

**DIVERSITY AND CONSERVATION STATUS  
OF SOUTH AFRICAN DRAGONFLIES  
(ODONATA)**

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Dragonflies are important conservation subjects and excellent indicators of terrestrial and aquatic environmental conditions. To date, 155 spp. have been recorded in South Africa; 29 spp. (18.7%) are endemic. *Metacnemis angusta* and *Paragomphus dicksoni* are only known from female specimens and are of doubtful taxonomic status. *Chlorolestes apricans*, *C. draconica*, *Ecchlorolestes nylephtha*, *E. peringueyi*, *Metacnemis valida*, *Pseudagrion inopinatum*, *P. unsingaziense*, *Enallagma polychromaticum*, *Ceratogomphus triceraticus*, *Syncordulia gracilis*, *S. venator*, *Orthetrum rubens* and *Urothemis luciana* are ecologically threatened. *Chlorolestes apricans* and *U. luciana* are of particular concern. *C. apricans*, whose populations have declined in recent years, appears not to occur in any protected area. There are several significant sites/areas for Odon.: the Western Cape has several endemic spp., while the Amatola-Winterberg mountain range of the Eastern Cape has 2. KwaZulu-Natal Drakensberg has one highly localized endemic. Greater St Lucia is rich in pan-African spp., as well as some highly localized endemics. The Kruger National Park has no indigenous spp., but is rich in spp. representing the typical southern African savanna. There are isolated localities such as Itala and Umtamvuna, which have unusual outlier assemblages. Not all anthropogenic disturbance is harmful to Odon. Small dams play an important role in geographically increasing the overall density of many lentic spp. Similarly, the aquatic weed *Pistia* enhances local species richness in the Kruger National Park. Most major human disturbances however, are harmful to population levels. Exotic tree plantations within 30m of the river's edge reduce species richness. The rainbow trout is implicated in causing range retraction of the very rare and threatened *E. peringueyi*, while removal of natural forest in the southern Cape has eliminated populations of the equally rare *E. nylephtha*. Cattle grazing, resulting in bank vegetation destruction, and black wattle infestations along Eastern Cape river banks have had a major adverse impact on *C. apricans*. These factors are synergistic with lowered water levels in caus-

ing population fragmentation. Of great concern from this survey is that presence of rare species in nature reserves does not necessarily guarantee their survival. *Orithetrum robustum* at St Lucia, and *O. brachiale*, *O. guineense* and *O. hintzi* at Mpenjati reserves were abundant in 1990 but absent in 1994 because the intervening dry years had dried out their pools. Management recommendations include avoidance of siltation, eutrophication, salination, cattle trampling of banks, and planting of exotic trees on banks within 30m of edge. Recommendations also include maintaining a constant water level in lakes and reservoirs, encouraging an abundance of aquatic macrophytes, and maintaining a wide range of physical bank and shallow water conditions so that there is a variety of substrate types, vegetation structures and sun/shade conditions.

## INTRODUCTION

Dragonflies (Odonata) are conspicuous and widespread in aquatic ecosystems across the world (CORBET, 1962). Many species are threatened and a few are extinct (e.g. GROOMBRIDGE, 1993; WELLS et al., 1983). They are excellent indicators of terrestrial and aquatic environmental conditions (SAMWAYS, 1993). The adults are sensitive to changes in biotope conditions (CLARK & SAMWAYS, 1996; OSBORN & SAMWAYS, 1996; SAMWAYS, 1995; 1996; SAMWAYS & STEYTLER, 1996; STEYTLER & SAMWAYS, 1995), while the larvae are indicators of human impact on water systems (WATSON et al., 1982). Even the adults, although aerial, have been shown to be highly sensitive to riparian vegetation type and water conditions in the Kruger National Park (CLARK & SAMWAYS, 1994; STEWART & SAMWAYS, 1998) and in the KwaZulu-Natal Midlands (STEYTLER & SAMWAYS, 1995; SAMWAYS & STEYTLER, 1996; SAMWAYS, OSBORN & VAN HEERDEN, 1996).

To date, 155 species of Odonata have been recorded south of the Limpopo. As most of South Africa is savanna (SCHOLTZ & CHOWN, 1993), many of the species have fairly large ranges and are eurytopic. However, about 18% are endemic to the country (SAMWAYS, 1992; 1995). Several of these species have extremely small geographical ranges, making them vulnerable to local human impact (SAMWAYS, 1994a). Additionally, in view of their extremely narrow habitat tolerances and their localized geographical ranges, these endemics are likely also to be highly susceptible to impending global climatic changes.

As dragonflies are flagships for aquatic invertebrates in the biodiversity debate, and as they are good indicators of aspects of environmental health, it is appropriate to consider them both at the species level, and as pointers for conservation of landscapes. This paper assesses the conservation status of each South African species, and reviews aspects of their biology in South Africa.

## SOUTH AFRICAN SPECIES

## THE SPECIES LIST, DOUBTFUL TAXA AND DOUBTFUL DISTRIBUTIONAL RECORDS

One hundred and fifty-five Odonata species have been recorded in South Africa. The species names adopted here are mostly those of BRIDGES (1994). Two species however are of doubtful taxonomic status. *Metacnemis angusta* Sélys was described in 1863 from a female from the "Cape of Good Hope". Another female specimen was captured at Ceres in 1920, but since then, no further specimens have been recorded. As these two females are the only known specimens of *M. angusta*, and without a male, it is uncertain whether this is a valid species or a form of *M. valida* (PINHEY, 1984). This species appears on the 1994 Red List (GROOM-BRIDGE, 1993), but it may be an invalid listing.

The other doubtful species is *Paragomphus dicksoni* Pinhey, 1969, a female of which was captured in 1968 at Oudebosch, Western Cape. This specimen may eventually turn out to be a variety of *P. cognatus* with a different thoracic pattern. Until a male is found, and the specific status verified, it must remain in doubt. Should *M. angusta* and *P. dicksoni* prove to be valid species, they would be of immediate conservation concern.

Another species included on the South African list but of doubtful identification is *Neurogomphus ? vicinus* Schouteden, 1934, a specimen of which was captured in 1961 at Pafuri in the northern sector of the Kruger National Park. Further specimens are required to verify its taxonomic status.

Two species are doubtful South African records. *Lestes o. ochracea* Sélys, 1862 was recorded by field odonatologists at Itala Game Reserve in 1993 and at Spioenkop Dam also in 1993. But specimens were either not retained or were lost, making further verification necessary. One specimen of *Chlorocypha consueta* Karsch 1899 was collected at "M'Balane, Natal" prior to 1950 (PINHEY, 1951). Despite recent intensive searches, this species has not been relocated. Even its locality "M'Balane" is uncertain.

SPECIES OCCURRING ELSEWHERE IN AFRICA THAT ARE WIDESPREAD OR  
LOCALLY COMMON IN SOUTH AFRICA

Many Odonata species are highly mobile, eurytopic and good colonizers of suitable biotopes. There are many species which are widespread and/or locally common in South Africa and throughout many parts of Africa. These species are listed in Table I. None of these are of conservation concern either in South Africa or elsewhere. However, they are of value in indicating areas of typical savanna, such as the Kruger National Park (CLARK & SAMWAYS, 1994; STEWART & SAMWAYS, 1998).

In Table I, there are more than twice as many Anisoptera as Zygoptera species, illustrating the greater mobility and biotope tolerance of the first group.

Table I

African species that have ranges extending south to South Africa, and that are widespread or locally common

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Zygoptera

*Lestes pallida*, *L. plagiata*, *L. virgata*, *Elatoneura glauca*, *Ceriagrion glabrum*, *Pseudagrion acaciae*, *P. hageni*, *P. kersteni*, *P. massaicum*, *P. salisburyense*, *P. spermatum natalense*, *P. sublacteum*, *E. glaucum*, *Ischnura senegalensis*, *E. nigridorsum*, *Phaon iridipennis*, *Platycypha caligata*.

Anisoptera

*Ictonogomphus ferox*, *Notogomphus praetorius*, *Ceratogomphus pictus*, *Paragomphus cognatus*, *P. genei*, *Anax imperator-mauricianus*, *A. speratus*, *Hemianax ephippigera*, *Macromia bifasciata*, *M. picta*, *Orthetrum brachiale*, *O. caffra*, *O. chrysostigma*, *O. icteromelas cinctifrons*, *O. julia falsum*, *O. trinacria*, *Nesciothemis farinosa*, *Palpopleura jucunda*, *P. lucia*, *Hemistigma albipuncta*, *Acisoma panorpoides ascalaphoides*, *Diplacodes lefebvrei*, *Crocothemis erythraea*, *C. sanguinolenta*, *Brachythemis leucosticta*, *Sympetrum fonscolombii*, *Trithemis arteriosa*, *T. annulata*, *T. dorsalis*, *T. furva*, *T. kirbyi*, *T. stictica*, *Zygonyx natalensis*, *Z. torridus*, *Pantala flavescens*, *Rhyothemis semihyalina*, *Urothemis assignata*, *U. edwardsii*.

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SPECIES OCCURRING ELSEWHERE IN AFRICA THAT ARE HIGHLY LOCALIZED  
OR RARE IN SOUTH AFRICA

Several of the species in Table II are common in certain localities further north in Africa. The species in South Africa are at the southern tip of their range, and in most cases are only encountered in the Mpumalanga lowveld and/or northern KwaZulu-Natal.

None of these species is of conservation concern in South Africa. It is nevertheless important to know where they occur, as they may be sensitive indicators of global future climatic change.

SOUTH AFRICAN SPECIES WITH RANGES EXTENDING TO THE NORTH

Species, listed in Table III are southern African, with ranges extending into Namibia, Angola, Botswana, Zimbabwe and/or Mozambique. These are not common species at a regional scale, but may be common at the suitable localities.

These species are of conservation significance in South Africa as it is the centre of their range. All the seven species in this category are known to occur in protected areas.

SPECIES ENDEMIC TO SOUTH AFRICA

Table IV lists the 29 species endemic to South Africa. These make up 18.7% of the total fauna. Of the 29 species, only six are Anisoptera. Only 3.9% of the Anisoptera species are consequently endemic to the country, while 14.8% of the Zygoptera species are endemic.

Table II

African species that have ranges extending south to South Africa, but which are local or rare

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Zygotera

*Lestes dissimulans*, *L. icterica*, *L. ochracea*, *L. tridens*, *L. uncifer*, *Mesocnemis singularis*, *Ceragrion suave*, *Pseudagrion assegaii*, *P. coelestis*, *P. commoniae*, *P. gamblesi*, *P. hamoni*, *P. inconspicuum*, *P. makabusiense*, *P. sjoestedti pseudosjoestedti*, *P. sudanicum rubroviride*, *Enallagma elongatum*, *E. sinuatum*, *E. subfurcatum*, *Agriocnemis exilis*, *A. gratiosa*, *A. pinheyi*, *Chlorocypha consueta*.

Anisoptera

*Gomphidia quarrei*, *Lestinigomphus angustus*, *Neurogomphus ? vicinus*, *Phyllogomphus brunneus*, *Crenigomphus cornutus*, *C. hartmanni*, *Paragomphus elpidius*, *Onychogomphus supinus*, *Aeshna ellioti*, *Anaciaeschna triangulifera*, *Anax tristis* (possibly migratory?) *Gynacantha manderica*, *G. villosa*, *Hemicordulia asiatica*, *Macromia monoceros*, *Tetrathemis polleni*, *Notiothemis jonesi*, *Orthetrum abotti*, *O. machadoi*, *O. guineense*, *O. hintzi*, *O. robustum*, *Palpopleura deceptor*, *Chalcostephia flavifrons*, *Diplacodes deminuta*, *Bradinopyga cornuta*, *Brachythemis lacustris*, *Philonomon luminans* *Trithemis aconita*, *T. donaldsoni*, *T. hecate*, *T. pluvialis*, *T. wernerii*, *Olpogastra fuelleborni*, *O. lugubris*, *Zyxomma atlanticum*, *Parazyxomma flavicans*, *Tholymis tillarga*, *Aethriamanta rezia*, *Macrodiplax cora* (possibly migratory?).

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Not all these locally endemic species are threatened, and some are locally common. These abundant endemics are not of concern in terms of conservation. Several species which are under threat, are discussed below. These species were also recently subject to testing the workability of the new IUCN Categories of Threat (SAMWAYS, 1996).

### THE THREATENED ENDEMIC SPECIES OF SOUTH AFRICA

The list below excludes the two doubtful species (*Metacnemis angusta* and *Paragomphus dicksoni*) for which there is no information.

#### CHLOROLESTES APRICANS

This species, discovered in the 1970s, is an endemic restricted to the Amatola-Winterberg Mountain Range of the Eastern Cape Province (WILMOT, 1975). It was originally recorded at several, isolated localities in the area, and again in the same area in 1983 (PINHEY, 1984). In April 1993 and December 1996, the distribution status of this species was reappraised. Owing to landscape change, it had become more localized than in the past. Droughts during the 1980s and early 1990s appear to have contributed to its decline, as some of the local streams had periodically dried up. Other threats include bankside growth of the exotic black wattle, *Acacia mearnsii* de Wild, which shaded out the natural, bushy vegetation which provides sites for oviposition. Another serious threat is the trampling of the banks by cattle.

Table III

South African species (with their protected-area localities and ecological threats) with ranges extending just north of the national border

Species	Range (and biotope)	Protected area	Threats
<i>Chlorolestes elegans</i>	Northern Province, Zimbabwe (montane streams)	Duiwel's Kloof	Silting of streams from forestry and agriculture
<i>Elatoneura frenulata</i>	Western Cape, Angola (slow, deep streams and rivers)	Haweqwas	Silting of streams from forestry and agriculture
<i>Agriocnemis r. ruberrima</i>	KwaZulu-Natal, Botswana (marshes)	Greater St Lucia	Possible mining, industrial and residential expansion
<i>Platycypha fitzsimonsi</i>	KwaZulu-Natal, Eastern Cape, Zimbabwe (open, upland streams)	Tsitsikamma Forest	Silting of streams from forestry and agriculture
<i>Aeshna subpupillata</i>	Western Cape, Eastern Cape, KwaZulu-Natal, Northern Province, Zimbabwe (fast-flowing, montane streams and rivers)	Jonkershoek, Table Mountain, Albert Falls, Cobham, Giant's Castle, Golden Gate, Njasuti, Vergelegen	Not threatened at present
<i>Aeshna minuscula</i>	KwaZulu-Natal, Free State, Eastern Cape, Western Cape, Gauteng, Lesotho, Namibia (ponds, dams, slow rivers)	Many throughout range	None. Locally more abundant than it would be naturally, as it inhabits farm dams
<i>Gynacantha zuluensis</i>	KwaZulu-Natal, Mozambique, Malawi (coastal woodland; larval biotope unknown)	Greater St Lucia, Dukuduku Forest	Possible mining, industrial and residential expansion

*C. apricans* was rediscovered at only two localities, one being the type locality. Both sites lacked dominant trees, and featured good growth of indigenous reeds and bushes.

*C. apricans* has not been recorded in any conservation area. As its range appears to have contracted and to have become fragmented, it is listed as 'EN' (Endangered) using the new IUCN Categories (SAMWAYS, 1996).

#### CHLOROLESTES DRACONICA

This species was discovered in 1954 (BALINSKY, 1956). Originally recorded

from the Royal Natal National Park in the KwaZulu-Natal Drakensberg, it is known now also from several localities in the Mzimkulu Wilderness Area also in the Drakensberg. Although localized, this species is probably not threatened by local landscape disturbance, as all sites are in protected areas. Recently, this species has been found extensively in the high Drakensberg (>1800m a.s.l.) (S. Moore, pers. comm.), and it has been listed as 'lc' (Least Concern) on the 1996 IUCN Red List.

*ECCHLOROLESTES NYLEPHTHA*

From early records (BARNARD, 1937), this species seems to have been locally common, but not so in recent years. It was recorded in 1981 from Knysna, (PINHEY, 1984) and was previously known from several localities in the area (BRINCK, 1955).

In March 1993, this species was rediscovered at two sites in the Eastern Cape Province. One was in the Tsitsikamma Forest and the other near Storms River, more easterly than previously recorded. This is clearly a localized species, with a very distinctive biotope. It occurs only inside the forest where there is full shade, clear streams and pools with a deposition zone of organic debris.

Fortunately, the known populations are in reserve areas. This species is likely to be encountered at other sites in the Tsitsikamma area, and because the forest is now mostly protected, the species is probably fairly safe. It has been listed only as 'nt' (Near Threatened) on the 1996 IUCN List.

