

**A PRELIMINARY LIST OF THE ODONATA
COLLECTED BY Dr J. KIELLAND IN TANZANIA
FOR Dr M.A. LIEFTINCK**

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An annotated list is presented of 114 spp and ssp. (some identified to the genus only), deposited in the Rijksmuseum van Natuurlijke Historie, Leiden, and collected during 1962-1973 at 51 localities; the bulk originating from the eastern shore of Lake Tanganyika. The genus *Notogomphus* Hag. requires a revision. Specimens of *Trithemis dorsalis* (Ramb.) show throughout the trithemine condition of the last antenodal crossvein rather than that of *Helothemis* Karsch. A gazeteer is also provided.

INTRODUCTION

Recently, brief examination of African Odonata in Leiden Museum (Rijksmuseum van Natuurlijke Historie) disclosed interesting material, mostly unidentified, from Tanzania. These had been collected in the decade 1962 to 1973 on behalf of M.A. Lieftinck by Dr Jan Kielland, well known amongst lepidopterists, during a series of visits to that territory. A few were from the Usa River, near Arusha, at the foot of Mount Meru, a high peak just to the west of Mount Kilimanjaro; others at Morogoro, east-central Tanzania and a few from Ufipa, a plateau in the far south close to the Rukwa Valley. The bulk of the material, however, was from the eastern shores of Lake Tanganyika, little known for Odonata records, an exception being *Platycypha pinheyi* Fraser, described from the Kigoma District and also later found by Pinhey on the Zaire shore of Lake Tanganyika. It was believed that a report on all Kielland's material could afford a basis for further research.

One indication of such a possibility stems from species in the collection which

could not be readily named. For instance, a single male *Pseudagrion* Selys was apparently undescribed and a fine selection of the genus *Notogomphus* Hagen, of which there are already known Tanzanian endemics, but which is obviously in need of generic revision.

The Kielland material amounted to well over one hundred species. In some cases it extended distributional range into Tanzania, for instance in the following: *Pseudagrion rufocinctum* Pinhey, *P. tricornis* Pinhey, *Chlorocypha molindica hasta* Pinhey, *Cinotogomphus dundoensis* (Pinhey), *Paragomphus cataractae* Pinhey, *Onychogomphus styx* Pinhey, *Diplacodes deminuta* Lieftinck, *Trithemis bifida* Pinhey and *Zygonyx regisalberti* (Schouteden). Another point of interest lies in the widespread *Trithemis dorsalis* (Rambur) which, in this collection shows typical *Trithemis* venation, not that of *Helothemis* KARSCH (1890). A few years after Karsch's description it may be of interest to note that KIRBY (1900: 70) in a report on the Odonata of Sierra Leone was perhaps the first to suggest that *Helothemis* might not be a distinct genus.

In conclusion, twenty of the taxa collected by Kielland were originally described from Tanzania:

<i>Chlorocnemis abbotti</i> (Calvert)	<i>Gynacantha usambarica</i> Sjöstedt
<i>Pseudagrion kersteni</i> (Gerstaecker)	<i>Macromia monoceros</i> Förster
<i>Agriocnemis gratiose</i> Gerstaecker	<i>Notiothemis jonesi</i> Ris
<i>Chlorocypha molindica hasta</i> Pinhey	<i>Hadrothemis scabrifrons</i> Ris
<i>Platycypha pinheyi</i> Fraser	<i>Orithetrum abbotti</i> Calvert
<i>Notogomphus dendrohyrax</i> (Förster)	<i>Philonomon luminans</i> (Karsch) (pars)
<i>N. kilimanjaricus</i> (Sjöstedt)	<i>Atoconeura biordinata</i> Karsch
<i>N. speciosus</i> (Sjöstedt)	<i>Trithemis furva</i> Karsch
<i>Aeshna rileyi</i> Calvert	<i>T. kirbyi ardens</i> Gerstaecker
<i>A. ellioti usambarica</i> Förster	<i>T. pluvialis</i> Förster

SYSTEMATIC LIST

Note: — Localities are given for every species, but dates are only inserted for the less widespread species.* Abbreviations used for the two Districts of Tanzania: KD = Kigoma District, MD = Mpanda District, both on the shores of Lake Tanganyika.

