 1 for local distributions (except Madagascar).

### **Valid species**

Spionidae GRUBE 1850

#### ***Aonidella* Maciolek in López-Jamar, 1989**

*Aonidella cirrobranchiata* (Day 1961)

*Prionospio cirrobranchiata* Day 1961: 488, fig. 4 a – d

*Prionospio cirrobranchiata* - Day 1967b: 488, fig. 18.8 e-h; Day *et al.* 1970: 29

*Aonidella cirrobranchiata* - Maciolek 2000\*

Type locality: Saldanha Bay

Local distribution: Saldanha Bay to Mossel Bay

#### ***Aonides* Claparede 1864**

*Aonides oxycephala* (Sars 1862)

*Nerine oxycephala* Sars 1862: 24<sup>#</sup>

*Aonides oxycephala* - Day 1955: 412; Day 1967b: 478, fig 18.6 d-g; Day *et al.* 1970: 28

Type locality: Florø, Norway

Local distribution: Saldanha Bay to Inhaca Island

Habitat: sand, mud

### ***Boccardia* Carazzi, 1895**

*Boccardia* cf. *polybranchia* (Haswell 1885)

*Polydora polybranchia* Haswell 1885: 275

*Boccardia polybranchia* – Day 1955: 414; Day 1967b: 463, fig. 18.i a - h; Day *et al.* 1970: 29

*Boccardia* cf. *polybranchia* - Simon *et al.* 2010: 585, figs 2, 3, Table 1

Type locality: Coff's Harbour, S.E. Australia

Local distribution: North of Walvis Bay to St Lucia Bay

Habitat: shell, stones

*Boccardia proboscidea* Hartman 1940

*Boccardia proboscidea* Hartman 1940: 382, fig. 1

*Boccardia proboscidea* – Simon *et al.* 2010: 594, figs 4, 5

Type locality: California

Local distribution: St Helena Bay to Haga Haga

Habitat: Shell, sand

*Boccardia pseudonatrix* Day 1961

*Boccardia pseudonatrix* Day 1961: 492, fig. 5 e-j

*Boccardia pseudonatrix* - Dayb 1967: 465, fig 18.1 k-o; Simon *et al.* 2010: 596

Type locality: Knysna,

Local distribution: Kleinzee, Paternoster, Knysna, Haga Haga

Habitat: rock, shell

### **Boccardiella Blake & Kudenov, 1978**

*Boccardiella* cf. *ligerica* (Ferronière, 1898)

*Boccardiella* cf. *ligerica* Ferronière 1898<sup>#</sup>: 109, pl. 6, figs a-i

*Boccardiella* cf. *ligerica* - Day 1955: 415; Day 1967b: 463, Fig. 18.1 j

Type locality: France

Local distribution: Berg River Estuary

*Boccardiella* sp 1 Simon

Local distribution: Port Elizabeth

Habitat: shell

### ***Dipolydora* Verril 1879**

*Dipolydora armata* (Langerhans 1880)

*Polydora armata* Langerhans 1880<sup>#</sup>: 93, pl. 4 fig. 5

*Polydora armata* - Day 1967: 466, fig 18.2 i-j

*Dipolydora armata* - Simon 2009b

Type locality: Madeira

Local distribution: Hermanus to Haga Haga

*Dipolydora caeca* (Oersted, 1843)

*Leucodorum caeca* Oersted, 1843<sup>#</sup>: 39

*Polydora caeca* – Day 1957: 97; Day 1967b: 469, fig. 18.3 e-h;

*Dipolydora caeca* - Simon 2009b

Type locality: Oresund, Sweden

Local Distribution: Haga Haga, Durban, Inhaca Island

Habitat: dead coral, shell

Additional information: identification doubtful. It closely resembles *Dipolydora capensis* but has a strongly bilobed prostomium.