*ECCHLOROLESTES PERINGUEYI*

There are very few records of this species which appears always to have been highly localized. The previous recorded sighting was in 1949 from Bainskloof, Western Cape (PINHEY, 1984). In April 1993, two isolated populations were found at clear upland streams in the Slanghoekberge in the southwestern Cape. Although unproven, it is probable that the rainbow trout *Oncorhynchus mykiss* (Walbaum) has had an adverse effect on the range of this species. *E. peringueyi* occurs now only in small streams above waterfalls, beyond the reach of the fish. Synlestid larvae are susceptible to trout predation by being exposed as they crawl over the surface of submerged stones and weed. Water extraction from larger streams and rivers to service the wine industry is also of concern. Early records suggest that this species occurred widely in broad streams, but today it is no longer at such localities. On the 1996 Red List this species is categorized as 'VU' (Vulnerable).

*METACNEMIS VALIDA*

This species occurs only on a few small rivers (e.g. Kubusi, Nahoon) in the Eastern Cape Province. Although first discovered in 1908, it was not rediscovered until

Table IV  
Species endemic to South Africa: their distribution, biotopes and rarity status

Species	Distribution	Biotope	Rarity Status
<i>Chlorolestes apricans</i>	Eastern Cape	Open sedge, reed and bushy banks of clear, shallow streams	Extremely local and threatened. IUCN new Category 'E N'
<i>C. conspiciua</i>	Western Cape	Clear montane streams and pools in sunny locations	Locally common, but restricted range. Occurs in protected areas (e.g. Table Mountain, Du Toits Kloof)
<i>C. draconica</i>	KwaZulu-Natal	Partly wooded but sunny high-elevation montane streams and pools	IUCN new Category 'lc' occurring in a few remote mountain streams in protected areas (Royal National Park, Mzimkulu Wilderness Area)
<i>C. fasciata</i>	KwaZulu-Natal Drakensberg, Amatola-Winterberg Mountains, Mpumalanga, Northern Province	Open mountain streams and pools with overhanging vegetation	Locally abundant, but restricted range. Occurs in protected areas (e.g. Mlambojha and Mzimkulu Wilderness Areas)
<i>C. tessellata</i>	Eastern Cape, KwaZulu-Natal, Mpumalanga	Shaded, semi-montane streams and pools	Locally common in appropriate biotope. Occurs in many small parks and reserves (e.g. Queen Elizabeth Park, Pietermaritzburg, Kologha Forest, Eastern Cape)
<i>C. umbrata</i>	Western Cape	Shaded, semi-montane streams and pools	Locally restricted to specific biotope in Tsitsikamma forest etc.
<i>Ecchlorolestes nylephitha</i>	Western Cape	Heavily-shaded clear forest pools and streams	Extremely localized species, IUCN new Category 'nt'. Occurs in the protected area of Tsitsikamma forest
<i>E. peringueyi</i>	Western Cape	Open clear streams with lichen-covered rocks and edged with bushes	An extremely localized species, IUCN new Category 'VU'. Slanghoekberge.
<i>Allocnemis leucosticta</i>	Western Cape, Eastern Cape, KwaZulu-Natal, Mpumalanga, Northern Province, Swaziland	Clear, fast-flowing montane streams with pools and bordered by bushes	Widespread and common in the montane areas of South Africa
<i>Metanemis angusta</i> <i>M. valida</i>	Western Cape Eastern Cape	Biotope unknown Fairly fast flowing streams and rivers	Not recorded since 1920. Possibly extinct Highly localized in the East London area. Biotopes highly threatened
<i>Pseudogarrion caffrum</i>	Eastern Cape, KwaZulu-Natal	Small, shallow, sunlit, grassy montane streams	Locally abundant. Occurs in many preserved rain-catchment areas (e.g. Mlambojha Wilderness Area)

Table IV (Continue)

Species	Distribution	Biotope	Rarity Status
<i>P. citricola</i>	Western Cape, Eastern Cape, KwaZulu-Natal, Free State, North-west, Gauteng, Northern Province	Sluggish streams and pools in upland regions	Widely scattered localities. Locally common. Has been recorded at Giant's Castle Reserve
<i>P. draconis</i>	Western Cape	Streams and pools at elevations 22-500 m a.s.l.	Locally abundant
<i>P. furcigerum</i>	Western Cape	Pools and streams at elevations 50-800 m a.s.l.	Locally abundant and widespread
<i>P. inopinatum</i>	Mpumalanga	Biotope unrecorded, although known to be montane	Very few specimens known, none being from a reserve
<i>P. newtoni</i>	Western Cape, Eastern Cape, KwaZulu-Natal	Shaded pools and streams, with a wide elevational tolerance 20-1200m a.s.l.	Localized but widespread
<i>P. umsingaziense</i>	Only two recorded from two widely separated localities: Umsingazi Lake and Ozabeni in KwaZulu-Natal, and Ellisras, Northern Province	Marshy areas and pans	The Umsingazi Lake and Ozabeni are protected, but there is considerable urban development surrounding the Umsingazi Lake. The Ellisras locality requires confirmation.
<i>P. vaalense</i>	Various central parts of South Africa, including Northern Cape, Free State, Mpumalanga, Gauteng, North-west Province, Lesotho	Over strong, fast currents. Female settling on supports far from the banks	Locally common, and at present under no threat
<i>Enallagma polychromaticum</i>	Western Cape	Streams with thick bankside vegetation	
<i>E. rotundipenne</i>	KwaZulu-Natal, Gauteng, Lesotho	Unrecorded	IUCN new Category 'DD'. A highly localized species that has not been recorded since 1962.
<i>E. sapphirina</i>	KwaZulu-Natal, Free State, Eastern Cape, Gauteng	Small streams and among sedges at the Edge of large dams	Widely scattered, isolated localities
<i>Agriocnemis faticifera</i>	KwaZulu-Natal, Mpumalanga	Among reeds and long grass at the edges of sheltered lakes	Locally common in widely scattered localities
<i>Ceratogomphus triceratitus</i>	Western Cape	Edges of pools and slow streams	Locally common at isolated sites
<i>Paragomphus dicksoni</i>	Western Cape	Biotope unknown	Highly local. Very few localities known
<i>Syncordulia venator</i>	Western Cape	Montane streams	Extremely rare. Last recorded in 1968
<i>S. gracilis</i>	Western Cape, KwaZulu-Natal	Montane streams	Localized, restricted range
<i>Orthetrum rubens</i>	Western Cape	Biotope unrecorded, but seen flying on mountain slopes	Very rare and localized
<i>Urothemis luciana</i>	KwaZulu-Natal	Adults fly around bushes and trees; larval biotope unknown	IUCN new Category 'DD'. A very rare and localized endemic
			IUCN new Category 'DD'. Extremely localized, apparently confined to one area

1965, (PINHEY, 1984) and then again in December 1996. Although this species is not red listed, it is clearly threatened, as the small rivers at lower elevations in the Eastern Cape are under severe pressure from various urban and agricultural activities.

*PSEUDAGRION INOPINATUM AND P. UMSINGAZIENSE*

*P. inopinatum* is endemic to KwaZulu-Natal and Mpumalanga (BALINSKY, 1971; PINHEY, 1984). These species appear to have rather fragmented ranges, possibly due partly to their having specific biotope requirements. Both species are known only from a few specimens collected intermittently since the 1940s. It is likely that these species are more common and widespread than appears at present, especially as the adults are cryptic. Neither is red listed, and should not be classified as such until a genuine threat has been established.

*ENALLAGMA POLYCHROMATICUM*

This small, cryptic species was recorded first in 1932 and then in 1962. It is known from only two localities in the Western Cape Province. This damselfly was not found during intensive searches in April 1993 and January 1997. This is clearly a highly-localized endemic. Currently, it is red listed as 'DD' (Data Deficient). More information is required.

*CERATOGOMPHUS TRICERATICUS*

This species was first collected in 1934, but was not recognized as a new species until 1962 (BALINSKY, 1963). Only a few specimens are known, the last being captured in 1969. It is a Western Cape endemic that appears to favour wide streams. But these streams are now highly modified from water extraction and fertilizer run-off in association with the wine industry and from invasion by alien invasive riparian vegetation. This species is probably threatened, but the magnitude of this threat is not known. *C. triceraticus* is not currently red listed, but is clearly a candidate for more searches to determine its rarity and threat status.

*SYNCORDULIA GRACILIS AND S. VENATOR*

These two fast-flying montane endemics are known only from a few adult specimens. *S. gracilis* has been recorded intermittently from the last century into the 1990s, with a distribution centre in the Western Cape. One specimen however, was taken in the KwaZulu-Natal Drakensberg in 1948. *S. gracilis* is of some conservation concern especially as it appears always to have been rare (BARNARD, 1937) and some of the old localities have been under considerable human pressure from

physical river disturbance and from introduction of rainbow trout.

*S. venator*, although apparently restricted to the Western Cape, appears to be locally more abundant species than *S. gracilis* (BARNARD, 1937). However, many of its early-recorded stream localities have been considerably disturbed since the 1930s. Nevertheless, in December 1996 it was found to be still locally abundant in the high mountain streams of the Hawequas Mountains.

#### ORTHETRUM RUBENS

This red-bodied, waxy-winged *Orthetrum* is a Western Cape endemic (PINHEY, 1985). First discovered in 1923, it was last recorded in 1977. As it flies rapidly over mountain slopes, and the biotope of its larva is not known, it is difficult to determine exactly where it lives, and therefore the extent to which it is threatened. However, it may be associated with pools in high mountain streams (N.J. Duke, pers. comm.). Currently it is red listed as 'DD' (Data Deficient).

#### UROTHEMIS LUCIANA

This large species was only discovered in 1957 (BALINSKY, 1961), although an unrecognized specimen had been in the Durban Museum since 1945 (PINHEY, 1984). It is unknown why this sub-tropical KwaZulu-Natal species should have been recorded from so few localities. It is clearly very rare, having not been recorded since 1959. The coastal lowlands of KwaZulu-Natal are under considerable human pressure and, even without knowledge of the biotope of the larva, this species should remain on the Red List. It is currently red listed as 'DD' (Data Deficient).

This species is possibly a migrant. Its type locality is known, and it is a conspicuous insect, yet, despite intensive searches in 1993-1997, it has not been rediscovered. Furthermore, the type locality is a wooded roadside, with nearest water several hundreds of metres away. Also, *U. luciana* is known to be a powerful flier (BALINSKY, 1961). All these factors indicate that it may not necessarily be resident at St Lucia or at Richard's Bay.

### SITES OF SPECIAL ODONATOLOGICAL SIGNIFICANCE IN SOUTH AFRICA

#### ENDEMISM HOTSPOTS

There are certain areas in South Africa of particular importance. For point endemic species, the Western Cape is of significance, with *Chlorolestes conspiciua*, *C. umbrata*, *Ecchlorolestes nylephtha*, and *E. peringueyi*, *Elatoneura frenulata*, *Metacnemis angusta*, *Pseudagrion draconis*, *P. furcigerum*, *E. polychromaticum*, *Ceratophomphus triceraticus*, *Paragomphus dicksoni*, *Syncordulia venator*, and

*Orthetrum rubens.*

The upland area (Amatola-Winterberg Mountain range) of the Eastern Cape Province is also significant for two point endemic species, *Chlorolestes apricans* and *Metacnemis valida*. Both the Eastern and Western Cape have wider endemic residents such as *C. fasciata*, *C. tessallata*, *Pseudagrion caffrum* and *P. newtoni*.

The Drakensberg of KwaZulu-Natal supports the endemic species *C. draconica* and is refuge also for other species, such as *Enallagma sapphirina* and *Aeshna minuscula*. Further north, the Soutpansberg supports the localized species, *Chlorolestes elegans*, which also reaches Zimbabwe.

In summary, most of the major mountain ranges of the southern and eastern rim support some interesting endemics, as well as many other, widespread species. All these, except for the threatened *C. apricans* and possibly also *E. polychromaticum*, are known to occur in protected areas.

There are other South African endemic species e.g. *Pseudagrion vaalense* and *Enallagma rotundipenne*, that are not associated with any particular mountain range. These species tend to have fairly scattered distributions across parts of the country, in cases spanning a considerable elevational range. One exception is *Urothemis luciana* which, from current records, appears to be confined to north coastal KwaZulu-Natal.

## SAVANNA AREAS

The dry savanna and karoo areas support only the widespread, eurytopic species. However, many of interior and areas such as the Richtersveld and Cedarberg are little known and are in need of much more exploration, and could produce new endemics.

Even the Kruger National Park is relatively unexplored, particularly the north. Nevertheless, the Odonata assemblages in this area represent a segment of 'typical' southern African savanna. Many of the species are pan-African and none are endemic to the park. This view can be extended southwards to Itala Game Reserve and the Greater St Lucia areas, both of which are southern outliers of typical African Odonata. In addition, both also support some highly localized species.

## NOTABLE LOCALITIES FOR ODONATA

There are many localities in the Western Cape and the eastern part of the Eastern Cape with rich assemblages of highly localized and more widespread species. Table Mountain, Du Toits Kloof, Bainskloof, and the Tsitsikamma Forest are of particular note. In the Eastern Cape, the Kubusi River at Stutterheim supports *Chlorolestes apricans*, *Metacnemis valida* and *Pseudagrion newtoni*.

In KwaZulu-Natal, there are many ancient vleis, both in protected areas and on farms, that support rich assemblages. On streams in the Mzimkulu Wilderness Area

both *Chlorolestes draconica* and *C. fasciata* can be seen.

Elsewhere in KwaZulu-Natal, there are other localities very rich in species. Umtamvuna Nature Reserve is unusual in that there are some species (e.g. *Allocnemis leucosticta*, *Chlorolestes fasciata*) that elsewhere are distinctly higher elevation species. *Phaon iridipennis* has unusual behaviour at this reserve, as it moves well away from the river and penetrates deep into the forest.

The *Barringtonia* forest clumps of Greater St. Lucia are refuge for several localized species, including *Parazyxomma flavicans*, *Chalcostephia flavifrons*, *Gynacantha villosa* and *Hemicordulia asiatica*. Also, the type locality of *Gynacantha zuluensis* is *Barringtonia* forest (BALINSKY, 1961). At the shallow pools of the Eastern Shores of St Lucia *Agriocnemis exilis*, *Diplacodes deminuta*, *Chalcostephia flavifrons*, *Aethriamanta rezia*, *Orthetrum robustum* and *Macromia bifasciata* have been recorded.

## MANAGEMENT OF SITES FOR ODONATA CONSERVATION

### BENEFICIAL ASPECTS OF ANTHROPOGENICALLY-DISTURBED LANDSCAPES

Not all anthropogenic impacts are harmful. In a dry country like South Africa, construction of ponds and small farm dams has substantially increased the overall abundance of some ecologically-generalist species (SAMWAYS, 1989a). Small impoundments, although locally excluding some lotic species, generally increase species richness in the vicinity of the impoundment (STEYTLER & SAMWAYS, 1995). Impoundments with a fairly constant water level and especially ones that are well-vegetated (on the bank, at the margins and in the water) have high dragonfly species richness (OSBORN & SAMWAYS, 1996). For example, the large pond at Kenneth Stainbank Nature Reserve, near Durban, is important for several species that are normally only rarely seen under natural conditions in the area (e.g. *Hemistigma albipuncta*, *Chalcostephia flavifrons* and *Anax tristis*).

In the Kruger National Park, partial damming of the Sabie River has increased species richness and local population levels of Odonata. The impoundments have created more varied biotopes through slowing water flow. This has encouraged species such as *Platycypha caligata*, *Phaon iridipennis*, *Tetrathemis polleni* and *Trithemis aconitia*. Also in the Kruger National Park, there are several species (e.g. *Lestes uncifer*, *L. pallida*, *Rhyothemis semihyalina*, *Orthetrum trinacria* and *O. icteromelas cinctifrons*) that principally occur there because of either impoundments or the creation of water holes (CLARK & SAMWAYS, 1994, 1996).

In the Kruger National Park, the exotic, invasive, aquatic weed *Pistia stratiotes* L. impedes water flow and increases the complexity of local plant architecture. This, in turn, encourages establishment of certain species (e.g. *Pseudagrion hamoni*, *Ceriagrion glabrum*, *Anax imperator*, *Urothemis assignata*, *U. edwardsii*, *Acisoma panorpoides ascalaphoides*, *Trithemis annulata* and *Aethriamanta rezia* (CLARK

& SAMWAYS, 1996; STEWART & SAMWAYS, 1998). Although none of these species is threatened, *A. rezia* is a scarce insect in South Africa, where it is at the southern limit of its range.

#### NEGATIVE IMPACTS OF ANTHROPOGENIC DISTURBANCE

Adverse threats include increased silt load and decreased oxygen levels, apparently making some rivers (e.g. Umgeni River, Pietermaritzburg) relatively species poor. These conditions, and the introduction of toxic waste into the rivers, appears at certain times in the past to have contributed to a local loss of species. This appears to be the case with the Eersterivier in Stellenbosch. A comparison with records from the 1920s and 1930s indicates that the city river is distinctly depauperate today.