LESTIDAE

Lestes amicus Martin, 1910: 85, 91 (Zaire)

MD, Katuma-Mpanda road, I-X-1967; Nkungwi, 8-VII-1968.

L. virgatus (Burmeister, 1839): 824 (Port Natal = Durban)

Ulipa Distr., Chala; MD, Kampisa.

PROTONEURIDAE

Chlorocnemis abbotti (Calvert, 1892): 164 (Mount Kilimanjaro)

Arusha, Usa River, at foot of Mount Meru III, IV-1969.

- C. marshalli superba* Schmidt, 1951: 234 (Beni, Ituri Forest)
KD, Mukuyu X-1969, 24-I-1970; MD, Kasoge forest, XI-1969.
- Elattoneura* (spec. prope *acuta* Kimmins, 1938: 300, Nigeria)
1 ♀ KD, Lubalizi, 3-II-1970.
- E. glauca* (Selys, 1860): 443 (Cape of Good Hope & Durban)
Arusha, Usa River.
- E. tropicalis* Pinhey, 1974: 1 (Victoria Falls)
MD, Kampisa, XI-1968, XII-1969.
- Elattoneura* (spec. indet.)
MD, Kampisa, XI-1968; Mugombazi River I-1970.

COENAGRIONIDAE

- Ceriagrion glabrum* (Burmeister, 1839): 821 (Cape of Good Hope)
KD, Helembe; MD, Kampisa; Kasoge forest; Sibweza; Sitebi Mtn.
- C. ? suave* Ris, 1921: 316 (Shaba = Katanga)
1 ♀ MD, Kampisa, XI-1968.
- Pseudagrion commoniae nigerrimum* Pinhey, 1950: 265 (Mashonaland)
MD, Sibweza.
- P. hamoni* Fraser, 1955: 239 (Congo République) = *whellani* Pinhey, 1956
MD, Sibweza.
- P. kersteni* (Gerstaecker, 1869): 222 (Mbaramu, Tanzania coast)
Arusha, Usa River; MD, Kampisa; Katuma; Njombe; Sibweza.
- P. rufocinctum* Pinhey, 1956: 24 (Uganda)
MD, Kampisa, 26-XI-1968.
- P. salisburyense* Ris, 1921: 306 (South Africa & Zimbabwe)
MD, Sibweza.
- P. sjoestedti jacksoni* Pinhey, 1961: 36 (Uganda)
MD, Sibweza, 14-V, 21-XI-1968.
- P. s. spernatum* Selys, 1881: 223 (Abyssinia = Ethiopia)
MD, Ntakatta forest.
- P. tricornis* Pinhey, 1967: 25 (Lukwesa, Shaba)
MD, Sibweza, 13-V, 21-XI-1968.
- Pseudagrion* (? spec. nov.)
1 ♂ MD, Sibweza, 21-XI-1968.
- Enallagma elongatum* (Martin, 1906): 513 (Lumbwa, Kenya)
MD, Kampisa, 24-XI-1968.
- E. sinuatum* Ris, 1921: 330 (Kapiri, Shaba)
MD, Kampisa, XI-1968.
- E. subtile* Ris, 1921: 332 (Shaba)
KD, Masaba, 25-X-1969; MD, Kampisa, XI-1968; Lukandamira, VI, VIII-1970; Sibweza, V,
XI-1968, X-1969.
- E. vaginale longfieldae* Fraser, 1947: 146 (Uganda)
MD, Kampisa, 25-XI-1968.
- Enallagma* (spec. indet., females)
Arusha, Usa River, III, IV-1969; MD, Sibweza, X-1969.

Ischnura senegalensis (Rambur, 1842): 276 (Senegal & Asia)
MD, Sibweza.

Agriocnemis gratiosa Gerstaecker, 1891: 190 (Zanzibar)
MD, Sibweza, VIII-1968.

CALOPTERYGIDAE

Phaon i. iridipennis (Burmeister, 1839): 827 (Durban)
MD, Kampisa; Katuma; Sibweza.

CHLOROCYPHIDAE

Chlorocypha ? curta (Hagen, 1853): 58 (Guinea)
1 ♀ KD, Mukuyu, X-1968.