*Dipolydora capensis* (Day 1955)

*Polydora capensis* Day 1955: 416, fig. 1 k-s

*Polydora capensis* – Day 1967b: 466, fig. 18.2 a-h; Day *et al.* 1970: 29

*Dipolydora capensis* – Simon 2009b

Type locality: Simonstown

Local distribution: Lamberts Bay to East London

Habitat: shell

Additional aquacultural reference: Simon *et al.*, 2006

*Dipolydora cf giardi* (Mesnil 1896)

*Polydora giardi* Mesnil 1896: 195, pl. 13 figs 1-12

*Polydora giardi* - Day 1955: 415

*Polydora cf. giardi* - Day 1961: 493, fig. k; Day 1967b: 471, fig. 18.4 1-b

*Dipolydora cf. giardi* - Simon 2009b

Type locality: Saldanha Bay

Local distribution: Saldanha Bay to East London

Habitat: sandy tubes, shell, limestone

*Dipolydora normalis* (Day 1957)

*Polydora normalis* Day 1957: 97, fig. 6 f-j

*Polydora normalis* – Day 1967b: 470, fig. 18.3 k-l

*Dipolydora normalis* – Simon 2009b

Deposit number: SAMC A60058, A60059 (Ethanol)

Type locality: Inhaca Island, Mozambique

Local distribution: Haga Haga, Durban, Inhaca Island

Habitat: mud flats, surface of abalone shells

*Dipolydora flava* (Claparède 1870)

*Polydora flava* Claparède 1870<sup>#</sup>: 487

*Polydora flava* - Day 1961: 496; Day 1967b: 468, fig 18.3 1-d, Day *et al.* 1970: 29

Type locality: Gulf of Naples, Italy

Local distribution: Saldanha Bay to False Bay

Habitat: rock

*Dipolydora keulderae* Simon 2011

*Dipolydora* sp (*barbilla/bidentata* group) – Simon 2009b

Deposit number: SAMC A60060, A60061, A60062 (Ethanol)

Type locality: Haga Haga

Local distribution: Hermanus to Haga Haga

Habitat: shell

### ***Dispio* Hartman 1951**

*Dispio magnus* (Day 1955)

*Spio magnus* Day 1955: 413, fig. 2 a-g

*Dispio magna* - Day 1967b: 482, fig. 18.6 p-t

*Dispio magna* – Day *et al.* 1970, 29

Type locality: Simonstown

Local distribution: False Bay

Habitat: sand

### ***Laonice* Malmgren, 1867**

*Laonice antipoda* Sikorski 2011

*Laonice antipoda* Sikorski 2011

Type locality: Cape Point

*Laonice cirrata* (Sars 1851)

*Nerine cirrata* Sars 1851#: 64

*Laonice cirrata* – Day 1961: 484; Day 1967b: 480, fig. 18.6 h-k; Day *et al.* 1970: 29

Type locality: Northern Norway

Local distribution: western and southern coasts, off-shore

Habitat: mud

### ***Malacoceros* Quatrefages 1843**

*Malacoceros indicus* (Fauvel 1928)

*Scolecoclepis indica* Fauvel 1928<sup>#</sup>; 4, fig 2 g-n

*Malacoceros indicus* – Day 1967b: 477, fig. 18.5 p-u

Type locality: Krusadai Island, Gulf of Mannar, Sri Lanka

Local distribution: KwaZulu Natal to Mozambique, possibly also near Mossel Bay

### ***Paraprionospio* Caullery 1914**

*Paraprionospio pinnata* (Ehlers 1901)

*Prionospio pinnata* Ehlers 1901<sup>#</sup>: 163

*Prionospio pinnata* - Day 1967b: 488, Fig. 18.8 i-l; Day *et al.* 1970: 29

*Paraprionospio pinnata* – Foster, 1969\*: 389, figs 12 - 21

Type locality: Talcahuano, Chile

Local distribution: Walvis Bay to Durban

Additional ecological reference: Clarke, 2005 (as *Prionospio pinnata*)

### ***Polydora* Bosc 1802**

*Polydora* cf. *calcarea* (Templeton 1836)

*Spio calcarea* Templeton 1836

*Polydora ciliata* – Simon 2011

Local distribution: Port Elizabeth (from oyster shells that originated in Hamburg, between Port Elizabeth and East London), Kleinsee, Swakopmund (Namibia)

Habitat: shell

Additional notes: the name *P. calcarea* was re-erected by Radashevsky and Pancova (2006) to include generalist shell-boring members of the *P. ciliata* complex. The name has therefore been used here to maintain consistency.

*Polydora ciliata* (Johnston 1838)

*Leucodore ciliatus* Johnston, 1838<sup>#</sup>: 67

*Polydora ciliata* – Day 1957: 99; Day 1967b: 469, fig. 18.3 i-j

Type locality: Berwick, Scotland

Local distribution: and Mozambique

Habitat: rock, lithothamnion, shell

Additional notes: it is not yet certain if the *Polydora ciliata* recorded by Day (1967) is the same as the *P. cf. calcarea* found by Simon and her co-workers.