Another threat to some riverine species is overextraction of water for irrigation, especially for the Cape wine and grape industry. This appears to be the case with the Breërivier in the Botha area near Worcester. In particular, *Ecchlorolestes peringueyi* seems to have disappeared from this stretch, if not the whole, of this river. However, the adverse effects may be compounded, because in Bainskloof, *E. peringueyi* is only present in any numbers on streams above waterfalls beyond the reach of rainbow trout.

A further threat, particularly in the Western Cape, is the presence of exotic trees on the edges of streams. From past records, *E. peringueyi* occurred between Stellenbosch and Jonkershoek, but appears no longer to be there. Exotic trees up to the water's edge may have compounded the impact of trout in reducing its numbers. There is circumstantial evidence of the adverse impact of tall, exotic trees, principally eucalypts, on *C. umbrata* in the same area. This species is confined to the tree gaps where there is mostly native vegetation, whether grasses, forbs, bushes or trees. A similar situation has also been documented in KwaZulu-Natal, where *C. tessellata* can be totally excluded from sites dominated by tall, exotic trees (SAMWAYS & STEYTLER, 1996). The impact appears to be indirect, by shading out indigenous bushes which otherwise act as perching and oviposition sites. The management suggestion is that the drip zone of exotic trees should be at least 30m from the water's edge.

On Table Mountain, Cape Town, there is a further adverse impact, where walking trails follow streams, the vegetation is scythed between the path and the stream. This action removes the perching and oviposition sites of *C. conspicua*, causing discontinuities in its populations.

In the Eastern Cape, cattle impact the banks of streams in the upland areas. *Chlorolestes apricans* is South Africa's most threatened species, being highly localized and not occurring in any nature reserve. Cattle break down the banks and indigenous bushy vegetation, so destroying its perching and oviposition sites. They also silt the clear streams. Their impact exacerbates the shading effects of weeds, particularly black wattle.

## NATURAL DISTURBANCE AND POLLUTION

Occasional high precipitation and flash floods can cause a sharp decline in the local population levels of larvae of various species of lotic Odonata. The recovery however, can be rapid, with populations returning to their former level within one year (SAMWAYS, 1989b).

All the localized endemic, lotic species occur in small, clear shallow streams. The species of larger rivers are either wide southern African endemics (e.g. *Pseudagrion vaalensis*, *Aeshna subpupillata*) or common across much of tropical Africa (e.g. *Pseudagrion kersteni*, *Trithemis kirbyi*). Many of these wide-ranging and abundant species are apparently tolerant of turbid conditions often associated with savanna rivers. This means that anthropogenic turbidity and silting affects the upland clear water species substantially, but has little or only moderate impact on the typical species of the lower reaches of rivers.

There are other aspects of natural disturbance that produce similar results to anthropogenic disturbance. *Ischnura senegalensis* is a familiar species of organic pools, reed-clogged reaches of rivers, and even of human sewerage pools. It is tempting to consider the species as indicative of anthropogenic disturbance and eutrophic conditions. Yet the species occurs under natural conditions at water holes and wallows where there is organic runoff from hippo and buffalo dung (SAMWAYS, 1993).

Odonata are highly intolerant to salination (CARCHINI & ROTA, 1985) and a local loss of species is indicative of salt water seepage. In South Africa, the most tolerant species to slightly saline conditions is *I. senegalensis*, which under these conditions, as in parts of the Cape Flats, is the only species present.

## MANAGEMENT RECOMMENDATIONS

The following management recommendation may be made based on current research:

- (1) Avoid siltation and eutrophication of lotic systems, especially small, upland streams.
- (2) Avoid cattle trampling of stream banks, vleis and tarns.
- (3) Avoid salination of freshwater bodies.
- (4) Maintain aquatic vegetation, floating macrophytes, and marginal vegetation both at pools and along streams and small rivers.
- (5) Dams should have a shallow rim (<1m) which encourages aquatic macrophyte growth (SAMWAYS, OSBORN & VAN HEERDEN, 1996).
- (6) Maintain natural bush stands and trees adjacent to both standing and running water. Many species require shade, and perching and oviposition sites.
- (7) Maintain a wide range of biotopes (especially with various types of vegetation physiognomy at any one site or locality). This encourages species rich-

ness and buffers adverse environmental impacts (e.g. long dry spells, long wet spells, etc.).

- (8) Maintain the water level in dams, marshes and pools at a constant level. Fluctuating levels have a strong impoverishing effect.
- (9) Do not plant exotic trees within 30m of the stream's edge (wider corridors would be better still, and accommodate other riparian biota).

## THE SPECIES: BIOLOGY AND CONSERVATION STATUS

PINHEY (1984, 1985) produced an annotated checklist of South African dragonflies, with distributional data. These two papers are important as they collate information on the data labels of specimens contained in many significant collections up to 1983. These records are included below, as are those of PITZKE-WIDDIG (1992) and some of SILSBY (1989). In addition, many field searches for dragonflies have been undertaken by students and staff of the Invertebrate Conservation Research Centre between January 1987 and May 1997. The results of these field studies are also included here.

The most intensively covered areas are: northern KwaZulu-Natal Drakensberg, Pietermaritzburg-Durban, KwaZulu-Natal coast north to Cape Vidal, and the Western Cape. Many other parts of the country have also been surveyed but less intensively. All records are to point localities, and the data base is retained at the Invertebrate Conservation Research Centre. A KwaZulu-Natal regional report has already been prepared (SAMWAYS, 1994c).

Many species were not previously known as larvae, but are being described (CARCHINI & DI DOMENICO, 1996; CARCHINI, SAMWAYS & DI DOMENICO, 1992, 1995; CARCHINI, SAMWAYS & CALDWELL, 1992; CHUTTER, 1962; DI DOMENICO, CARCHINI & SAMWAYS, 1994; DI DOMENICO, SAMWAYS & CARCHINI, 1996; SAMWAYS, CARCHINI & DI DOMENICO, 1992, 1993; SAMWAYS, DI DOMENICO & CARCHINI, 1993; SAMWAYS, CARCHINI, DI DOMENICO & WHITELEY, 1998; SAMWAYS, WHITELEY, DI DOMENICO & CARCHINI, 1997).

In the list below, each species is given an overall rating, to give an indication of the abundance and conservation status of each species. There are many shortcomings and difficulties with any rating system, especially where so little is known of regional and local abundances and population variation. It is nevertheless a useful starting point to have at least an indication of overall "Regional Abundance" (RA) and "Degree of Endemism" (DE). The RA and DE scores can also be used to give a first approximation to general patterns of rarity status. For example, *Chlorolestes umbrata* has an RA of 3 and a DE of 2 indicating localized but abundant endemic, while *C. elegans* has a RA of 5 and a DE of 1 indicating widely dispersed populations. In turn, *Enallagma polychromaticum* has a RA of 5 and a DE of 4, characteristic of a highly localized endemic, often perhaps threatened. *Trithemis*

*arteriosa*, possibly South Africa's most widespread and abundant Odonata species, has both a RA and a DE of 0.

"REGIONAL ABUNDANCE (RA)". – This feature is the number of known localities (at the arbitrary distance of at least 5km apart) in South Africa for each species up to 31 July 1997. The scoring system is as follows: 1-5 records scores 5; 6-10 records scores 4; 11-20 records scores 3; 21-30 records scores 2; 31-40 records scores 1; 41+ records 0.

"DEGREE OF ENDEMISM (DE)". – The criteria used for the Degree of Endemism scores were the largest areas for all records combined: recorded from < 1000 km<sup>2</sup> scores 5; from < 10 000 km<sup>2</sup> scores 4; from < 100 000 km<sup>2</sup> scores 3; from < 1 000 000 km<sup>2</sup> scores 2; from southern Africa scores 1; pan-African, and possibly also European and/or Asiatic scores 0.

Combining scores of Regional Abundance and Degree of Endemism can give an overall score of 10, which would be a highly localized endemic. At the other end of the scale, 0, refers to widespread and generally abundant species.

"YEAR LAST RECORDED". – This category does not have much relevance for a widespread and common species, but is important for certain rare and localized species that are of conservation concern. A long time-gap is also a stimulus to relocate a particular species and ascertain its population viability.

"RESERVE RECORDS". – It is very useful to know whether a species occurs in a conservation area where it is afforded protection at least from local anthropogenic impacts.

"DISTRIBUTION". – It is important to read this category alongside "Regional Abundance" and "Degree of Endemism". A high score for RA indicates that the species is rare in South Africa. However, the species may get a low DE score, suggesting it is widespread in southern Africa, if not throughout Africa "Distribution" information will verify this.

"BIOTOPE". – This refers to the type of water and vegetation that locally supports the species. Reference is principally to where the adult male is found.

"COMMENTS". – This incorporates relevant information on conservation status, management and research needs.

## SYNLESTIDAE

### *CHLOROLESTES APRICANS* WILMOT, 1975

Ratings: RA 4, DE 4 = 8

Year last recorded: 1996

Reserve records: None

Distribution: Upland Eastern Cape e.g. Stutterheim about 700-1400m a.s.l.

Biotope: Open, clear shallow streams with banks well-vegetated with reeds and small bushes

Comments: This is one of South Africa's most threatened endemic Odonata species. Even at the time of its discovery in the 1970s, it was rare (WILMOT, 1975). It appears to have disappeared from some of its former sites, and it has not been found in any reserve. Using the new IUCN

Categories of Threat it is listed as 'EN' (Endangered).

***CHLOROLESTES CONSPICUA* SÉLYS, 1862**

Ratings: RA 3, DE 3 = 6

Year last recorded: 1996

Reserve records: Table Mountain, Jonkershoek, Du Toit's Kloof

Distribution: A Western Cape endemic (Cape Town-Paarl), up to about 800m a.s.l.

Biotope: Clear, open streams with well-vegetated banks

Comments: This species, although highly localized, appears to be under no immediate threat. However, on Table Mountain, vegetation adjacent to streams should be left intact to provide perching and oviposition sites.

***CHLOROLESTES DRACONICA* BALINSKY, 1956**

Ratings: RA 5, DE 4 = 9

Year last recorded: 1997

Reserve records: Royal Natal National Park, Mont-aux-Sources, Mzimkulu Wilderness Area

Distribution: A north KwaZulu-Natal Drakensberg endemic, 1700-2300m a.s.l.

Biotope: Clear montane streams, with large rocks, and banks with long grass and bushes

Comments: Although a Drakensberg endemic, its known populations do not appear to be threatened, particularly as all these populations occur in reserve areas. It is sometimes sympatric with *C. fasciata*. Using the new IUCN Categories of Threat, it is listed as 'lc' (Least Concern).

***CHLOROLESTES ELEGANS* PINHEY, 1950**

Ratings: RA 5, DE 1 = 6

Year last recorded: 1997

Reserve records: Duiwels Kloof

Distribution: Northern Province (Soutpansberg), Zimbabwe-Mozambique border, Malawi

Biotope: Montane kloofs and small streams running through forested areas.

Comments: This is a highly localized species. The South African population is very small and highly susceptible to pine afforestation, although tolerant of oak trees.

***CHLOROLESTES FASCIATA* (BURMEISTER, 1839)**

Ratings: RA 2, DE 2 = 4

Year last recorded: 1997

Reserve records: Karkloof, Mont-aux-Sources, Cathedral Peak, Golden Gate National Park, Giant's Castle, Umtamvuna, Njasuti, Vergelegen

Distribution: KwaZulu-Natal, Mpumalanga, Northern Province, Eastern Cape, Western Cape, Free State, Lesotho, Swaziland, 140-350m a.s.l. at Umtamvuna, but elsewhere mostly 1300-2000m a.s.l.

Biotope: Clear montane streams with long grass and bushes on the banks

Comments: A southern African endemic, that is locally abundant. Not a threatened species.

***CHLOROLESTES TESSELLATA* (BURMEISTER, 1839)**

Ratings: RA 2, DE 2 = 4

Year last recorded: 1997

Reserve records: Karkloof, Kloof, National Botanic Gardens (Pietermaritzburg), Queen Elizabeth Park, Umtamvuna, Itala, Tsitsikamma, Kologha Forest,

Distribution: KwaZulu-Natal, Eastern Cape (Amatola-Tsitsikamma), Mpumalanga, 250-1500m a.s.l.

Biotope: Well-vegetated and shaded upland, clear streams

Comments: A locally abundant species where stream and bank conditions are pristine or near-pristine. Not a threatened species.

***CHLOROLESTES UMBRATA* HAGEN, 1862**

Ratings: RA 3, DE 2 = 5

Year last recorded: 1996

Reserve records: Du Toits Kloof, Bainskloof, Harold Porter Nature Reserve, Table Mountain, Jonkershoek, Tsitsikamma, Storms River

Distribution: Western Cape, Eastern Cape (coastal plain and mountain slopes), up to 500m a.s.l.

Biotope: Clear, well-shaded streams and small rivers

Comments: A Western Cape endemic that may be locally abundant. Not a threatened species.

*ECCHLOROLESTES NYLEPHTHA* BARNARD, 1937

Ratings: RA 5, DE 4 = 9

Year last recorded: 1993

Reserve records: Tsitsikamma Forest, Knysna Forest

Distribution: Western Cape, Eastern Cape (George-Tsitsikamma), up to 200m a.s.l.

Biotope: Clear streams with deposition pools inside dense forest

Comments: A rare and localized southern Cape endemic with a highly specialized habitat. Its range has retracted. It has not been seen at Jonkershoek since 1940. Using the new IUCN Categories of Threat it is listed as 'nt' (Near Threatened).

*ECCHLOROLESTES PERINGUEYI* (RIS, 1921)

Ratings: RA 5, DE 5 = 10

Year last recorded: 1993

Reserve records: Du Toits Kloof, Bainskloof

Distribution: A highly localized species in the Slanghoekberge of the Western Cape

Biotope: Clear, open streams with large boulders.

Comments: It has a very restricted range, which appears to have retracted during this century. In particular, it seems to have disappeared from the Stellenbosch area. Its last stronghold appears only to be the higher streams of the Slanghoekberge where it is relatively safe from local adverse disturbance. Using the new IUCN Categories of Threat, it is listed as 'VU' (Vulnerable).

## LESTIDAE

*LESTES DISSIMULANS* FRASER, 1955

Ratings: RA 5, DE 0 = 5

Year last recorded: 1976

Reserve records: None

Distribution: Northern Province, north to central and West Africa

Biotope: Pools, swamps, streams (PINHEY, 1984)

Comments: A tropical species with a range that extends south just over the border of South Africa. It may be present at other localities in the Northern Province. It should be searched for, as it has not been recorded in South Africa for over 20 years.

*LESTES ICTERICA* GERSTÄCKER, 1869

Ratings: RA 5, DE 0 = 5

Year last recorded: 1979

Reserve records: None

Distribution: Northern KwaZulu-Natal, Namibia, north to central Africa

Biotope: Pools and streams in dry bush (PINHEY, 1984)

Comments: A local species with only one South African record. It should be considered when searches are being made in dry areas. Not threatened.

*LESTES O. OCHRACEA* SÉLYS, 1862

Ratings: RA 5, DE 0 = 5

Year last recorded: 1993

Reserve records: Itala, Spioenkop

Distribution: Two records from central and northern KwaZulu-Natal (690m and 1100m a.s.l.), north to central Africa.

Biotope: Well-vegetated streams and pools

Comments: This species was only discovered in South Africa in 1993, but as no specimens are available to verify its South African status, there must remain some doubt. Not a threatened species.

*LESTES PALLIDA* RAMBUR, 1842

Ratings: RA 4, DE 0 = 4

Year last recorded: 1997

Reserve records: Kalahari Gemsbok National Park, Kruger National Park, Nylsvley, Hhluhluwe - Umfolozi, Sodwana

Distribution: KwaZulu-Natal, Gauteng, Northern Province, Northwest Province, Free State, Lesotho, Swaziland, Namibia, north to central Africa

Biotope: Shallow pools with sedges, sluggish streams and swamps

Comments: A highly localized but widespread species. Not a threatened species.

*LESTES PLAGIATA* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Hluhluwe-Umfolozi, Queen Elizabeth Park, Kruger National Park, Royal Natal, Krantzkloof, Umtamvuna, Weenen, Nylsvley, Mhlopheni, Bisley Valley, Itala, Chelmsford, Giants Castle, Loskop, Albert Falls, Spienkop, Wagendrift, Himeville

Distribution: KwaZulu-Natal, Eastern Cape, Western Cape, Northern Cape, Free State, Gauteng, Northwest Province, Northern Province, Mpumalanga, Swaziland, to Africa, 20-400m a.s.l. at Umtamvuna, but mostly 700-1400m a.s.l. elsewhere in South Africa

Biotope: Pools, tarns, reedy and sluggish streams and rivers

Comments: A widespread and common species.