C. molindica hasta Pinhey, 1960: 510 (Lubugwe River, Kasangazi, Tanzania)
KD, Ujamba, Mahale Ridge, X-1969; MD, Kampisa, V, IX-1967, XI-1968, IX, XII-1969, XII-1970; Njombe, V-1968; Mukuyu, X-1969; a good series.

C. rubida (Hagen, 1853): 58 (Guinea)
KD, Mukuyu, XI-1969; MD, Kampisa, XI-1968; Kasoge forest, XI-1969.

Platycypha c. caligata (Selys, 1853): 57 (Durban)
Arusha, Usa River; MD, Mihumu; Sibweza.

P. l. lacustris (Förster, 1914): 61 (Entebbe, Uganda)
MD, Kasoge forest, IX-1969, VIII-1970.

P. ? pinheyi Fraser, 1950: 6 (Mwamgongo, Kigoma Distr., Tanzania)
1 small, incomplete, teneral ♂ MD, Katuma-Mpanda road, I-X-1967.

GOMPHIDAE

Ictinogomphus ferox (Rambur, 1842): 173 (Senegal)
KD, Bulimba; MD, Sibweza.

Cinitogomphus d. dundoensis (Pinhey, 1961): 73 (Dundo, North Angola)
Oldeani, Mangola, 29-XII-1971.

Notogomphus dendrohyrax (Förster, 1906): 326 (Usambara Mtns, N.E. Tanzania)
MD, I.untampa, IV-1971; Ntakatta forest, 6-XI-1971.

N. kilimanjarcus (Sjöstedt, 1909): 26 (Mount Kilimanjaro)
Arusha, Usa River, foot of Mt Meru, 31-III-1973.

N. speciosus (Sjöstedt, 1909): 28 (Mount Kilimanjaro)
KD, Lubalizi, I-1971; MD, Kampisa, IV-1972; Kapapa 15-I-1970; I.untampa I-1971.

Notogomphus (spec. indet.); several species, requiring comparative material and revision of genus.

Neurogomphus (spec. indet.: awaiting revision of this genus also)
Mikumi National Park, south of Morogoro, V-1970.

Paragomphus cataractae Pinhey, 1963: 156 (near Victoria Falls, Zambezi)
KD, Makuyu, 28-I-1970; MD, Pondogoro, 23-VIII-1972.

- P. cognatus* (Rambur, 1842): 167 (loc. incerta)
MD, Kampisa; Milala; Mugombazi River; Sibweza.
- P. genei* (Selys, 1841): 245 (Sicily); Afrotropical subspecies name not yet established: *hageni* Selys, 1871, like *genei*, was described from Palaearctic Region; one possibility for Afrotr. race is *bitarsatus* (Förster, 1906), descr. from Somalia.
Ruaha National Park, Mwagussi River, VI-1973; MD, Sibweza.
- Onychogomphus styx* Pinhey, 1961: 87 (nom. nov. pro *nigrescens* Pinhey, 1952, Uganda)
KD, Lubalizi, 19-V-1970.

AESHNIDAE

- Aeshna ellioti usambarica* Förster, 1906: 48 (E. Usambara Mtns)
Ufipa Plateau, Mbusini Mtns, VIII-1973.
- A. r. rileyi* Calvert, 1892: 164 (Mount Kilimanjaro)
KD, Ujamba, VIII-1971.
- Anaciaeschna triangulifera* McLachlan, 1896: 409 (Moçambique)
MD, Katuma-Mpanda road, 2-X-1967.
- Hemianax ephippiger* (Burmeister, 1839): 840 (Madras, India)
MD, Wanzizi Hills.
- Anax imperator mauricianus* Rambur, 1842: 184 (Mauritius)
Ugaraba, Yampehu village.
- Gynacantha ? cylindrata* Karsch, 1891: 308 (West Africa)
1 ♀ MD, Katuma-Mpanda road, 1-X-1967.
- G. manderica* Grünberg, 1902: 234 (Ukami, northern Kenya)
1 ♀ MD, Sibweza, 13-V-1968.
- G. usambarica* Sjöstedt, 1909: 36 (Usambara Mtns)
♀ KD, Kefu, IV-1972; ♀ MD, Kampisa, IX-1970.
- Gynacantha* (spec. indet.)
1 teneral ♀ KD, Helembe, 1-II-1970.