The taxonomic status of this species is under investigation.

*Polydora colonia* Moore 1907

*Polydora colonia* Moore 1907<sup>#</sup>: 199, pl. 15 figs 18-23

*Polydora hoplura* var. *inhaca* – Day 1957: 99, fig. 6 k-l

*Polydora hoplura inhaca* – Day 1967<sup>b</sup>: 468, fig. 18.2 n

*Polydora colonia* – Blake, 1971\*

Type locality: Massachusetts?

Local distribution: Inhaca Island, Mozambique

*Polydora dinthwanyana* Simon 2011

Deposit number: SAMC A60067

Local distribution: Haga Haga

Habitat: shell

*Polydora hoplura* Claparède 1870

*Polydora hoplura* Claparède 1870<sup>#</sup>: 58, pl. 22 fig. 2

*Polydora hoplura* - Day 1955: 415; Day 1961: 493; Day 1967<sup>b</sup>: 468, fig. 18.2 k-m;  
Simon 2011

Type locality: Naples, Italy

Local distribution: Kleinzee to Haga Haga

Habitat: limestone, dredgings, shells

Additional aquacultural references: Simon *et al.* 2006; Simon and Booth, 2007

*Polydora maculata* Day 1963

*Polydora maculata* Day 1963<sup>b</sup>: 417, fig. 9 a-d

*Polydora maculata* – Day 1967<sup>b</sup>: 472, fig. 18.4 c-d

Type locality: East London



Habitat: hermit crab shells

*Polydora websteri* Hartman in Loosanoff & Engle 1943

*Polydora websteri* Hartman in Loosanoff & Engle 1943: 70, fig. a-h

*Polydora websteri* – Schleyer 1991

Type locality: Connecticut

Local distribution: Durban

Habitat: oyster shells

Remark: identification not confirmed

### ***Prionospio* Malmgren 1867**

*Prionospio bocki* Söderström 1920

*Prionospio bocki* Söderström 1920: 234, figs 142-143

*Prionospio bocki* - Day 1967b: 490

Type locality: Kobe Bay, Japan

Local distribution: Madagascar

*Prionospio cirrifera* Wiren 1883

*Prionospio cirrifera* Wiren 1883<sup>#</sup>: 409

*Prionospio cirrifera* - Day 1961: 487; Day 1967b: 486, fig. 18.8 a-d; Day *et al.* 1970: 29

Type locality: Behring Sea

Local distribution: Saldanha Bay to Mossel bay

Habitat: sand, shell

*Prionospio dubia* (Day 1961)

*Prionospio malmgreni* var. *dubia* Day 1961: 489, fig. 3 j-n

*Prionospio steenstrupi* – Day 1963a: 395; Day 1963b: 418; Day 1967b: 489, fig. 18.9 o-r; Day *et al.* 1970: 29

*Prionospio dubia* - Maciolek 1985\*: 336, figs 2, 3

Type locality: The earliest records in South Africa that were referred to this species originated in False Bay (1/2/59). Similarly, Blake (1996) and Sigvaldadóttír (1998) list South Africa as the type locality. However, Maciolek (1985) synonymised *Pr. steenstrupi* recorded by Söderström (1920) with *Pr. dubia*, which casts doubt on South Africa being the type locality.

Local distribution: South Namibia to Durban

*Prionospio ehlersi* Fauvel 1928

*Prionospio ehlersi* Fauvel 1928<sup>#</sup>: 10

*Prionospio ehlersi* – Day 1967b: 490, fig. 18.9 d-f

Type locality: Morocco

Local distribution: Durban to Richards Bay; south Mozambique

*Prionospio laciniosa* Maciolek 1985

*Pr. (Minuspio) laciniosa* Maciolek 1985: 350, fig. 9

Type locality: Namibia

Local distribution: Walvis Bay and northwards

Habitat: deep water

*Prionospio saldanha* Day 1961

*Prionospio* sp - Day 1955: 414

*Prionospio saldanha* Day 1961: 485, fig. 3 a-h

*Prionospio saldanha* – Day 1967: 492, fig. 18.9 g-n

*Apoprionospio saldanha* - Foster 1969

*Prionospio saldanha* - Sigvaldadóttír 1998\*

Type locality: Saldanha Bay

Local distribution: Namibia, Saldanha Bay to Mossel Bay, Durban

Habitat: sand

Additional ecological reference: Schlacher & Wooldridge 1996

*Prionospio sexoculata* Augener 1918

*Prionospio sexoculata* Augener 1918: 405, pl. 6 figs 159, 172

*Prionospio sexoculata* - Day 1955: 414; Day 1957: 97; Day 1961: 490;