*LESTES TRIDENS* MCLACHLAN, 1895

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Greater St Lucia, Kruger National Park, Kenneth Stainbank, Sodwana, Umtamvuna

Distribution: Lowland KwaZulu-Natal (mostly under 100m a.s.l.), Mpumalanga, north to Ethiopia and Western Africa

Biotope: Pools and watering holes with much emergent vegetation

Comments: A localized, eastern seaboard species that is abundant at Greater St Lucia.

*LESTES UNCIFER* KARSCH, 1899

Ratings: RA 5, DE 0 = 5

Year last recorded: 1991

Reserve records: Kruger National Park

Distribution: One old Durban record, recently Kruger National Park (CLARK &amp; SAMWAYS, 1994), North and West Africa

Biotope: Streams, quiet courses of rivers (PINHEY, 1984)

Comments: Scarce insect in South Africa.

*LESTES VIRGATA* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1996

Reserve records: Golden Gate, Karkloof, Knysna Forest, Krantzkloof, Itala, Mhlopheni, Queen Elizabeth Park, Umtamvuna, Weenen

Distribution: KwaZulu-Natal, the Western and Eastern Cape except the far southwest, Northwest Province, Northern Province, Mpumalanga, Gauteng, below about 1600m a.s.l. to North and West Africa

Biotope: Pools with much emergent vegetation in forested areas

Comments: A locally abundant and widespread species which is not threatened.

## PROTONEURIDAE

*ELATTONEURA FRENULATA* (HAGEN, 1860)

Ratings: RA 4, DE 1 = 5

Year last recorded: 1997

Reserve records: Du Toits Kloof

Distribution: Western Cape and southwestern Angola

Biotope: Sluggish reaches of rivers with well-vegetated banks

Comments: A highly localized species. In 1993, it still occurred in the centre of Stellenbosch.

*ELATTONEURA GLAUCA* (SÉLYS, 1860)

Ratings: RA 0, DE 0 = 0

Year last seen: 1997

Reserve records: Albert falls, Oribi Gorge, Hluhluwe, Itala, Kruger National Park, Kranzkloof, Umtamvuna, Weenen, Umvoti Vlei, Bisley Valley, Du Toits Kloof

Distribution: Throughout South Africa, Swaziland, to central Africa

Biotope: Tall grass and sedges at the edges of partly shaded pools and quiet reaches of rivers

Comments: A widespread and common species.

## PLATYCNEMIDIDAE

*ALLOCNEMIS LEUCOSTICTA*, SÉLYS, 1863

Ratings: RA 0, DE 1 = 1

Year last recorded: 1997

Reserve records: Cathedral Peak, Itala, Knysna Forest, Karkloof, Kubusi Forest, Du Toits Kloof, Oribi Gorge, Cathedral Peak, Tsitsikamma Forest, Mzimkulu Wilderness, Queen Elizabeth Park, Umtamvuna, Mhlopheni, Cobham, Giants Castle, Njasuti, Royal Natal, Golden Gate.

Distribution: All the major mountainous areas of South Africa. In the Western Cape and Umtamvuna, it occurs almost down to sea level, but elsewhere it has been recorded between 800m and 1500m a.s.l.

Biotope: Small, clear streams in montane forest and bush

Comments: A widespread and common species, but endemic to South Africa. Not a threatened species.

*METACNEMIS ANGUSTA* SÉLYS, 1863

Ratings: RA 5, DE 5 (?) = 10 (?)

Year last recorded: 1920

Reserve records: None

Distribution: Western Cape (Ceres)

Biotope: Not recorded

Comments: Only two females of this species are known. Without a male, it is not possible to decide whether this is a distinct species or a form of *valida* (PINHEY, 1984). Using the new IUCN Categories of Threat it is listed as 'DD' (Data Deficient), but in reality it may be Endangered or Extinct.

*METACNEMIS VALIDA* HAGEN, 1863

Ratings: RA 5, DE 4 = 9

Year last recorded: 1996

Reserve records: None

Distribution: Eastern Cape, especially the Kubusi River

Biotope: Rocky streams

Comments: A narrow endemic to part of the Eastern Cape. Although in the past locally common, this species is of some conservation concern as the Kubusi River system is under considerable human pressure from the impact of cattle, invasive black wattle, and use of the river for the washing of clothes.

*MESOCNEMIS SINGULARIS* KARSCH, 1891

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records; Itala, Hluhluwe-Umfoloji, Kruger National Park

Distribution: Northern Cape, KwaZulu-Natal, Mpumalanga, Namibia, to central Africa. Mostly below 300m a.s.l.

Biotope: Fast moving, open streams and rivers with emergent vegetation such as reeds on which to perch

Comments: A localized species in South Africa, but common on the Umfolozi River. Not a threatened species.

## COENAGRIONIDAE

### *CERIAGRION GLABRUM* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve record: Table Mountain, Knysna Forest, Nylsvley, Kruger National Park, Albert Falls, Beachwood, Greater St Lucia, Hluhluwe, Itala, Kenneth Stainbank, Kranzkloof, Ndumu, Queen Elizabeth Park, Sodwana, Umtamvuna

Distribution: Lowland KwaZulu-Natal (mostly below 700m a.s.l.), All Western and Eastern Cape, Northwest Province, Free State, Gauteng, Northern Province, Mpumalanga, Swaziland, to central Africa.

Biotope: Pools, swamps, slow streams and rivers with dense stands of reeds, grasses and sedges

Comments: A widespread and very common species.

### *CERIAGRION SUAVE* RIS, 1921

Ratings: RA 5, DE 0 = 5

Year last recorded: 1951

Reserve records: Kruger National Park

Distribution: The only confirmed South African records are from the Kruger National Park (PINHEY, 1984). North to North Africa

Biotope: Bush streams or pools in warmer areas (PINHEY, 1984)

Comments: Despite recent searches, this species has not been recorded in South Africa for over 45 years. It is not a threatened species, as it is widespread across Africa.

### *PSEUDAGRION ACACIAE* (FÖRSTER, 1906)

Ratings: RA 4, DE 0 = 4

Year last recorded: 1992

Reserve records: Mkuze, Ndumu, Kruger National Park

Distribution: Lowland KwaZulu-Natal, Eastern Cape, Free State, Mpumalanga, Swaziland, to central Africa

Biotope: Open, meandering savanna streams and rivers; occasionally pools

Comments: A highly localized lowveld species in South Africa. Not a threatened species.

### *PSEUDAGRION ASSEGAI* PINHEY, 1950

Ratings: RA 4, DE 1 = 5

Year last recorded: 1993

Reserve records: Cobham

Distribution: KwaZulu-Natal, Mpumalanga, Gauteng, Botswana, Zimbabwe, Zambia

Biotope: Clear montane streams and pools

Comments: A rather localized, upland southern African endemic. Not a threatened species.

### *PSEUDAGRION CAFFRUM* (BURMEISTER, 1839)

Ratings: RA 2, DE 2 = 4

Year last recorded: 1997

Reserve records: Hogsback, Cathedral Peak, Giant's Castle

Distribution: KwaZulu-Natal (mostly above 1400m a.s.l.), Eastern Cape, Lesotho

Biotope: Well-vegetated, small, clear highland streams

Comments: A southern African montane endemic that is locally common.

*PSEUDAGRION CITRICOLA* BARNARD, 1937

Ratings: RA 3, DE 2 = 5

Year last recorded: 1997

Reserve records: Coleford, Golden Gate, Royal Natal

Distribution: KwaZulu-Natal (mostly above 1200m a.s.l.), Western Cape, Eastern Cape, Northwest Province, Free State, Gauteng, Northern Province

Biotope: River pools and sluggish reaches of rivers

Comments: A widespread South African endemic that is locally abundant. Not a threatened species.

*PSEUDAGRION COELESTIS* LONGFIELD, 1947

Ratings: RA 5, DE 0 = 5

Year last recorded: 1991

Reserve records: Kruger National Park

Distribution: Mpumalanga, north to Zambia

Biotope: Open river channels (glides) with exposed sand and gravel banks

Comments: This species was only recently discovered in South Africa (CLARK &amp; SAMWAYS, 1994). Not a threatened species.

*PSEUDAGRION COMMONIAE NIGERRIMUM* PINHEY, 1950

Ratings: RA 5, DE 0 = 5

Year last recorded: 1997

Reserve records: Itala, Kruger National Park, Hhluhluwe-Umfolozi

Distribution: Lowland KwaZulu-Natal (below 700m a.s.l.), Mpumalanga, Northern Province, Swaziland, to North Africa.

Biotope: Open sluggish streams with variable current, occasionally pools

Comments: Localized in South Africa, but not a threatened species. In fact, it appears to thrive in some rivers heavily trampled by cattle.

*PSEUDAGRION DRACONIS* BARNARD, 1937

Ratings: RA 3, DE 3 = 6

Year last recorded: 1997

Reserve records: Cango Caves Reserve, Du Toits Kloof

Distribution: Western Cape

Biotope: Well-vegetated stream, river and pool margins, mostly at low altitudes

Comments: This Western Cape endemic is locally abundant. Not presently a threatened species.

*PSEUDAGRION FURCIGERUM* (RAMBUR, 1842)

Ratings: RA 2, DE 2 = 4

Year last recorded: 1997

Reserve records: Du Toits Kloof, Table Mountain, Harold Porter Nature Reserve

Distribution: Western Cape

Biotope: Well-vegetated stream, river and pool margins at low altitudes

Comments: Although endemic to the Western Cape, it can be locally very abundant. Not a threatened species.

*PSEUDAGRION GAMBLESII* PINHEY, 1978

Ratings: RA 4, DE 0 = 4

Year last recorded: 1996

Reserve records: Itala, Kruger National Park

Distribution: Northern KwaZulu-Natal (middle elevation), Mpumalanga, north to equatorial Africa

Biotope: Emergent and partially shaded vegetation at the edges of fairly swift savanna streams and rivers

Comments: A highly localized species. Not presently a threatened species.

*PSEUDAGRION H. HAGENI* KARSCH, 1893; *P. HAGENI TROPICANUM* PINHEY, 1966

Ratings: RA 0, DE 0 = 0

Year last recorded: 1983?

Reserve records: Tsitsikamma Forest, Hluhluwe-Umfolozi, Itala

Distribution: Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng, Mpumalanga, Northern Province, Swaziland to central Africa

Biotope: Well-shaded pools and sluggish reaches of rivers in woodland and forest

Comments: A widespread and common species. (PINHEY, 1984). There has been some confusion between this species and *P. newtoni*. The latter species bears a looth on the inner margin of the superior appendage, whereas *P. hageni* does not (PINHEY, 1962). The records of *P. hageni* in PINHEY (1984) are included here, but when many of Pinhey's listed sites (e.g. Tsitsikamma, Kubusi River, Hluhluwe, Howick) were revisited 1989-1997, only *P. newtoni* was found. For the time being, there is considerable doubt regarding the distributional and conservation status of *P. hageni* in South Africa.

*PSEUDAGRION HAMONI* FRASER, 1955 (= *P. WHELLANI* PINHEY, 1956)

Ratings: RA 5, DE 0 = 5

Year last recorded: 1996

Reserve records: Kruger National Park, Hluhluwe-Umfolozi

Distribution: Mpumalanga, Northern Province, north to North Africa

Biotope: Open streams and rivers with moderate and variable current; occasionally pools

Comments: A northern species with a highly localized distribution, yet can be abundant at some sites.

*PSEUDAGRION INCONSPICUUM* RIS, 1931

Ratings: RA 5, DE 3 = 8

Year last recorded: 1992

Reserve records: Jonkershoek

Distribution: Western Cape

Biotope: Slow-flowing streams and pools with abundant marginal vegetation

Comments: A highly localized and uncommon Western Cape endemic. It is of some conservation concern as it does not appear to have a clear stronghold, and the streams it inhabits are under increasing threat from run-off, pollution and excessive water extraction.

*PSEUDAGRION INOPINATUM* BALINSKY, 1971

Ratings: RA 5, DE 3(?) = 8(?)

Year last recorded: 1968

Reserve records: None

Distribution: Only two records, one from 'Drakensberg' and the other from Badplaas, Mpumalanga

Biotope: Meandering open rivers with abundant marginal vegetation (BALINSKY, 1971)

Comments: Rare and localized South African endemic that has not been seen since 1968. It may be an early-season species that should be searched for, particularly in reserve areas, where it has not yet been found. This species is of conservation concern.

*PSEUDAGRION KERSTENI* (GERSTÄCKER, 1869)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Knysna, Kruger National Park, Kenneth Stainbank, Midmar, Mhlopheni, Mpenjati, Queen Elizabeth Park, Spioenkop, Umvoti Vlei, Coleford, Itala

Distribution: KwaZulu-Natal (below 1150m a.s.l.), Western Cape, Eastern Cape, Northern Cape, Northwest Province, Free State, Gauteng, Mpumalanga, Northern Province, Lesotho, Swaziland, to central Africa

Biotope: Well-vegetated margins of moderately flowing streams and rivers

Comments: A widespread and very common species.

*PSEUDAGRION MAKABUSIENSE* PINHEY, 1950

Ratings: RA 5, DE 1 = 6

Year last recorded: 1979

Reserve records: None

Distribution: Northern Province, north to Zambia and east to Angola

Biotope: At streams among rushes or long grasses (PINHEY, 1984)

Comments: A highly localized species. Conservation status uncertain.

*PSEUDAGRION MASSAICUM* SJÖSTEDT, 1909

Ratings: RA 0, DE 0 = 0

Year last recorded: 1996

Reserve records: Nylsvley, Kruger National Park, Enseleni, Kenneth Stainbank, Mhlopheni, Mpenjati, Queen Elizabeth Park, Spioenkop, Umfolozi, Shongweni, Hhluhluwe-Umfolozi, Sodwana

Distribution: KwaZulu-Natal (up to 1300m a.s.l., Western Cape, Eastern Cape, Northern Cape, Northwest Province, Free State, Gauteng, Mpumalanga, Northern Province, north to central Africa.

Biotope: Well-vegetated pools, slow reaches of streams and rivers, particularly with floating algal mats.

Comments: A widespread and common species.

*PSEUDAGRION NEWTONI* PINHEY, 1962

Ratings: RA 3, DE 2 = 5

Year last recorded: 1997

Reserve records: Mpenjati, Hhluhluwe-Umfolozi, Sodwana, Itala, Shongweni, Kloof

Distribution: Eastern edge of Western Cape, Eastern Cape, KwaZulu-Natal

Biotope: Shady conditions of large streams, small rivers and lakes with an abundance of marginal vegetation and overhanging trees.

Comments: This is a South African endemic, apparently of low to middle elevations. Not a threatened species (see 'Comments' under *P. hageni*).

*PSEUDAGRION SALISBURYENSE* RIS, 1921

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Augrabies Falls, Kruger National Park, Tsitsikamma Forest, Albert Falls, Bisley Valley, Chelmsford, Kranzklouf, Midmar, Mhlopheni, Queen Elizabeth Park, Royal Natal, Spioenkop, Umtamvuna, Umvoti Vlei, Weenen, Itala, Hhluhluwe-Umfolozi, Sodwana

Distribution: Throughout South Africa, Swaziland, Lesotho, to North Africa

Biotope: Pools and sluggish rivers with much marginal vegetation, especially long grass

Comments: A very common and widespread species.

*PSEUDAGRION SJOESTEDI PSEUDOSJOESTEDI* PINHEY, 1964

Ratings: RA 5, DE 0 = 5

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: Only the Kruger National Park in South Africa, north to central Africa

Biotope: Sluggish, savanna streams with silt and sand in shaded areas

Comments: This species was recorded in South Africa in 1991 (CLARK & SAMWAYS, 1994). The species is widespread in Africa, and it is not threatened.

*PSEUDAGRION SPERNATUM NATALENSE* RIS, 1921

Ratings: RA 2, DE 1 (the ssp. *natalense*) = 3

Year last recorded: 1997

Reserve records: Cathedral Peak, Midmar, Coleford

Distribution: KwaZulu-Natal (above 1100m a.s.l.), Eastern Cape, Western Cape, Free State, Gauteng, Mpumalanga, Northern Province, Zimbabwe (other ssp. extend to North Africa).

Biotope: Clear, montane streams with well-vegetated, grassy banks

Comments: A locally abundant species, mostly of the lower Drakensberg. Not a threatened taxon.