CORDULIIDAE

- Macromia ? aequatorialis* (Martin, 1906): 77 (Cameroun & Gabon)
KD, Kefu forest, IV-1972; Lubalizi, 23-III-1971; MD, Luntampa, 4-IV-1971.
- M. africana* (Selys, 1871): 554 (Nubia, Sudan)
KD, Mukuyu, XI-1969.
- M. monoceros* Förster, 1906: 319 (Usambara Mtns, N.E. Tanzania)
KD, Kefu forest, II-1972.
- Macromia* (spec. prope *occidentalis* Fraser, 1954: 60, Ivory Coast)
KD, Lubalizi, 1-1974.
- M. picta* Hagen, 1871: 552 (S.W. Cape, South Africa)
Oldcani, Mangola, 29-XII-1971.

LIBELLULIDAE

- Tetrathemis polleni* (Selys, 1869): 18, 20 (Madagascar)
MD, Sibweza, XII-1962, II, VI-1970.
- Notiothemis j. jonesi* Ris, 1919: 1054 (Bulwa, East Usambara Mtns, Tanzania)
KD, Kefu, IV-1971, IV-1972; MD, Luntampa, 16-V-1970.
- N. robertsi* Fraser, 1944: 42 (Uganda)
MD, Kapapa, Luntampa, V-1970.
- Hadrothemis scabrifrons* Ris, 1909: 172 (Tanzania)
MD, Sibweza, 3-VI-1970.
- Orthetrum a. abbotti* Calvert, 1892: 162 (Mount Kilimanjaro)
KD, Lufubu River; MD, Kampisa; Luntampa; Sibweza; Silambu.
- O. angustiventre* (Rambur, 1842): 59 (Senegal)
MD, Lukandamira, 31-V-1968; Luntampa, 17-V-1970; Ntakatta forest, V-1972.
- O. brachiale* (Palisot de Beauvois, 1817): 171 (Oware, Benin)
KD, Kefu; MD, Kampisa; Sibweza; Sitebi Mtn.
- O. c. caffrum* (Burmeister, 1839): 856 (Port Natal = Durban)
Arusha, Usa River; Ufipa Plateau, Chala; KD, Sitwe; MD, Sibweza.
- O. c. chryso stigma* (Burmeister, 1839): 857 (Teneriffe, Gran Canaria)
KD, Mukuyu; MD, Kampisa; Sibweza; Silambu.
- O. guineense* Ris, 1909: 207 (Angola coast)
KD, Kefu forest; MD, Kampisa; Lukandamira; Njombe; Sibweza.
- O. hintzi* Schmidt, 1951: 171 (Guinea Bissau)
KD, Mukuyu; MD, Lungurungere; Kasoge forest; Njombe; Sibweza.
- O. julia falsum* Longfield, 1955: 26 (Mount Kenya)
Arusha, Usa River; KD, Helembe; Karobwa-Kakungu Mtn; Mukuyu; MD, Kampisa; Kapapa; Lukandamira; Sibweza; Wanzizi hills.
- O. machadoi* Longfield, 1955: 35 (Dundo, North Angola)
MD, Ikaka, 7-IX-1968; Sibweza, XI-1968.
- O. t. trinacria* (Selys, 1841): 244 (Sicily)
KD, Bulimba.
- Nesciothemis farinosa* (Förster, 1898): 169 (Komatipoort, N.E. Transvaal)
MD, Sibweza.
- Palpopleura deceptor* (Calvert, 1899): 241 (Somalia)
MD, Sibweza, 20-X-1969, 30-XI-1970.
- P. j. jucunda* Rambur, 1842: 134 (S.W. Cape)
Ufipa Plat., Mbusini; MD, Kanindi; Kinganda; Lukandamira; Ntakatta forest; Sibweza.
- P. lucia* (Drury, 1773): 82 (Sierra Leone)
form *portia* (Drury, 1773): 86 (Sierra Leone) form *lucia*: Morogoro; MD, Kasoge forest; Sibweza; form *portia*: MD, Kampisa; Sibweza; Wanzizi hills.
- Chalcostephia f. flavifrons* Kirby, 1889: 337 (Angola)
MD, Mugombazi River, 2-II-1970; Ntakatta forest, 8-IX-1971.
- Thermochoria e. equivocata* Kirby, 1889: 339 (West Africa)
KD, Lubalizi, V-1970; Mahale ridge, X-1969; Mukuyu, X-1969; MD, Kampisa, XII-1969; Katuma-Mpanda road, X-1967; Kapapa, VIII-1971; Mugombazi River, I-1971; Ntakatta forest, V-1970; Sibweza, VIII-1969. A good selection of a local species.