Day 1967b: 489, fig. 18.8 m-o; Day *et al.* 1970: 29

Type locality: Walvis Bay, Namibia

Local distribution: Walvis Bay to Kosi Bay

Habitat: sand

Additional ecological references: Schlacher & Wooldridge 1996; Owen & Forbes 1997; Stenton-Dozey *et al.* 1999; Teske & Wooldridge 2003; Pillay 2006

*Prionospio* sp Day 1963

*Prionospio* sp Day 1963b: 418

Local distribution: Port Elizabeth

### ***Pseudopolydora Czerniavsky 1881***

*Pseudopolydora antennata* (Claparède 1870)

*Polydora antennata* Claparède 1870<sup>#</sup>: 320, pl. 21 fig. 3

*Polydora antennata* – Day 1955: 415; Day 1961: 494; Day 1967b: 473, fig. 18.4 e-g; Day *et al.* 1970: 29;

*Pseudopolydora antennata* – Simon 2009a: 681, fig. 2

Type locality: Italy

Local distribution: Saldanha Bay, False Bay, Haga Haga

Habitat: dredgings, algal mats, shell, sand

*Pseudopolydora dayii* Simon 2009

*Pseudopolydora dayii* Simon 2009a: 684, figs 3, 4

Type locality: Haga Haga

Local distribution: Hermanus to Haga Haga

Habitat: shell surface

*Pseudopolydora kempii* (Southern 1921)

*Polydora kempii* Southern 1921<sup>#</sup>: 636, pl 28 fig. 20 a-j

*Polydora kemp* – Day 1955: 99; Day 1967*b*: 473: fig. 18.4 h-k

Type locality: Chilka Lake, India

Local distribution: Mozambique

### ***Pygospio* Claparède 1863**

*Pygospio elegans* Claparède 1863

*Pygospio elegans* Claparède 1863<sup>#</sup>: 137, pl. 14 figs 27-31

*Pygospio elegans* - Day 1961: 485; Day 1967*b*: 475, fig. 18.5 k-o; Day *et al.* 1970: 29

Type locality: St. Vast la Hogue, France

Local distribution: Table Bay

Habitat: sand

### ***Rhynchospio* Hartman 1936**

*Rhynchospio glutaea* (Ehlers 1897)

*Scolecopsis glutaea* Ehlers 1897<sup>#</sup>: 83, figs 129-135

*Rhynchospio glutaea* – Day 1961: 491; Day 1967*b*: 478, fig. 18. 6 a-6; Day *et al.* 1970: 29

Type locality: Punta Arenas, South America

Local distribution: Table Bay to False Bay

Habitat: sand; Day (1967*b*) suggests that it may have been "introduced by ship".

### ***Scolecopsis* Blainville 1828**

*Scolecopsis (Parascolecopsis) gilchristi* (Day 1961)

*Nerinides gilchristi* Day 1961: 491, fig. 5 a-d

*Nerinides gilchristi* - Day 1967*b*: 485, fig. 18. 7 i-l; Day *et al.* 1970; 29

*Scolecopsis (Parascolecopsis) gilchristi* - Maciolek 1987\*

Type locality: Saldanha Bay

Local distribution: Luderitz to south KwaZulu Natal

Habitat: sand, mud

Additional ecological reference: Schlacher & Wooldridge 1996 (as *Nerinides gilchristi*)

*Scoelepis (Scoelepis) lefebvrei* (Gravier 1905)

*Nerine lefebvrei* Gravier 1905<sup>#</sup>: 43, pl. 2 fig. 185

*Nerine lefebvrei* – Day 1962: 648

*Scoelepis lefebvrei* – Day 1967<sup>b</sup>: 483, fig. 18.7 a-b

*Scoelepis (Scoelepis) lefebvrei* – Eibye-Jacobsen & Soares 2000: 583, fig. 6

Type locality: Red Sea

Local distribution: Madagascar

*Scoelepis (Scoelepis) vazaha* Eibye-Jacobsen & Soares 2000

*Scoelepis (Scoelepis) vazaha* Eibye-Jacobsen & Soares 2000: 572, figs 1-3

Type locality: Cap Est, Madagascar

Local distribution: east coast of Madagascar

*Scoelepis (Scoelepis) williami* (de Silva 1961)