*PSEUDAGRION SUBLACTEUM* (KARSCH, 1893)

Ratings: RA 3, DE 1 (the nominate ssp.) = 4

Year last recorded: 1997

Reserve records: Kruger National Park, Itala, Umfolozi

Distribution: KwaZulu-Natal, Northern Cape, Mpumalanga, north to the Middle East

Biotope: Swift rivers with reed beds (e.g. Umfolozi River)

Comments: This is a tropical species at the southern extremity of its range in South Africa. Not a threatened species.

*PSEUDAGRION SUDANICUM RUBROVIRIDE* PINHEY, 1956

Ratings: RA 5, DE 0 = 5

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: Kruger National Park, to central Africa. Other subspecies reach Sudan

Biotope: Swift rivers with extensive reeds

Comments: This species was only discovered in South Africa in 1991 (CLARK & SAMWAYS, 1994). It is a tropical species whose range just reaches South Africa. Not a threatened species.

*PSEUDAGRION UMSINGAZIENSE* BALINSKY, 1963

Ratings: RA 5, DE 2 = 7

Year last recorded: 1997

Reserve records: D'Nyala Nature Reserve, Umsingazi Lake, Ozabeni

Distribution: Only recorded from four sites: Ellisras (Northern Province), Enseleni River, Umsingazi Lake and Ozabeni pan (KwaZulu-Natal)

Biotope: Open lake margins and sluggish parts of rivers (BALINSKY, 1963)

Comments: This is a rare South African endemic that has only been recorded from two widely-separated areas. This species is of some conservation concern.

*PSEUDAGRION VAALENSE* CHUTTER, 1962

Ratings: RA 4, DE 2 = 6

Year last recorded: 1993

Reserve records: Augrabies Falls

Distribution: Northern Cape, Free State, Mpumalanga, Gauteng, Northwest, Lesotho

Biotope: Glides of large rivers, with emergent perches (CHUTTER, 1962)

Comments: A fairly widespread, but localized, South African endemic of the Orange and Vaal River system. Apparently not a threatened species.

*ISCHNURA SENEGALENSIS* (RAMBUR, 1842)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Jonkershoek, Itala, Coleford, Sodwana, Nylsvley, Kruger National Park, Tsitsikamma Forest, Albert Falls, Cape Vidal, Chelmsford, Midmar, Mpenjati, Queen Elizabeth Park, Royal Natal, Spioenkop, Greater St Lucia, Umtamvuna

Distribution: Throughout South Africa (up to about 1600m a.s.l.), Lesotho, Swaziland, to North Africa, and to Asia

Biotope: Reedy pools and quiet reaches of rivers high in organic matter

Comments: A widespread and very common species.

*ENALLAGMA ELONGATUM* (MARTIN, 1907)

Ratings: RA 5, DE 0 = 5

Year last recorded: 1990

Reserve records: Nylsvley, Albert Falls, Queen Elizabeth Park

Distribution: KwaZulu-Natal, Swaziland, to North Africa

Biotope: Slow streams and pools with grassy banks

Comments: Although widely distributed across Africa, this species is extremely localized in South Africa. It may possibly be a middle to higher elevation species (600-1200m a.s.l.). This species may require conservation measures in South Africa.

*ENALLAGMA GLAUCUM* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Augrabies, Knysna Forest, Albert Falls, Bisley Valley, Itala, Coleford, Cape Vidal, Cathedral Peak, Giant's Castle, Karkloof, Kranzkloof, Midmar, Queen Elizabeth Park, Royal Natal, Spioenkop, Umtamvuna, Weenen

Distribution: Widespread throughout South Africa (but rarely below 100m a.s.l.), Lesotho, Swaziland, to central Africa.

Biotope: Grassy and weedy parts of pools and still parts of streams and rivers

Comments: A widespread and very common species, with a wide elevational tolerance (100-2800m a.s.l.).

*ENALLAGMA N. NIGRIDORSUM* SÉLYS, 1876

Ratings: RA 3, DE 0 = 3

Year last recorded: 1995

Reserve records: Kruger National Park, D'Nyala Nature Reserve, Nylsvley, Greater Tsitsikamma, Greater St Lucia, Kenneth Stainbank, Sodwana, Umtamvuna

Distribution: Western Cape, Eastern Cape, Gauteng, Mpumalanga, to central Africa

Biotope: Mostly pools with many sedges and reeds, but at Nature's Valley in the southern Cape it was recorded sailing on the water's surface in mid-stream of the Grootrivier (SAMWAYS, 1994b)

Comments: A local species, but at some localities (e.g. Eastern Shores, Greater St Lucia) it can be very common. MAY (1997) discusses the taxonomic status of this and closely-related species.

*ENALLAGMA POLYCHROMATICUM* BARNARD, 1937

Ratings: RA 5, DE 4 = 9

Year last recorded: 1962

Reserve records: None

Distribution: Western Cape

Biotope: On streams near the coast with thick vegetation on the banks (N. J. Duke, pers. comm.)

Comments: This is an extremely rare and localized species that was not relocated in searches in 1993 or 1996. Using the new IUCN Categories of Threat it must remain in the 'DD' (Data Deficient) category.

*ENALLAGMA ROTUNDIPENNE* RIS, 1921

Ratings: RA 5, DE 2 = 7

Year last recorded: 1978

Reserve records: None (but recorded at West Park dam, Johannesburg)

Distribution: Only recorded from Maseru, Johannesburg, 'Zululand', and 'Caffraria'

Biotope: Not recorded

Comments: This is a highly localized South African and Lesotho endemic that has not been seen for nearly 20 years. It may be a threatened species.

*ENALLAGMA SAPPHIRINA* PINHEY, 1950

Ratings: RA 4, DE 2 = 6

Year last recorded: 1997

Reserve records: None

Distribution: KwaZulu-Natal (1100m-1520m a.s.l.), Free State, Eastern Cape, Gauteng

Biotope: Mostly large dams, but occasionally pools and quiet reaches of streams

Comments: A South African endemic with a localized middle-elevation distribution. Although this species has not been recorded in a protected area, it is common around the edges of some trout reservoirs in the KwaZulu-Natal midlands. This is an example of human disturbance benefitting a rare species (SAMWAYS, 1989).

*ENALLAGMA SINUATUM* RIS, 1921

Ratings: RA 5, DE 0 = 5

Year last recorded: 1911

Reserve records: None

Distribution: In South Africa it has only been recorded from M'Fongosi in KwaZulu-Natal. North

to central Africa

Biotope: Not known

Comments: This highly localized species has not been seen in South Africa for over 85 years. Populations of the species in South Africa may be threatened.

**ENALLAGMA SUBFURCATUM SÉLYS, 1876**

Ratings: RA 4, DE 0 = 4

Year last recorded: 1996

Reserve records: Coleford, Karkloof

Distribution: Western Cape, KwaZulu-Natal (1200-1550m a.s.l.), to central Africa

Biotope: Well-vegetated, reedy, montane (in KwaZulu-Natal) pools

Comments: There are two fairly low elevation records from the Western Cape, but in KwaZulu-Natal it is a distinctly upland species. It may be threatened at some localities.

**AGRIOCNEMIS EXILIS SÉLYS, 1872**

Ratings: RA 4, DE 0 = 4

Year last recorded: 1997

Reserve records: Itala, Sodwana, Greater St Lucia

Distribution: Kruger National Park, Eastern Cape, KwaZulu-Natal, Mpumalanga, Northern Province, Swaziland, to central Africa

Biotope: Reedy pools, marshes and quiet reaches of rivers

Comments: Highly localized in South Africa. Apparently not a threatened species.

**AGRIOCNEMIS FALCIFERA PINHEY, 1959**

Ratings: RA 5, DE 2 (ssp. *falcifera* and *transvaalica*) = 7

Year last recorded: 1997

Reserve records: Itala, Sodwana (ssp. *falcifera*), Kruger National Park (ssp. *transvaalica*), Hazelmere

Distribution: KwaZulu-Natal (650-1100m a.s.l.), Eastern Cape, Northern Province

Biotope: Pools and marshes with abundant reeds, sedges and long grass

Comments: A localized species, but not threatened.

**AGRIOCNEMIS GRATIOSA GERSTÄCKER, 1891**

Ratings: RA 5, DE 0 = 5

Year last recorded: 1990

Reserve records: Umsingazi Lake, Greater St Lucia

Distribution: Two South African records (Richard's Bay in 1958 (PINHEY, 1984), and Greater St Lucia 1990). North to North Africa

Biotope: Marshes or pools with considerable reeds, sedges and tangled grasses

Comments: Although widespread across Africa and Madagascar, this species is rare in South Africa. All new records are significant, especially those from the Richard's Bay area in view of the urban development, and increasing threats since 1958. A further concern is that the 1990 record is from the swampy area adjacent to Lake Bangazi, which, in 1994, was almost dry.

**AGRIOCNEMIS PINHEYI BALINSKY, 1963**

Ratings: RA 4, DE 1 = 5

Year last recorded: 1997

Reserve records: National Botanic Gardens, Pietermaritzburg, Coleford

Distribution: KwaZulu-Natal (700-1550m a.s.l.), Northern Province, Mpumalanga, Zimbabwe, Mozambique and Zambia

Biotope: Edges of pools with tangled marshes or reeds, sedges and long grass

Comments: This is a localized middle-elevation southern African endemic, with populations in the Himeville-Underberg and Tzaneen areas. It has not yet been recorded from any of the major reserves. It appears not to be threatened as it readily colonizes small reservoirs.

**AGRIOCNEMIS R. RUBERRIMA BALINSKY, 1961**

Ratings: RA 5, DE 4 (ssp. *ruberrima*) = 9

Year last recorded: 1995

Reserve records: Greater St Lucia

Distribution: For the ssp. *ruberrima*, there are only two known localities (Richard's Bay and Greater St Lucia), and for the ssp. *albifrons*, only one locality in Botswana

Biotope: Edges of pools and marshes with an abundance of grass, rushes and sedges

Comments: The conservation status of this highly localized species is uncertain.

## CALOPTERYGIDAE

### *PHAON IRIDIPENNIS* (BURMEISTER, 1839)

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Kruger National Park, Albert Falls, Hlululuwe-Umfolozi, Kenneth Stainbank, Ndumu, Sodwana, Shongweni, Greater St Lucia, Umfolozi, Umtamvuna

Distribution: KwaZulu-Natal (mostly below 500m a.s.l.), Eastern Cape, Mpumalanga, Northern Province, to central Africa

Biotope: Among bushes beside or away from fairly fast-flowing rivers. At Umtamvuna, it is distinctly a forest species

Comments: A fairly common and widespread species.

## CHLOROCYPHIDAE

### *CHLOROCYPHA CONSUETA* (KARSCH, 1899)

Ratings: RA 5, DE 1 = 6

Year last recorded: 1951?

Reserve records: None

Distribution: Only Mbalane in KwaZulu-Natal (PINHEY, 1984), north to Zaire

Biotope: Forested streams with emergent rocks and sticks as perches (PINHEY, 1951)

Comments: There is only one old record of this species occurring in South Africa. Despite intensive searches, this species has not been rediscovered in South Africa. Even its locality 'Mbalane' has not been reestablished. Further searches are required to verify its South African status.

### *PLATYCYPHA CALIGATA* (SÉLYS, 1853)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Kruger National Park, Loskop Dam, Albert Falls, Giants Castle, Hlululuwe-Umfolozi, Itala, Kenneth Stainbank, Kranzkloof, Greater St Lucia, Shongweni, Umtamvuna

Distribution: Throughout South Africa (below 1500m a.s.l.), to North Africa

Biotope: Wooded streams and small rivers, with emergent rocks and/or logs and sticks

Comments: A widespread and common species.

### *PLATYCYPHA FITZSIMONSI* (PINHEY, 1950)

Ratings: RA 4, DE 1 = 5

Year last recorded: 1996

Reserve records: Coleford, Tsitsikamma Forest

Distribution: KwaZulu-Natal (mostly 1300-1550m a.s.l.), Eastern Cape, Zimbabwe

Biotope: Open, clear, upland rivers

Comments: An upland species that is locally common in the upper reaches of the Mzimkulu and Umgeni Rivers. Not a threatened species, but possibly vulnerable to disturbed or polluted river conditions.

## GOMPHIDAE

*ICTINOGOMPHUS FEROX* RAMBUR, 1842

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Kruger National Park, Greater St Lucia, Mapelane, Ndumu, Sodwana, Umfolozi  
Distribution: KwaZulu-Natal, Mpumalanga, Northwestern Province, Northern Province, to central Africa

Biotope: Meandering rivers, large pools, lakes and marshes with extensive reed beds and occasional bushes. Also patrols in forest clearings.

Comments: Locally common (e.g. Greater St Lucia).

*GOMPHIDIA QUARREI* (SCHOUTEDEN, 1934)

Ratings: RA 5, DE 1 = 6

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: Mpumalanga, to central Africa

Biotope: Flowing streams and rivers fringed with reeds or bushes

Comments: Highly localized in South Africa. It is possibly a migrant. Conservation status uncertain.

*LESTINOGOMPHUS ANGUSTUS* MARTIN, 1911

Ratings: RA 5, DE 0 = 5

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: Isolated records from KwaZulu-Natal, Gauteng and Mpumalanga, to central Africa

Biotope: Wooded or forested savanna streams or rivers

Comments: Apparently localized in South Africa. Conservation status in South Africa unknown.

*NOTOGOMPHUS PRAETORIUS* (SÉLYS, 1878)

Ratings: RA 2, DE 1 = 3

Year last recorded: 1995

Reserve records: Kamberg, Krantzklouf, Vergelegen

Distribution: KwaZulu-Natal (mostly above 1100m a.s.l., but one record at 450m a.s.l.), Eastern Cape, Gauteng, Mpumalanga, Northern Province, north to Zaire

Biotope: Clear streams and pools with abundant bank vegetation and large boulders

Comments: A fairly common and widespread species in the eastern parts of South Africa.

*NEUROGOMPHUS ? VICINIS* SCHOUTEDEN, 1934

Ratings: RA 5, DE 1 = 6

Year last recorded: 1961

Reserve records: Kruger National Park

Distribution: Only one South African record (Pafuri, KNP), north to Zaire

Biotope: Flies in grassland close to rivers (PINHEY, 1985)

Comments: The range of this species just reaches South Africa. As this species has not been seen in South Africa since 1961, its residency and conservation status is uncertain.

*PHYLLOGOMPHUS BRUNNEUS* PINHEY, 1976

Ratings: RA 5, DE 1 = 6

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: Mpumalanga, north to Zambia

Biotope: Streams, rivers and marshes in savanna woodland

Comments: A rare, lowveld species in South Africa, that is apparently not threatened.

*CRENIGOMPHUS CORNUTUS* PINHEY, 1956

Ratings: RA 5, DE 1 = 6

Year last recorded: 1963

Reserve records: Kruger National Park

Distribution: Mpumalanga, north to Zambia

Biotope: Grassland near rivers (PINHEY, 1985)

Comments: In South Africa, only recorded from the Kruger National Park. Conservation status uncertain.

*CRENIGOMPHUS HARTMANNI* (FÖRSTER, 1898)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1993

Reserve records: Kruger National Park, Itala

Distribution: KwaZulu-Natal (up to 1000m a.s.l.), Western Cape, Eastern Cape, Mpumalanga, to central Africa

Biotope: Bush and mixed forest and grassland, not necessarily near water

Comments: A fairly rare and localized species in South Africa. This species does not appear to be threatened.

*CERATOGOMPHUS PICTUS* SÉLYS, 1854

Ratings: RA 1, DE 1 = 2

Year last recorded: 1997

Reserve records: Royal Natal, Vergelegen, Weenen

Distribution: KwaZulu-Natal (mostly between 650 and 1600m a.s.l.), Western Cape, Eastern Cape, Northern Cape, Free State, Gauteng, Mpumalanga, Northwest, Lesotho, Swaziland, north to Zaire.

Biotope: Mostly at the edges of large pools and meandering streams with patches of short grass and stones on the banks

Comments: Locally common. It benefits from the construction of small reservoirs.

*CERATOGOMPHUS TRICERATICUS* BALINSKY, 1963

Ratings: RA 5, DE 4 = 9

Year last recorded: 1969

Reserve records: None

Distribution: Western Cape

Biotope: Similar habitats to *C. pictus* (PINHEY, 1985)

Comments: This is a Western Cape endemic that has not been seen for 28 years. This species may be threatened for similar reasons as for *Ecchlorolestes peringueyi*.