- Hemistigma albipuncta* (Rambur, 1842): 93 (Senegal)
MD, Ikaka plain; Kampisa; Kanindi; Katuma-Mpanda road; Sibweza; Silambu.
- Acisoma panorpoides ascalaphoides* Rambur, 1842: 99 (Madagascar)
MD, Kanindi.
- Diplacodes deminuta* Lieftinck, 1969: 32 (Lake Bangweulu, etc., Zambia)
KD, Mukuyu, 27-I-1970; MD, Luntampa, I-1971; Sibweza, 21-I-1962, 21-XI-1968.
- D. l. lefebvrei* (Rambur, 1842): 112, 117 (Egypt)
Arusha, Usa River; MD, Silambu.
- Crocothemis divisa* Karsch, 1898: 342 (Togo)
KD, Mgambu River, V-1968; MD, Lukandamira, V-1968; Nkungwi, VII-1968; Sibweza, I-1962, V, XII-1968, XII-1969.
- C. erythraea* (Brullé, 1832): 102 (Moravia, S.W. Africa)
MD, Kanindi; Sibweza.
- C. sanguinolenta* (Burmeister, 1839): 859 (S.W. Cape)
Arusha, Usa River; KD, Lubalizi; MD, Sibweza.
- Bradinopyga cornuta* Ris, 1911: 547 (Moçambique)
MD, Sibweza, XII-1969.
- Brachythemis lacustris* (Kirby, 1889): 329 (Wadelai, Sudan)
Oldeani, 8-XI-1968.
- B. leucosticta* (Burmeister, 1839): 849 (Natal, Egypt & Senegambia)
MD, Sibweza.
- Philonomon luminans* (Karsch, 1893): 22 (Togo, Tanzania & Moçambique)
MD, Kampisa, XII-1969; Sibweza, XII-1969.
- Atoconeura b. biordinata* Karsch, 1899: 371 (Kitope, W. of Mohoro, E. Central Tanzania)
KD, Mukuyu, X-1969; Ujamba, X-1969, VIII-1970, II-1972; MD, Kampisa, XII-1970, IX-1971; Lukandamira, VIII-1971, II-1972.
- Trithemis aconita* Lieftinck, 1969: 40 (Kisamamba, Shaba)
MD, Katuma-Mpanda road, 20-X-1962; Silambu, VI, VII-1970.
- T. a. arteriosa* (Burmeister, 1839): 850 (Port Natal = Durban)
KD, Mukuyu; MD, Kanindi; Sibweza; Silambu.
- T. bifida* Pinhey, 1970: 136 (Mwinilunga Prov., N.W. Zambia)
KD, Kefu forest, II, IV-1972; Helembe, I-II-1970; MD, Kapapa, 18-I-1970; Mugombazi River, I-1971. A useful series of this little-known species.
- T. d. donaldsoni* (Calvert, 1899): 235 (Abyssinia = Ethiopia)
MD, Sibweza, VI-1966.
- T. dorsalis* (Rambur, 1842): 89 (S.W. Cape). — Examination of all Kielland's specimens of this species indicated that the last antenodal crossvein on one or both forewings was almost always incomplete, as in other *Trithemis* Brauer, and thus unlike the normal condition in other parts of its range where the crossvein is generally complete, at least on one if not on both forewings. This condition had of course, been the chief reason for Karsch to erect *Helothemis* for *dorsalis*. Although this is a common and widespread species, dates will be recorded here for all the 18 specimens in Kielland's material:

- MD, Kampisa, XII-1969; Sibweza, 27-XI-1962, (month unrecorded) 1968, X, XI, XII-1969 (10 specimens 1969), 20-V-1970, 1-VII-1970; Silambu, 1-VII-1970 (2 spec.); Simbu, 27-X-1963.
- T. furva* Karsch, 1899: 370 (Malchrito Bay, Tanzania coast) (= *risi* Longfield, 1936)
Arusha, Usa River; MD, Sibweza; Silambu; Utinta.
- T. hecate* Ris, 1912: 787 (Madagascar); (= *aureola* Ris, 1912: 788, Madagascar)
KD, Mukuyu, 29-I-1970.
- T. kirbyi ardens* Gerstaecker, 1891: 187 (Mbusini, Ufipa Distr., S. Tanzania)
MD, Sibweza; Silambu.
- T. nuptialis* Karsch, 1894: 12 (Cameroun)
KD, Kefu forest, II-1972; MD, Mukuyu, XI-1969.
- T. pluviialis* Förster, 1906: (30, sep.) (Nguelo, East Usambara Mtns, Tanzania)
Oldeani XI-1968; Ufipa Distr., Chala VIII-1971; MD, Ntakatta forest, 12-V-1970; Sibweza, XI-1960, 1, XII-1968.
- T. stictica* (Burmeister, 1839): 850 (Natal)
KD, Mukuyu; MD, Sibweza.
- Zygonyx n. natalensis* (Martin, 1900): 106, 107 (Natal)
KD, Kefu forest; Mukuyu; MD, Kasoge forest.
- Z. regisalberti* (Schouteden, 1934): 33 (Zaire)
MD, Ntakatta forest, 16-I-1970.
- Z. t. torrida* (Kirby, 1889): 299, 340 (Sierra Leone, Teneriffe, etc.)
Morogoro; MD, Lukandamira; Sibweza.
- Olpogastra lugubris* Karsch, 1895: 199, 201 (Dongola, Sudan)
MD, Sibweza, IV-1970.
- Rhyothemis notata fenestrina* (Rambur, 1842): 40 (loc. incog.)
MD, Sibweza, 8, 20-X-1969.
- R. s. semihyalina* (Desjardins, 1832): 1; 1835: IV (Mauritius)
KD, Kefu; Lubalizi; Mukuyu; MD, Sibweza.
- Tholymis tillarga* (Fabricius, 1798): 285 (East Indies)
KD, Helembe; Mukuyu; MD, Kampisa; Mugombazi River.
- Pantala flavescens* (Fabricius, 1798): 285 (India)
MD, Kampisa; Sibweza; Wanzizi.
- Tramea basilaris* (Palisot de Beauvois, 1817): 171 (Southern Nigeria)
MD, Sibweza; Sitebi Mtn.
- Urothemis assignata* (Selys, 1872): 176 (Madagascar)
MD, Sibweza.
- U. e. edwardsi* (Selys, 1849): 124 (Algeria)
MD, Sibweza.
- Aethriamanta rezia* Kirby, 1889: 298 (Madagascar)
MD, Sibweza, X-1969.

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REFERENCES

(For all references except the following, refer to PINHEY, 1962)

- KARSCH, F., 1890. Beiträge zur Kenntniss der Arten und Gattungen der Libellulinen. *Berl. ent. Z.* 33: 347-392.
- KIRBY, W.F., *A synonymic catalogue of the Neuroptera Odonata or dragonflies*. Guerny & Jackson, London.
- LIEFTINCK, M.A., 1969. Odonates Anisoptères — Odonata Anisoptera. *Explor. hydrob. Lac Bangweolo & Luapula* 14 (4): 1-64.
- PINHEY, E.C.G., 1960. Odonata collected by Oxford University Tanganyika Expedition, and a West African species. *Occ. Pap. natn. Mus. Sth. Rhod.* (B) 24: 509-515.
- PINHEY, E.C.G., 1962. A descriptive catalogue of the Odonata of the African continent (up to December 1959). Parts I-II. *Publicoes cult. Co. Diam. Angola* 59: 1-162, 165-322, 9 pls. excl.
- PINHEY, E.C.G., 1963. Some anomalous types of African Odonata and the description of a new species. *J. ent. Soc. sth. Afr.* 26 (1): 146-160.
- PINHEY, E.C.G., 1967. Odonata, Zygoptera. *Explor. hydrob. Lac. Bangweolo & Luapula* 14 (3): 1-43.
- PINHEY, E.C.G., 1970. Monographic study of the genus *Trithemis* Brauer (Odonata: Libellulidae). *Mem. ent. Soc. sth. Afr.* 11: 1-159.
- PINHEY, E.C.G., 1974. Three undescribed Odonata taxa from Africa. *Arnoldia, Rhod.* 7 (2): 1-6.