*Nerinides williami* de Silva 1961<sup>#</sup>: 183-184; fig. 9

*Scoelepis (Scoelepis) williami* – Eibye-Jacobsen & Soares 2000: 579, figs 4-5

Type locality: Sri Lanka

Local distribution: East coast of Madagascar

*Scoelepis (Scoelepis) squamata* (Müller, 1806)

*Lumbricus squamata* Müller 1806<sup>#</sup>: 39

*Nerine cirratulus* – Day 1955: 412; Day 1957: 96

*Scoelepis squamata* – Day 1967<sup>b</sup>: 483, Fig. 18.7 c-h; Day *et al.* 1970: 29

Type locality: Denmark

Local distribution: Luderitz to Mozambique, Madagascar

Habitat: sand

Additional ecological references: Owen & Forbes 1997; Schoeman *et al.* 2003;

Pillay 2006

## ***Spio* Fabricius 1785**

*Spio filicornis* (Müller 1776)

*Nereis filicornis* Müller 1776<sup>#</sup>: 218

*Spio filicornis* – Day 1955: 413; Day 1967b: 481, fig. 18.6 l-o; Day *et al.* 1970: 29

Type locality: Denmark

Local distribution: Saldanha Bay to False Bay

Habitat: sand

*Spio* sp Day 1967

*Spio* sp Day 1967b

Remarks: only 1 broken specimen found, anterior fragment

*Spiophanes* Grube 1860

*Spiophanes bombyx* (Claparède 1870)

*Spio bombyx* Claparède 1870<sup>#</sup>: 485, pl. 12 fig. 2

*Spiophanes bombyx* – Day 1961: 485; Day 1967b: 474, fig. 18.5 a-e; Day *et al.* 1970: 29

Type locality: Naples, Italy

Local distribution: False Bay to Durban

Habitat: sand, mud

*Spiophanes kroyeri* Grube 1860

*Spiophanes kroyeri* Grube 1860<sup>#</sup>: 88 (in Blake 1996)

*Spiophanes soederstromi* – Day 1961: 484; Day 1967b: 475, fig. 18.5 f-j

*Spiophanes kroyeri* – Day *et al.* 1970: 29

*Spiophanes kroyeri* – Maciolek 2000\*: 541, Table 2

Local distribution: off Lamberts Bay to Richards Bay

Habitat: sand, mud

*Spiophanes wigley* Pettibone 1962

*Spiophanes wigley* Pettibone 1962<sup>#</sup>: 83, Figs 5-6 (in Meißer & Hutchings 2003)

*Spiophanes wigley* – Day *et al.* 1970: 29

*Spiophanes wigley* - Meißer & Hutchings 2003: 128, figs 8-10

Type locality: Georges Bank Area, off Massachusetts

Local distribution: False Bay

Habitat: sand, mud

### **Indeterminable species**

*Prionospio capensis* McIntosh 1885

*Prionospio capensis* McIntosh 1885<sup>#</sup>: 381, pl. 45 fig.7

*Prionospio capensis* - Sigvaldadóttir 1998\*

Type Locality: Cape of Good Hope

Remarks: Day (1961) synonymised *P. capensis* with *P. malmgreni* var. *dubia*, but in Day (1967*b*), he synonymised *P. malmgreni* var. *dubia* with *P. steenstrupi*.

However, Maciolek (1985) erected *P. dubia* as a valid species.

*Prionospio malmgreni* Claparède, 1870

*Prionospio malmgreni* Claparède 1870<sup>#</sup>: 333, pl. 22 fig. 3

*Prionospio malmgreni* – Day 1963*a*: 418; Day 1967*b*: 492, fig. 18.9 a-c; Day *et al.* 1970