*PARAGOMPHUS COGNATUS* (RAMBUR, 1842)

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Kruger National Park, Jonkershoek, Giant's Castle, Golden Gate, Kenneth Stainbank, Mhlopheni, Royal Natal, Umtamvuna, Umvoti Vlei, Vergelegen

Distribution: KwaZulu-Natal (up to 2000m a.s.l.), Western Cape, Eastern Cape, Northern Cape, Northwest Province, Free State, Gauteng, Mpumalanga, Northern Province, Swaziland, north to North Africa

Biotope: Clear, fairly swift streams and small rivers

Comments: A widespread and common species. Not a threatened species. It is highly sensitive to the damming of streams (STEYTLER & SAMWAYS, 1995).

*PARAGOMPHUS DICKSONI* PINHEY, 1969

Ratings: RA 5, DE 5 = 10

Year last recorded: 1968

Reserve records: None

Distribution: Western Cape (Oudebosch, near Rivier Zonderend)

Biotope: Not known

Comments: This species is only known from one female specimen (PINHEY, 1969). Its distributional and conservation status is unknown.

*PARAGOMPHUS ELPIDIUS* (RIS, 1921)

Ratings: RA 4, DE 0 = 4

Year last recorded: 1991

Reserve records: Kruger National Park

Distribution: Western Cape, KwaZulu-Natal, Mpumalanga, Swaziland, north to central Africa

Biotope: Large streams and small rivers in woodland and forested areas

Comments: This is a highly localized species in South Africa. It may be migratory, although it is resident in the Kruger National Park. Apparently not a threatened species.

*PARAGOMPHUS GENEI HAGENII* (SÉLYS, 1871)

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Kruger National Park, Greater St Lucia, Itala, Mhlopheni, Sodwana

Distribution: Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng, Mpumalanga, Northern Province, north to Europe

Biotope: Streams and rivers and occasionally pools in savanna areas, settling on rocks or sand banks

Comments: A widespread species but fairly localized in South Africa, but not threatened. It can inhabit streams that are regularly disturbed by cattle.

*ONYCHOGOMPHUS SUPINUS* SÉLYS, 1854

Ratings: RA 5, DE 0 = 5

Year last recorded: 1993

Reserve records: Itala

Distribution: KwaZulu-Natal, Mpumalanga, Northern Province, north to central Africa

Biotope: Edges of large streams in savanna areas

Comments: A very rare and localized species in South Africa. Conservation status uncertain.

## AESHNIDAE

*AESHNA ELLIOTI USAMBARICA* FÖRSTER, 1906

Ratings: RA 5, DE 0 = 5

Year last recorded: 1978

Reserve records: None

Distribution: Northern Province, to North Africa

Biotope: Higher montane kloofs or forest (PINHEY, 1985)

Comments: In South Africa, it appears to be restricted to the high mountain areas of the Northern Province where it is nevertheless uncommon. Its conservation status in South Africa is unknown.

*AESHNA MINUSCULA* (McLACHLAN, 1896)

Ratings: RA 1, DE 2 = 3

Year last recorded: 1997

Reserve records: Table Mountain, Jonkershoek, Kruger National Park, Cathedral Peak, Giant's Castle, Golden Gate, Midmar, Mpenjati, Royal Natal

Distribution: KwaZulu-Natal (mostly above 1000m a.s.l., but on 3 April 1994, at Mpenjati, one was recorded at sea level), Western Cape, Eastern Cape, Northern Cape, Free State, Gauteng

Biotope: Clear montane pools and deposition zones of streams

Comments: A fairly common and widespread South African endemic that benefits from small water impoundments.

*AESHNA SUBPUPILLATA* (McLACHLAN, 1896)

Ratings: RA 1, DE 2 = 3

Year last recorded: 1997

Reserve records: Jonkershoek, Table Mountain, Albert Falls, Cobham, Giants Castle, Golden Gate, Njasuti, Vergelegen

Distribution: Western Cape, Eastern Cape, KwaZulu-Natal, Gauteng, Mpumalanga, Northern Province, Swaziland

Biotope: Swift montane streams and rivers with dense bank vegetation and bushes

Comments: A common and widespread southern African endemic.

*ANACIAESCHNA TRIANGULIFERA* McLACHLAN, 1896

Ratings: RA 4, DE 0 = 4

Year last recorded: 1997

Reserve records: Greater St Lucia, Sodwana

Distribution: KwaZulu-Natal (below 100m a.s.l.), Gauteng, Northwest, Northern Province, to central Africa

Biotope: Forest and bush; mainly crepuscular

Comments: A fairly localized coastal species in South Africa. The species does not appear to be threatened.

*HEMIANAX EPHIPPIGER* (BURMEISTER, 1839)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, D'Nyala, Weenen

Distribution: KwaZulu-Natal, Eastern Cape, Northwest Province, Free State, Gauteng, Mpumalanga, Northern Province, north to Europe and east to Asia

Biotope: Mostly well-vegetated pools

Comments: A widespread species in South Africa. It is highly migratory (SAMWAYS & CALDWELL, 1989).

*ANAX IMPERATOR MAURICIANUS* RAMBUR, 1842

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Albert Falls, Cape Vidal, Beachwood, Giant's Castle, Golden Gate, Kenneth Stainbank, Greater St Lucia, Royal Natal, Umvoti Vlei, Vergelegen, Weenen, Shongweni, Itala

Biotope: Small and large pools with much aquatic and emergent vegetation.

Distribution: KwaZulu-Natal (up to 1600m a.s.l.), Western Cape, Eastern Cape, Northern Cape, Gauteng, Free State, Northern Province, Mpumalanga, to central Africa. (The nominate subspecies occurs in Europe and North Africa).

Comments: *A. i. mauricianus* is common and widespread.

*ANAX SPERATUS* HAGEN, 1867

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Du Toits Kloof, Bainskloof, Albert Falls, Giant's Castle, Hhluhluwe-Umfolozi, Itala, Kranzkloof, Umtamvuna, Umvoti Vlei

Distribution: KwaZulu-Natal (up to 1700m a.s.l.), Western Cape, Eastern Cape, Mpumalanga, Northern Province, Swaziland, to central Africa

Biotope: Large pools, but mostly streams and rivers in fairly wooded areas

Comments: A widespread and common species.

*ANAX TRISTIS* HAGEN, 1867

Ratings: RA 5, DE 0 = 5

Year last recorded: 1996

Reserve records: Kenneth Stainbank, Hhluhluwe-Umfolozi

Distribution: KwaZulu-Natal, Mpumalanga, north to central Africa and east to Asia

Biotope: In South Africa it has only been recorded over well-vegetated pools

Comments: This huge species was first recorded in South Africa in 1988. Being at the southern extremity of its range, it is uncertain whether it is resident here. This makes its conservation status in South Africa uncertain, although the species appears not to be threatened elsewhere in Africa.

*GYNACANTHA MANDERICA* GRÜNBERG, 1902

Ratings: RA 4, DE 0 = 4

Year last recorded: 1991

Reserve records: Greater St Lucia, Ndumu

Distribution: KwaZulu-Natal (below 200m a.s.l.), Eastern Cape, to central Africa

Biotope: Crepuscular among bushes and forest patches, such as *Barringtonia* stands.

Comments: This species is under local threat in the Richard's Bay area; mining at St Lucia would be a threat. The species is currently widespread across Africa. It is not threatened.

*GYNACANTHA VILLOSA* GRÜNBERG, 1902

Ratings: RA 5, DE 0 = 5

Year last recorded: 1977

Reserve records: Greater St Lucia

Distribution: KwaZulu-Natal (Richard's Bay and Greater St Lucia), north to central Africa

Biotope: As for *manderica* (PINHEY, 1985)

Comments: Although a widespread species across tropical Africa, it appears to be very local in South Africa. It is not known whether it breeds in the country. Its conservation status in South Africa is uncertain.

*GYNACANTHA ZULUENSIS* (BALINSKY, 1961)

Ratings: RA 5, DE 1 = 6

Year last recorded: 1996

Reserve records: Dukuduku Forest, Umsingazi Lake, Sodwana

Distribution: KwaZulu-Natal (below 100m a.s.l.), Mozambique, Malawi

Biotope: Coastal forest

Comments: This is a highly local and rare southern African endemic, that has only been found in South Africa in northern KwaZulu-Natal. Being an inhabitant of the coastal forest, it is locally threatened by urban and industrial development, and by mining.

## CORDULIIDAE

*SYNCORDULIA GRACILIS* (BURMEISTER, 1839)

Ratings: RA 5, DE 2 = 7

Year last seen: 1992

Reserve records: Bainskloof

Distribution: Western Cape and KwaZulu-Natal

Biotope: Montane streams and rivers

Comments: Despite extensive searches in recent years, this species has not been relocated in the Drakensberg. It is clearly a rare species, even in the Cape. It may be threatened, especially as it is an inhabitant of clear, montane streams.

*SYNCORDULIA VENATOR* (BARNARD, 1933)

Ratings: RA 4, DE 3 = 7

Year last recorded: 1997

Reserve records: Table Mountain, Jonkershoek, Du Toits Kloof, Villiersdorp Botanic Gardens

Distribution: Western Cape

Biotope: Montane streams

Comments: A rare, Western Cape endemic that may be under some threat as it inhabits only clear, montane streams.

*HEMICORDULIA ASIATICA* SÉLYS, 1878

Ratings: RA 5, DE 0 = 5

Year last recorded: 1997

Reserve records: Dukuduku Forest, Greater St Lucia, Sodwana

Distribution: KwaZulu-Natal (below 100m a.s.l.), to central Africa and east to Asia

Biotope: Forest clearings, but the larva inhabits streams in *Barringtonia* forest

Comments: This species was only fairly recently recorded from South Africa, where it was found in coastal forest in northern KwaZulu-Natal (PINHEY, 1985). In 1996, larvae were found on the Eastern Shores of Greater St Lucia, indicating that it is resident. It is under threat from urbanization, industrial expansion and mining.

*MACROMIA BIFASCIATA* (MARTIN, 1912)

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Greater St Lucia, Umtamvuna

Distribution: Western Cape, Mpumalanga, KwaZulu-Natal (below 100m a.s.l.), to central Africa

Biotope: Clearings between bush or forest, not necessarily close to its larval biotope (well-established large lakes)

Comments: A common species at Greater St Lucia.

*MACROMIA MONOCEROS* FÖRSTER, 1906

Ratings: RA 5, DE 0 = 5

Year last recorded: 1911

Reserve records: None

Distribution: Mpumalanga, to central Africa

Biotope: Bush or forest on steady circuits near streams (PINHEY, 1985)

Comments: There is only one record of this species in South Africa (Barberton, Mpumalanga) which dates back to 1911. It is not known whether the species is resident. Conservation status indeterminate.

*MACROMIA PICTA* SÉLYS, 1871

Ratings: RA 2, DE 0 = 2

Year last recorded: 1996

Reserve records: Kruger National Park, Midmar, Albert Falls

Distribution: Western Cape, Eastern Cape, Northern Cape, Northwest, Free State, Mpumalanga, Northern Province, KwaZulu-Natal, (up to 1500m a.s.l.), Swaziland, to central Africa

Biotope: Large pools and dams, large rivers with some bush

Comments: A fairly common and widespread species, which is not threatened. It benefits from river impoundments.

## LIBELLULIDAE

*TETRATHEMIS POLLENI* (SÉLYS, 1877)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Kruger National Park, Greater St Lucia, Mpenjati (Black Lake)

Distribution: KwaZulu-Natal (below 100m a.s.l.), Eastern Cape, to central Africa

Biotope: Well-shaded pools, and still reaches of streams and rivers

Comments: A widespread, tropical species that reaches the Eastern Cape. It readily colonizes shaded water holes and pools, which may dry up in some years, to be colonized again in wet years. Not a threatened species.

*NOTIOTHEMIS JONESI* RIS, 1919

Ratings: RA 4, DE 0 = 4

Year last recorded: 1997

Reserve records: Kranskloof, Queen Elizabeth Park, National Botanic Gardens (Pietermaritzburg)

Distribution: KwaZulu-Natal (450-900m a.s.l.), Eastern Cape, to central Africa

Biotope: Well-shaded pools and still reaches of rivers

Comments: A localized and cryptic species that benefits from artificial ponds. Not a threatened species.

*ORTHETRUM ABBOTTI* CALVERT, 1892

Ratings: RA 2, DE 0 = 2

Year last recorded: 1993

Reserve records: Loskop Dam, Albert Falls, Cathedral Peak, Itala, Greater St Lucia,

Distribution: Eastern Cape, Free State, KwaZulu-Natal, Mpumalanga, Northern Province, Swaziland, to central Africa

Biotope: Slow streams and pools, mostly in savanna areas

Comments: A fairly localized species, with a wide distribution in Africa. Not a threatened species.

*ORTHETRUM BRACHIALE* (P. de BEAUVOIS, 1805)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Tsitsikamma Forest, Nylsvley, Mpenjati, Greater St Lucia

Distribution: Western Cape, KwaZulu-Natal, Northwest, Gauteng, Northern Province, to central Africa

Biotope: Open woodland and marshland, with still or slightly moving water

Comments: Although this species appears to be common further north in Africa, it is localized in South Africa. Not threatened as a species. The Mpenjati record (1990) illustrates that its presence in a reserve does not necessarily accord population survival. In the intervening dry period, the water level dropped in the reserve and the species was no longer present in late summer 1994. (See also *O. guineense* and *O. hintzi*).

*ORTHETRUM CAFFRA* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Kruger National Park, Bisley Valley, Cathedral Peak, Giant's Castle, Golden Gate, Karkloof, Midmar, Njasuti, Queen Elizabeth Park, Royal Natal, Umvoti Vlei, Vergelegen, Coleford

Distribution: Throughout KwaZulu-Natal (mostly above 600m a.s.l.), and widespread in South Africa, Lesotho, Swaziland, to central Africa

Biotope: Reedy pools and sluggish streams and rivers

Comments: A widespread and common montane species. Not of conservation concern, particularly as it readily colonizes reservoirs.

*ORTHETRUM CHRYSOSTIGMA* (BURMEISTER, 1839)

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Cape Peninsula, Cobham, Mhlopheni, Queen Elizabeth Park, Spioenkop, Greater St Lucia, Umfolozi, Umtamvuna, Weenen

Distribution: KwaZulu-Natal (0-2200m a.s.l.), Western Cape, Eastern Cape, Northwest Province, Gauteng, Northern Province, Mpumalanga, Lesotho, Swaziland, North Africa and Middle East.

Biotope: Pools and still reaches of savanna rivers

Comments: A widespread, but fairly localized, species, with a wide elevational tolerance. Not of conservation concern.

*ORTHETRUM GUINEENSE* RIS, 1910

Ratings: RA 3, DE 0 = 3

Year last recorded: 1990

Reserve records: Mpenjati

Distribution: Northern Cape, Northwest, Gauteng, Northern Province, Free State, KwaZulu-Natal, to central Africa

Biotope: Reedy ponds and sluggish streams in savanna areas

Comments: A localized species in South Africa. Not threatened, but the Mpenjati (1990) population had disappeared with the dry conditions preceding late summer 1994 (see also *O. brachiale* and *O. hintzi*).

*ORTHETRUM HINTZI* SCHMIDT, 1951

Ratings: RA 4, DE 0 = 4

Year last recorded: 1990

Reserve records: Mpenjati, Greater St Lucia

Distribution: KwaZulu-Natal, Northern Cape, Northern Province, Swaziland, to central Africa

Biotope: Slow streams in savanna or bushy areas

Comments: A localized species in South Africa. Although the conservation status is uncertain, the Mpenjati population of 1990 was no longer present after the dry spell preceding late summer 1994 (see also *O. brachiale* and *O. guineense*).

**ORTHETRUM ICTEROMELAS CINCTIFRONS** PINHEY, 1970

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Kruger National Park, Greater St Lucia, Umtamvuna

Distribution: KwaZulu-Natal, Gauteng, Mpumalanga, Northern Province, north to central Africa

Biotope: Mostly shallow pools with considerable emergent vegetation in open areas

Comments: Although fairly localized, this species can be locally abundant (e.g. Eastern Shores of Greater St Lucia). Not a threatened species.

**ORTHETRUM JULIA FALSUM** LONGFIELD, 1955; *O. JULIA CAPICOLA* KIMMINS, 1957

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Jonkershoek, Knysna Forest, Tsitsikamma Forest, Table Mountain, Du Toits Kloof, Bainskloof, Cape Peninsula, Nylsvley, Kruger National Park, Beachwood, Bluff, Hluhluwe-Umfoloji, Itala, Kenneth Stainbank, Kranzkloof, Mpenjati, Queen Elizabeth Park, Royal Natal, Greater St Lucia, Umtamvuna, Shongweni, Coleford

Distribution: Throughout South Africa (up to 1700m a.s.l.), Swaziland, Lesotho, to central Africa

Biotope: Streams, pools and rivers in bush or wooded areas, and even within forest

Comments: A very common and widespread species, that is not threatened. In the Cape, the dominant subspecies is *O. j. capicola*, while elsewhere in South Africa, it is *O. j. falsum*.