GAZETTEER

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|---|--|
| Arusha: Usa River, 1400 m, at foot of Mount Meru, 2° 25'S, 36° 40'E | Mangola 1000 m, Oldeani Mtn, 3° 32'S, 35° 20'E |
| Bulimba, 850 m, KD, 5° 55'S, 29° 57'E | Masoba, KD, just east of Mahale Mtns, q.v. |
| Chala, 1800 m, Ufipa Plateau, 7° 35'S, 31° 12'E | Mbusini Mtns: see Mbuzi Mtn. |
| Helembe, 800 m, Kefu forest, KD, 5° 38'S, 29° 52'E | Mbuzi Mtn, 2200 m, Ufipa District, 7° 31'S, 31° 15'E |
| Ikaka plain, 1000 m: see Nkungwi | Mgambu River, 800 m, KD, 6° 00'S, 29° 48'E |
| Kakangu Mtn, 1850 m, KD, 6° 05'S, 29° 58'E | Mihumu, 900 m, MD, 5° 27'S, 29° 58'E |
| Kampisa, 1500 m, MD, ca 6° 12'S, 30° 38'E | Mikumi National Park, S.W. of Morogoro, ca 7° 15'S, 37° 15'E |
| Kapapa, 1200 m, MD, 5° 52'S, 30° 09'E | Milala, 1000 m, 5 Km E of Sibweza, MD, 6° 28'S, 30° 48'E |
| Kanindi, ca 1000 m, MD, 7° 20'S, 31° 27'E | Morogoro, 500 m, 6° 47'S, 37° 38'E |
| Karobwa Mtn, 1850 m, KD, 6° 05'S, 29° 58'E | Mugombazi River, ca 1000 m, MD, ca 5° 48'S, 29° 57'E |
| Kasoge forest, 800-900 m, MD, ca 6° 08'S, 29° 43'E | Mukuyu, 800 m, KD, 5° 29'S, 29° 46'E |
| Katuma, 1000 m, MD, 6° 28'S, 30° 52'E | Mwagussi River, Ruaha National Park, ca 7° 40'S, 34° 55'E |
| Kefu (Cefu) forest, 900 m, KD, 5° 38'S, 29° 52'E | Mwezi Mtn, 1900 m, KD, 6° 12'S, 30° 12'E |
| Kinganda, ca 1000 m, MD, 7° 15'S, 31° 30'E | Njombe, 1200 m, MD, 6° 19'S, 30° 20'E |
| Lubalizi River, 1200 m, KD, 6° 05'S, 29° 58'E | Nkungwi, 1100 m, MD, 6° 32'S, 30° 48'E |
| Luegele, 1100 m, MD, ca 5° 52'S, 30° 09'E | Ntakatta forest, 1400-1700 m, MD, ca 5° 55'S, 30° 06'E |
| Lufubu River, ca 1200 m, KD, ca 6° 26'S, 30° 05'E | Oldeani Mtn, S. of Ngorongoro crater, 2° 18'S, 35° 25'E |
| Lukandamira, 1700 m, MD, 6° 13'S, 29° 55'E | Pondogoro, 800 m, MD, 6° 35'S, 30° 18'E |
| Lungurungere, 1100 m, near Sibweza, MD, 6° 30'S, 30° 44'E | |
| Luntampa, 1200 m, MD, 5° 52'S, 30° 03'E | |
| Mahale Mtn ridge: see Ujamba | |

Ruaha National Park: see Mwagussi River

Sibweza, 1060 m, MD, 6° 27'S, 30° 43'E

Silambu, Sirambu: ? see Simbu, but locality
label requires correction

Simbu, MD, 10 Km E. of Sibweza, q.v.

Sitebi Mtn, 2000 m, MD, 6° 05'S, 30° 40'E

Sitwe: mountain area near Mwezi Mtn.

Ugaraba, 1200 m, KD, 6° 20'S, 30° 03'E

Ujamba, 2000 m, the Mahale Mtn ridge, KD,
6° 15'S, 29° 48'E

Usa River: see Arusha

Utinta, ca 1200 m, MD, ca 6° 21'S, 30° 29'E

Wanzizi hills, 1400-1500 m, MD, ca 6° 30'S,
30° 33'E

Yampehu, 1200 m, a village in Ugaraba, q.v.