*Prionospio malmgreni* - Maciolek 1985\*

Type locality: Gulf of Naples

Local distribution: Saldanha Bay, Cape St Francis

Habitat: Sand, mud

### **Unidentified species without deposited specimens or descriptions**

*Boccardia* sp - Kaletja & Hockey 1991

Local distribution: Berg River Estuary

Habitat: sand, mud

*Polydora* sp - Pillay 2006

Local distribution: Durban Bay

Habitat: Sand, mud

*Prionospio* sp - Schlacher & Wooldridge 1996

Local distribution: Eastern Cape Province

Habitat sand, mud

*Prionospio* sp - Teske & Wooldridge 2003

Local distribution: Eastern Cape Province

Habitat: sand, mud

*Pseudopolydora* sp - Teske & Wooldridge 2003

Local distribution: Eastern Cape Province

Habitat: sand, mud

Spionid species - Schlacher & Wooldridge 1996

Local distribution: Eastern Cape Province

Habitat: sand, mud

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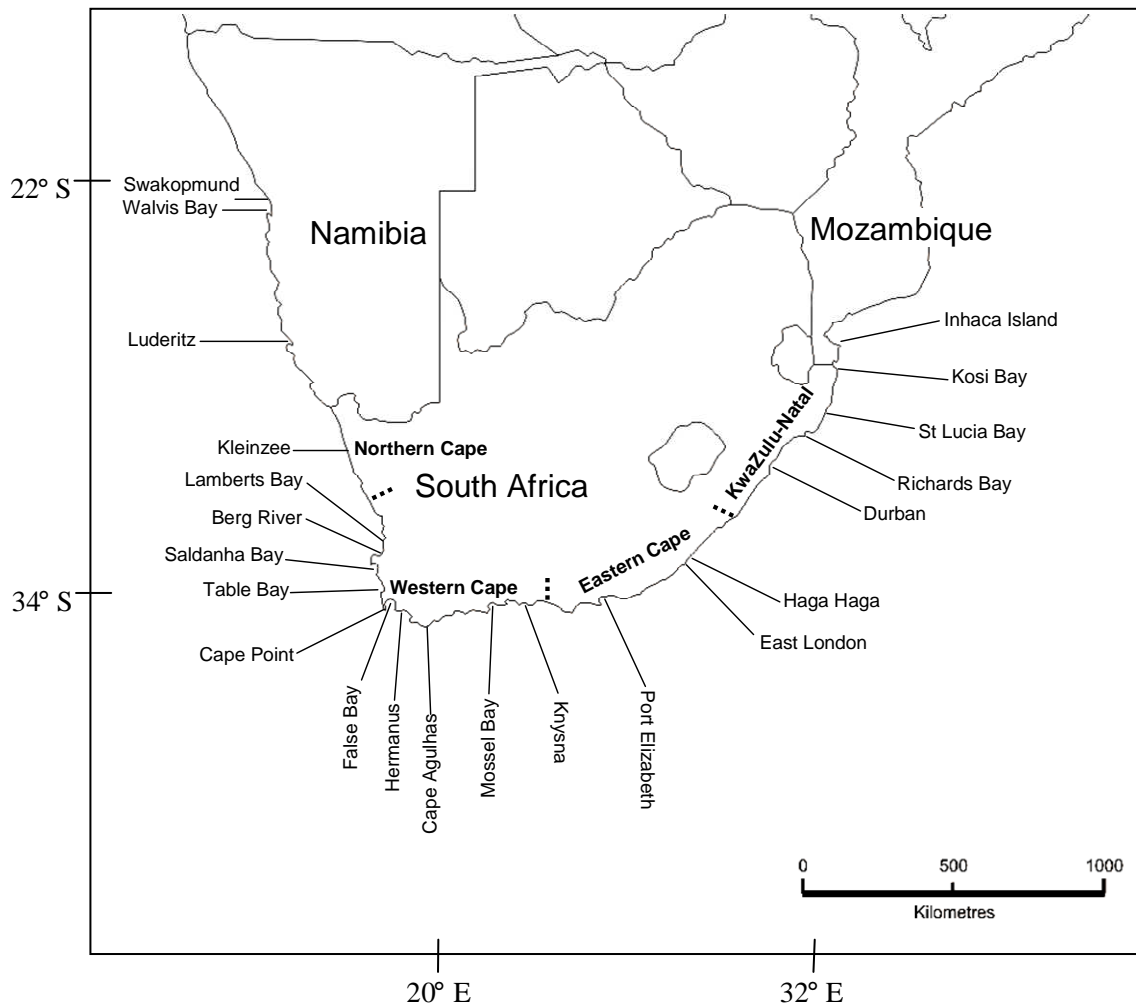


Figure 1 Mainland southern Africa showing reference points for species mentioned in the text.