**ORTHETRUM MACHADOI** LONGFIELD, 1955

Ratings: RA 4, DE 0 = 4

Year last recorded: 1982

Reserve records: Entabeni forest, Greater St Lucia

Distribution: KwaZulu-Natal, Gauteng, Northern Province, Mpumalanga, to central Africa

Biotope: Pools, swamps and sluggish streams (PINHEY, 1985)

Comments: This is a highly localized species, whose South African populations are of uncertain conservation status.

**ORTHETRUM ROBUSTUM** BALINSKY, 1965

Ratings: RA 5, DE 1 = 6

Year last recorded: 1997

Reserve records: Ndumu, Greater St Lucia, Umsingazi, Lake Bhanghazi North

Distribution: Northern KwaZulu-Natal, Botswana, Zambia.

Biotope: Pools and lakes with dense stands of marginal vegetation

Comments: This is a highly localized species. In late summer 1994, it was absent from its former pools near the airstrip at St Lucia. In 1990, these pools were full, but by 1994, they had dried out, and searches failed to relocate the species. Then, in 1996-1997, after good rains, it was abundant again in many pools in the Greater St Lucia Park, and also at Lake Bhanghazi North. Not of conservation concern.

**ORTHETRUM RUBENS** BARNARD, 1937

Ratings: RA 4, DE 4 = 8

Year last recorded: 1977

Reserve records: Du Toits Kloof, Kirstenbosch

Distribution: Western Cape

**Biotope:** The adult flies rapidly on montane slopes (PINHEY, 1985), and is associated with high montane streams with pools (N. J. Duke, pers. comm.).

**Comments:** Using the new IUCN Categories of Threat, it is listed as 'DD' (Data Deficient), which is where it should remain until there is some information on the larval habitat.

***ORTHETRUM TRINACRIA* (SÉLYS, 1841)**

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Greater St Lucia, Himeville, Karkloof, Kenneth Stainbank, Kosi Bay, Hluhluwe-Umfolozi

Distribution: Western Cape, Eastern Cape, Northern Cape, Northwest, Gauteng, KwaZulu-Natal (up to 1500m a.s.l.), Free State, Northern Province, Mpumalanga, north to Europe

**Biotope:** Large pools and marshes with considerable emergent, marginal vegetation; occasionally sluggish reaches of rivers

**Comments:** A widespread and common species.

***NESCIOTHEMIS FARINOSA* (FÖRSTER, 1898)**

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Loskop Dam, Nylsvley, Kruger National Park, Albert Falls, Bisley Valley, Itala, Kenneth Stainbank, Midmar, Mpenjati, Queen Elizabeth Park, Royal Natal, Hluhluwe-Umfolozi, Umtamvuna

Distribution: KwaZulu-Natal (up to 1500m a.s.l.), Western Cape, Eastern Cape, Northern Cape, Northwest, Free State, Gauteng, Northern Province, Mpumalanga, north to North Africa

**Biotope:** Pools, lakes, dams, marshes and sluggish reaches of rivers with abundant marginal reeds

**Comments:** A widespread and common species.

***PALPOPLEURA DECEPTOR* (CALVERT, 1899)**

Ratings: RA 5, DE 0 = 5

Year last recorded: 1991

Reserve records: Nylsvley, Kruger National Park

Distribution: Northern Cape, Northern Province, Mpumalanga, to central Africa

**Biotope:** Pools and sluggish reaches of rivers with abundant marginal vegetation

**Comments:** This is a highly localized, savanna species. Not a threatened species.

***PALPOPLEURA J. JUCUNDA* RAMBUR, 1842**

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Blydepoort, Nylsvley, Kruger National Park, Albert Falls, Chelmsford, Himeville, Itala, Kranzkloof, Royal Natal, Umtamvuna

Distribution: Western Cape, Northern Cape, Eastern Cape, Free State, Gauteng, Northern Province, Mpumalanga, KwaZulu-Natal, Swaziland, to north Africa

**Biotope:** Open pools, marshes and quiet reaches of rivers with an abundance of tall reeds and grasses

**Comments:** A widespread but fairly localized species that is not threatened.

***PALPOPLEURA LUCIA* (DRURY, 1773)**

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Beachwood, Bisley Valley, Greater St Lucia, Itala, Kenneth Stainbank, Kranzkloof, Queen Elizabeth Park, Umtamvuna, Shongweni

Distribution: Eastern Cape, Northern Cape, Gauteng, Northern Province, Mpumalanga, KwaZulu-Natal (up to 700m a.s.l.), Swaziland, to central Africa

**Biotope:** Pools, ponds, dams and sluggish parts of rivers in open bush and forest, and with an abundance of reeds and long grass

**Comments:** A widespread and abundant species.

*CHALCOSTEPHIA FLAVIFRONS* KIRBY, 1889

Ratings: RA 4, DE 0 = 4

Year last recorded: 1997

Reserve records: Greater St Lucia, Kenneth Stainbank, Sodwana

Distribution: KwaZulu-Natal (below 100m a.s.l.), north to central Africa

Biotope: Perching on bushes or trees adjacent to ponds or marshes

Comments: A tropical species that is abundant at Greater St Lucia. Not a threatened species.

*HEMISTIGMA ALBIPUNCTA* (RAMBUR, 1842)

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Kruger National Park, Beachwood, Greater St Lucia, Kenneth Stainbank, Mpenjati (1990 but not 1994), Hazelmere

Distribution: KwaZulu-Natal (below 1400m a.s.l.), Mpumalanga, north to central Africa

Biotope: Ponds, pools, and marshes with an abundance of reeds and grasses in bush and forest areas. The larva can tolerate stagnant water conditions.

Comments: A tropical species that is common at Greater St Lucia.

*ACISOMA PANORPOIDES ASCALAPHOIDES* RAMBUR, 1842

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Greater St Lucia, Kenneth Stainbank, Sodwana Bay, Umvoti Vlei

Distribution: KwaZulu-Natal (below 1400m a.s.l.), Northern Province, Mpumalanga, Free State, north to Europe

Biotope: Open pools, ponds and marshes with an abundance of emergent and floating vegetation

Comments: A fairly localized species but common in places (e.g. Greater St Lucia). Not a threatened subspecies.

*DIPLACODES DEMINUTA* LIEFTINCK, 1969

Ratings: RA 5, DE 1 = 6

Year last seen: 1990

Reserve records: Greater St Lucia

Distribution: KwaZulu-Natal (below 50m a.s.l.), Northern Province, north to Zambia

Biotope: Open marshes with an abundance of reeds and grasses.

Comments: A rare and localized species in South Africa. In 1990, it was abundant on the Eastern Shores of Greater St Lucia, but the 1992-1993 drought extirpated its population. It has not been recorded since. It may be threatened in South Africa.

*DIPLACODES LEFEBVRII* (RAMBUR, 1842)

Ratings: RA 2, DE 0 = 2

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Greater St Lucia, Kenneth Stainbank, Mkuze, Vergelegen

Distribution: KwaZulu-Natal (below 1600m a.s.l.), Northern Cape, Gauteng, Northern Province, Mpumalanga, Swaziland, to North Africa

Biotope: Pools and marshes with an abundance of emergent vegetation

Comments: A widespread and common species.

*CROCOTHEMIS ERYTHRAEA* (BRULLÉ, 1832)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Kirstenbosch, Nylsvley, Kruger National Park, Albert Falls, Bisley Valley, Greater St Lucia, Kranskloof, Mhlopheni, Midmar, Queen Elizabeth Park, Spioenkop, Umtamvuna, Weenen, Shongweni

Distribution: Widespread throughout South Africa (below 1400m a.s.l.), Swaziland and Lesotho,

north to Europe

Biotope: Ponds, pools and quiet reaches of rivers with an abundance of reeds and aquatic vegetation

Comments: A very common and widespread species that readily colonizes artificial impoundments where there is an abundance of emergent and floating vegetation (SAMWAYS & STEYTLER, 1996).

***CROCOTHEMIS SANGUIOLENTA* (BURMEISTER, 1839)**

Ratings: RA 0, DE 0 = 0

Year last recorded: 1996

Reserve records: Table Mountain, Kruger National Park, Albert Falls, Itala, Mhlopeni, Royal Natal, Umtamvuna, Albert Falls

Distribution: Throughout South Africa (below 1200m a.s.l.), to central Africa

Biotope: Pools and streams, often settling on rocks on the banks

Comments: A widespread and common species. Very common on top of Table Mountain in February 1993. It appears to have become more widespread and abundant in recent years.

***BRADINOPYGA CORNUTA* RIS, 1911**

Ratings: RA 4, DE 0 = 4

Year last recorded: 1991

Reserve records: Kruger National Park

Distribution: KwaZulu-Natal (below 50m a.s.l.), Mpumalanga, Northern Province, to central Africa

Biotope: Pools on rock outcrops or among rocks

Comments: This species is limited in abundance and range by its narrow habitat. It is locally abundant near Skukuza and Olifants Camp in the Kruger National Park.

***BRACHYTREMIS LACUSTRIS* (KIRBY, 1889)**

Ratings: RA 4, DE 0 = 4

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: Western Cape, Northern Province, Mpumalanga, to North Africa

Biotope: Quiet reaches of rivers, and pools, with overhanging bushes and trees

Comments: A tropical species that is fairly common on the Sabie River in the Kruger National Park. Not a threatened species unless the rivers of the Kruger National Park suffer more disturbance.

***BRACHYTREMIS LEUCOSTICTA* (BURMEISTER, 1839)**

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Kalahari Gemsbok, Hartbeestpoort, Albert Falls, Beachwood, Greater St Lucia, Hhluhluwe-Umfolozi, Itala

Distribution: Northern Cape, KwaZulu-Natal (below 750m a.s.l.), Northern Province, Mpumalanga, Swaziland, to central Africa

Biotope: Pools and sluggish parts of rivers, where the adults settle on bare, sandy areas

Comments: A widespread and common tropical species.

***SYMPETRUM FONSCOLOMBEI* (SÉLYS, 1840)**

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Table Mountain, Knysna Forest, Tsitsikamma, Nylsvley, Kruger National Park, Bisley Valley, Cathedral Peak, Chelmsford, Cobham, Kamberg, Kenneth Stainbank, Midmar, Mlazi, Queen Elizabeth Park, Royal Natal, Umtamvuna, Vergelegen, Weenen

Distribution: Throughout South Africa (below 2400m a.s.l.), Lesotho, Swaziland, north to Europe

Biotope: Pools, quiet reaches of rivers, with an abundance of reeds

Comments: A widespread and common migrant.

*PHILONOMON LUMINANS* (KARSCH, 1893)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Nylsvley, Bisley Valley, Kenneth Stainbank, Mlazi, Greater St Lucia, Weenen

Distribution: KwaZulu-Natal (below 700m a.s.l.), Northern Province, to central Africa

Biotope: Pools with an abundance of reeds and grasses in savanna bushveld

Comments: A localized species, in South Africa. Conservation status uncertain.

*TRITHEMIS ACONITA* LIEFTINCK, 1969

Ratings: RA 5, DE 0 = 5

Year last recorded: 1992

Reserve records: Kruger National Park

Distribution: KwaZulu-Natal (below 50m a.s.l.), Mpumalanga, to central Africa

Biotope: Perches on bushes or trees over small rivers in savanna and woodland

Comments: A localized species, that is fairly abundant on the Sabie River near Skukuza. Not a threatened species.

*TRITHEMIS ANNULATA* (P. de BEAUVOIS, 1805)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Kruger National Park, Greater St Lucia, Mlazi, Sodwana

Distribution: Western Cape, KwaZulu-Natal, Mpumalanga, Northern Province, north to Europe

Biotope: Sheltered pools and marshes with an abundance of reeds and rushes

Comments: A widespread and common species in warm coastal areas.

*TRITHEMIS ARTERIOSA* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Jonkershoek, Kirstenbosch, Nylsvley, Kruger National Park, Albert Falls, Beachwood, Bisley Valley, Giant's Castle, Itala, Kenneth Stainbank, Kranskloof, Mhlopheni, Midmar, Mlazi, Mpenjati, Spioenkop, Umtamvuna, Weenen

Distribution: Widespread and common throughout South Africa (below 1600m a.s.l.), Swaziland, Lesotho, north to Europe

Biotope: Fairly well-vegetated pools and slow reaches of rivers near bush or forest

Comments: A very common and widespread species that readily colonizes impoundments.

*TRITHEMIS DONALDSONI* (CALVERT, 1899)

Ratings: RA 4, DE 0 = 4

Year last recorded: 1993

Reserve records: Kruger National Park, Itala

Distribution: Western Cape, KwaZulu-Natal, Northern Province, to central Africa

Biotope: Moderately flowing streams and rivers

Comments: A fairly localized and uncommon species in South Africa, although it does not appear to be threatened.

*TRITHEMIS DORSALIS* (RAMBUR, 1842)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Jonkershoek, Cathedral Peak, Chelmsford, Cobham, Coleford, Giant's Castle, Royal Natal, Spioenkop, Vergelegen

Distribution: Throughout upland South Africa (most records are between 1000 and 2500m a.s.l.). Swaziland, Lesotho, to central Africa

Biotope: Pools, dams, streams and rivers with an abundance of marginal vegetation

Comments: A very abundant species in upland areas. It thrives in trout dams.

*TRITHEMIS FURVA* KARSCH, 1899

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Jonkershoek, Blydepoort, Albert Falls, Kranzkloof, Midmar, Mhlopheni, Shongweni, Spioenkop, Umtamvuna, Umvoti Vlei, Weenen

Distribution: Western Cape, Northern Cape, Free State, Mpumalanga, KwaZulu-Natal (below 1200m a.s.l.), Swaziland, to central Africa

Biotope: Pools, dams, streams and rivers with an abundance of marginal vegetation

Comments: A widespread and common low to middle elevation species.

*TRITHEMIS HECATE* RIS, 1912

Ratings: RA 5, DE 0 = 5

Year last recorded: 1991

Reserve records: Greater St Lucia

Distribution: KwaZulu-Natal (below 50m a.s.l.), Mpumalanga, to central Africa

Biotope: Pools and marshes with extensive reed beds

Comments: A very localized species in South Africa. Its conservation status is uncertain, but there is no indication that it is threatened.

*TRITHEMIS KIRBYI ARDENS* GERSTÄCKER, 1891

Ratings: RA 1, DE 0 = 1

Year last recorded: 1996

Reserve records: Nylsvley, Kruger National Park, Bisley Valley, Itala, Kenneth Stainbank, Mhlopheni, Weenen

Distribution: Western Cape, Northern Cape, Eastern Cape, Northwest, Free State, Gauteng, Northern Province, Mpumalanga, KwaZulu-Natal (below 1200m a.s.l.), to central Africa

Biotope: Rocks, sand bars, bare banks next to pools and quiet reaches of rivers and streams

Comments: A widespread and common species.

*TRITHEMIS PLUVIALIS* FÖRSTER, 1906

Ratings: RA 4, DE 0 = 4

Year last recorded: 1996

Reserve records: Albert Falls, Kruger National Park

Distribution: Free State, KwaZulu-Natal, Northern Province, Mpumalanga, to central Africa

Biotope: Well-wooded fairly large rivers

Comments: A highly localized and very rare species in South Africa. Its conservation status is uncertain.

*TRITHEMIS STICTICA* (BURMEISTER, 1839)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1997

Reserve records: Bainskloof, Tsitsikamma Forest, Nylsvley, Kruger National Park, Cathedral Peak, Giant's Castle, Greater St Lucia, Kranzkloof, Mpenjati, Queen Elizabeth Park, Royal Natal, Spioenkop, Umtamvuna, Umvoti Vlei

Distribution: KwaZulu-Natal (below 1800m a.s.l.), Western Cape, Eastern Cape, Northwest Province, Free State, Gauteng, Mpumalanga, Northern Province, north to central Africa

Biotope: Well-vegetated pools and still reaches of rivers in open woodland or savanna

Comments: A very common and widespread species.

*TRITHEMIS WERNERI* RIS, 1912

Ratings: RA 5, DE 0 = 5

Year last seen: 1991

Reserve records: Kruger National Park

Distribution: Northern Province, north to North Africa

Biotope: Bushveld rivers

Comments: A localized species that has only been recorded at Messina and in the Kruger National Park. There is no evidence that the species is threatened.

*ZYGONYX NATALENSIS* (MARTIN, 1900)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Kruger National Park, Albert Falls, Kenneth Stainbank, Mhlopheni, Umtamvuna  
Distribution: Mpumalanga, Northern Province, KwaZulu-Natal (below 1000m a.s.l.), to central Africa

Biotope: Waterfalls and splash zones of rapids

Comments: A tropical species that can be fairly common at waterfalls at low-elevations. KwaZulu-Natal and Mpumalanga rivers.

*ZYGONYX TORRIDUS* (KIRBY, 1889)

Ratings: RA 3, DE 0 = 3

Year last recorded: 1997

Reserve records: Kruger National Park, Albert Falls, Itala, Kenneth Stainbank, Mlazi, Umtamvuna  
Distribution: KwaZulu-Natal (below 700m a.s.l.), Northern Province, Mpumalanga, Swaziland, to North Africa

Biotope: Rapids and glides over swift and open streams and rivers

Comments: Common in the warmer parts of the country.

*OLPOGASTRA FUELLEBORNI* GRÜNBERG, 1902

Ratings: RA 4, DE 0 = 4

Year last recorded: 1996

Reserve records: Kruger National Park, Itala

Distribution: Western Cape, KwaZulu-Natal, Mpumalanga, to north Africa

Biotope: Perching on bushes or trees over swift streams and rivers in bushveld areas

Comments: A localized species of warmer areas. Not a threatened species.

*OLPOGASTRA LUGUBRIS* KARSCH, 1895

Ratings: RA 5, DE 0 = 5

Year last seen: 1996

Reserve records: Kruger National Park

Distribution: Northern Province, to central Africa

Biotope: Pools, marshes and sluggish part of streams with an abundance of reeds

Comments: A tropical species that has only been recorded in the Kruger National Park. It has not been confirmed whether the species is resident or whether it is any way threatened.

*RHYOTHEMIS SEMIHYALINA* (DESJARDINS, 1832)

Ratings: RA 2, DE 0 = 2

Year last recorded: 1996

Reserve records: Nylsvley, Kruger National Park, Greater St Lucia, Kenneth Stainbank

Distribution: KwaZulu-Natal (below 1100m a.s.l., but mostly below 100m a.s.l.), Mpumalanga, Northern Province, to North Africa

Biotope: Open pools with an abundance of reeds, rushes, lilies and grasses

Comments: Locally common, particularly at Greater St Lucia.

*ZYXOMMA ATLANTICUM* SÉLYS, 1889

Ratings: RA 5, DE 0 = 5

Year last recorded: 1958

Reserve records: Greater St Lucia

Distribution: KwaZulu-Natal (below 50m a.s.l.), to central Africa

Biotope: Crepuscular in flight, but rests in dense forest by day

Comments: This species appears to be highly localized, but being cryptic, it may simply be that it is rarely detected. It has been recorded from *Barringtonia* stands on the Eastern Shores of St Lucia. Despite recent searches however, it has not been relocated, which suggests that it is locally rare or threatened. Elsewhere in Africa its conservation status is unknown

*PARAZYXOMMA FLAVICANS* (MARTIN, 1908)

Ratings: RA 5, DE 0 = 5

Year last recorded: 1979

Reserve records: None

Distribution: KwaZulu-Natal (below 50m a.s.l.), to central Africa

Biotope: Partially crepuscular around clumps of trees in swamps or in forests

Comments: This extremely localized species has not been seen for 18 years. It may be threatened species in South Africa as the only two South African records are from Richard's Bay.

*THOLYMIS TILLARGA* (FABRICIUS, 1798)

Ratings: RA 5, DE 0 = 5

Year last recorded: 1996

Reserve records: Greater St Lucia, Ozabeni

Distribution: KwaZulu-Natal, Gauteng, Northern Province, to central Africa

Biotope: Crepuscular in swampy areas in woodland

Comments: There are very few records of this species in South Africa, but it may be more common than appears because of its cryptic behaviour. Conservation status unknown.

*PANTALA FLAVESCENS* (FABRICIUS, 1798)

Ratings: RA 0, DE 0 = 0

Year last recorded; 1997

Reserve records: Tsitsikamma Forest, Nylsvley, Kruger National Park, Albert Falls, Beachwood, Bisley Valley, Cathedral Peak, Cobham, Giant's Castle, Greater St Lucia, Hluhluwe-Umfolozi, Kenneth Stainbank, Krantzklouf, Mapelane, Mhlopheni, Midmar, Queen Elizabeth Park, Shongweni, Umtamvuna, Vergelegen, Weenen

Distribution: Throughout South Africa, especially on the eastern seaboard, and even up to 2400m a.s.l., pan-tropical.

Biotope: Pools, pans, ponds, dams and quiet streams and rivers in a variety of landscapes

Comments: A very common and widespread migrant species.

*TRAPEZOSTIGMA (TRAMEA) BASILARIS BURMEISTERI* (KIRBY, 1889)

Ratings: RA 0, DE 0 = 0

Year last recorded: 1996

Reserve records: Nylsvley, Kruger National Park, Bisley Valley, Greater St Lucia, Queen Elizabeth Park, Umtamvuna, Weenen

Distribution: Gauteng, Mpumalanga, Northern Province, KwaZulu-Natal (below 1200m a.s.l.), to central Africa

Biotope: Well-vegetated open pools, but often patrols between trees and bushes away from water

Comments: A widespread and common species in the north-eastern part of the country.

*TRAPEZOSTIGMA (TRAMEA) CONTINENTALIS* (SÉLYS, 1878)

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Kruger National Park, Kenneth Stainbank, Kosi Bay, Greater St Lucia

Distribution: Western Cape, KwaZulu-Natal (mostly 100m a.s.l.), to North Africa

Biotope: Pools, ponds, dams and estuaries, often gliding among trees near marshes

Comments: Principally a coastal plain species with a wide distribution and probably migratory.

*UROTHEMIS ASSIGNATA* (SÉLYS, 1872)

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Dukuduku, Kenneth Stainbank, Greater St Lucia, Vergelegen

Distribution: KwaZulu-Natal (usually below 300m a.s.l.), Northern Province, Mpumalanga, to North Africa

Biotope: Pools, marshes and dams with an abundance of emergent vegetation and lilies

Comments: A common lowland species, often associated with shallow water impoundments with a constant water level.

*UROTHEMIS EDWARDSI* (SÉLYS, 1849)

Ratings: RA 1, DE 0 = 1

Year last recorded: 1997

Reserve records: Nylsvley, Kruger National Park, Greater St Lucia, Kenneth Stainbank

Distribution: KwaZulu-Natal (mostly below 300m a.s.l., but occasionally to 1100m a.s.l.), Mpumalanga, Northern Province, to North Africa

Biotope: Pools, dams, marshes with an abundance of marginal reeds and rushes

Comments: A tropical species that is fairly common at Greater St Lucia.

*UROTHEMIS LUCIANA* BALINSKY, 1961

Ratings: RA 5, DE 4 = 9

Year last seen: 1958

Reserve records: Greater St Lucia

Distribution: Only known from two localities; Charter's Creek, St Lucia and Maputa, 50km west of Kosi Bay

Biotope: The larval biotope is unknown, but adults fly along the edges of dense bush and forest (BALINSKY, 1961)

Comments: This species was described from specimens caught in 1957 and 1958, and has not been seen since. There are no records from other areas, although it may possibly occur in Mozambique. Despite intense searches it was not relocated in 1993-1997. It has to be treated at present as a KwaZulu-Natal endemic, but it may have a stronghold further north and occasionally migrate south. Using the new IUCN Categories of Threat it is listed as 'DD' (Data Deficient)

*AETHRIAMANTA REZIA* KIRBY, 1889

Ratings: RA 5, DE 0 = 5

Year last recorded: 1997

Reserve records: Kruger National Park, Greater St Lucia

Distribution: KwaZulu-Natal (below 50m a.s.l.), to central Africa

Biotope: Shallow pools and marshes with an abundance of emergent vegetation and bordered by bush

Comments: A rare and localized species in South Africa. Its conservation status is uncertain, although in 1997 it was abundant at pools on the Eastern Shores of St. Lucia where previously it had not been seen.

*MACRODIPLAX CORA* (KAUP, 1867)

Ratings: RA 5, DE 0 = 5

Year last recorded: ? (see PINHEY, 1985)

Reserve records: Kosi Bay

Distribution: A widespread yet sporadic species from KwaZulu-Natal, to Somalia, Mauritius, Asia and Australia

Biotope: Possibly marshes

Comments: This species is possibly a migrant to South Africa, as there is no evidence of its breeding here. Conservation status indeterminate.

## CHECKLIST OF SOUTH AFRICAN ODONATA SPECIES

## SYNLESTIDAE

*Chlorolestes apricans* Wilmot, 1975*C. conspicua* Sélys, 1862*C. draconica* Balinsky, 1956*C. elegans* Pinhey, 1950*C. fasciata* (Burmeister, 1839)*C. tessellata* (Burmeister, 1839)*C. umbrata* Hagen, 1862*Ecchlorolestes nylephtha* Barnard, 1937*E. peringueyi* (Ris, 1921)

## LESTIDAE

*Lestes dissimulans* Fraser, 1955*L. ictérica* Gerstäcker, 1869*L. o. ochracea* Sélys, 1862*L. pallida* Rambur, 1842

- L. plagiata* (Burmeister, 1839)  
*L. tridens* McLachlan, 1895  
*L. uncifer* Karsch, 1899  
*L. virgata* (Burmeister, 1839)

#### PROTONEURIDAE

- Elatoneura frenulata* (Hagen, 1860)  
*E. glauca* (Sélys, 1860)

#### PLATYCNEMIDIDAE

- Allocnemis leucosticta* Sélys, 1863  
*Metacnemis angusta* Sélys, 1863  
*M. valida* Hagen, 1863  
*Mesocnemis singularis* Karsch, 1891

#### COENAGRIONIDAE

- Ceriagrion glabrum* (Burmeister, 1839)  
*C. suave* Ris, 1921  
*Pseudagrion acaciae* (Förster, 1906)  
*P. assegaai* Pinhey, 1950  
*P. caffrum* (Burmeister, 1839)  
*P. citricola* Barnard, 1937  
*P. coelestis* Longfield, 1947  
*P. communiae nigerrimum* Pinhey, 1950  
*P. draconis* Barnard, 1937  
*P. furcigerum* (Rambur, 1842)  
*P. gamblesi* Pinhey, 1978  
*P. h. hageni* Karsch, 1893  
*P. hageni tropicanum* Pinhey 1966  
*P. hamoni* Fraser, 1955  
*P. inconspicuum* Ris, 1931  
*P. inopinatum* Balinsky, 1971  
*P. kersteni* (Gerstäcker, 1869)  
*P. makabusiense* Pinhey, 1950  
*P. massaicum* Sjöstedt, 1909  
*P. newtoni* Pinhey, 1962  
*P. salisburyense* Ris, 1921  
*P. sjoestedti pseudosjoestedti* Pinhey, 1964  
*P. spermatum natalense* (Ris, 1921)  
*P. sublacteum* (Karsch, 1893)  
*P. sudanicum rubroviride* Pinhey, 1956  
*P. umsingaziense* Balinsky, 1963  
*P. vaalense* Chutter, 1962  
*Ischnura senegalensis* (Rambur, 1842)  
*Enallagma elongatum* (Martin, 1907)  
*E. glaucum* (Burmeister, 1839)  
*E. n. nigridorsum* Sélys, 1876  
*E. polychromaticum* Barnard, 1937  
*E. rotundipenne* Ris, 1921  
*E. sapphirina* Pinhey, 1950  
*E. sinuatum* Ris, 1921

- E. subfurcatum* Sélys, 1876  
*Agriocnemis exilis* Sélys, 1872  
*A. falcifera* Pinhey, 1959  
*A. gratiosa* Gerstäcker, 1891  
*A. pinheyi* Balinsky, 1963  
*A. r. ruberrima* Balinsky, 1961

#### CALOPTERYGIDAE

- Phaon iridipennis* (Burmeister, 1839)

#### CHLOROCYPHIDAE

- Chlorocypha consueta* (Karsch, 1899)  
*Platycypha caligata* (Sélys, 1853)  
*P. fitzsimonsi* (Pinhey, 1950)

#### GOMPHIDAE

- Ictinogomphus ferox* Rambur, 1842  
*Gomphidia quarrei* (Schouteden, 1934)  
*Lestinogomphus angustus* Martin, 1911  
*Notogomphus praetorius* (Sélys, 1878)  
*Neurogomphus ? vicinus* Schouteden, 1934  
*Phyllogomphus brunneus* Pinhey, 1976  
*Crenigomphus cornutus* Pinhey, 1956  
*C. hartmanni* (Förster, 1898)  
*Ceratogomphus pictus* Sélys, 1854  
*C. triceraticus* Balinsky, 1963  
*Paragomphus cognatus* (Rambur, 1842)  
*P. dicksoni* Pinhey, 1969  
*P. elpidius* (Ris, 1921)  
*P. genei hageni* (Sélys, 1871)  
*Onychogomphus supinus* Sélys, 1854

#### AESHNIDAE

- Aeshna ellioti* Kirby, 1896  
*usambarica* Förster, 1906  
*A. minuscula* (McLachlan, 1896)  
*A. subpupillata* (McLachlan, 1896)  
*Anaciaeschna triangulifera* McLachlan, 1896  
*Hemianax ephippiger* (Burmeister, 1839)  
*Anax imperator mauricianus* Rambur, 1842  
*A. speratus* Hagen, 1867  
*A. tristis* Hagen, 1867  
*Gynacantha manderica* Grünberg, 1902  
*G. villosa* Grünberg, 1902  
*G. zuluensis* (Balinsky, 1961)

#### CORDULIIDAE

- Syncordulia gracilis* (Burmeister, 1839)  
*S. venator* (Barnard, 1933)  
*Hemicordulia asiatica* Sélys, 1878  
*Macromia bifasciata* (Martin, 1912)

*M. monoceros* Förster, 1906

*M. picta* Sélys, 1871

#### LIBELLULIDAE

*Tetrathemis polleni* (Sélys, 1877)

*Notiothemis jonesi* Ris, 1919

*Orthetrum abboti* Calvert, 1892

*O. brachiale* (P. de Beauvois, 1805)

*O. caffra* (Burmeister, 1839)

*O. chryso stigma* (Burmeister, 1839)

*O. guineense* Ris, 1910

*O. hintzi* Schmidt, 1951

*O. icteromelas cinctifrons* Pinhey, 1970

*O. julia falsum* Longfield, 1955

*O. julia capicola* (Kimmins, 1957)

*O. machadoi* Longfield, 1955

*O. robustum* Balinsky, 1965

*O. rubens* Barnard, 1937

*O. trinacria* (Sélys, 1841)

*Nesciothemis farinosa* (Förster, 1898)

*Palpopleura deceptor* (Calvert, 1899)

*P. j. jucunda* (Rambur, 1842)

*P. lucia* (Drury, 1773)

*Chalcostephia flavifrons* Kirby, 1889

*Hemistigma albipuncta* (Rambur, 1842)

*Actisoma panorpoides ascalaphoides* Rambur, 1842

*Diplacodes deminuta* Lieftinck, 1969

*D. lefebvreii* (Rambur, 1842)

*Crocothemis erythraea* (Brullé, 1832)

*C. sanguinolenta* (Burmeister, 1839)

*Bradinyoga cornuta* Ris, 1911

*Brachythemis lacustris* (Kirby, 1889)

*B. leucosticta* (Burmeister, 1839)

*Sympetrum fonscolombei* (Sélys, 1840)

*Philonomon luminans* (Karsch, 1893)

*Trithemis aconita* Lieftinck, 1969

*T. annulata* (P. de Beauvois, 1805)

*T. arteriosa* (Burmeister, 1839)

*T. donaldsoni* (Calvert, 1899)

*T. dorsalis* (Rambur, 1842)

*T. furva* Karsch, 1899

*T. hecate* Ris, 1912

*T. kirbyi ardens* Gerstäcker, 1891

*T. pluvialis* Förster, 1906

*T. stictica* (Burmeister, 1839)

*T. werneri* Ris, 1912

*Zygonyx natalensis* (Martin, 1900)

*Z. torridus* (Kirby, 1889)

*Olpogastra fuelleborni* Grünberg, 1902

*O. lugubris* Karsch, 1895

*Rhyothemis semihyalina* (Desjardins, 1832)

*Zyomma atlanticum* Sélys, 1889

*Parazyomma flavicans* (Martin, 1908)

*Tholymis tillarga* (Fabricius, 1798)

*Pantala flavescens* (Fabricius, 1798)

*Trapezostigma (Tramea) basilaris burmeisteri* (Kirby, 1889)

*T. (Tramea) continentalis* (Sélys, 1878)

*Urothemis assignata* (Sélys, 1872)

*U. edwardsi* (Sélys, 1849)

*U. luciana* Balinsky, 1961

*Aethriamanta rezia* Kirby, 1889

*Macrodiplax cora* (Kaup, 1867)

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