Check Lists

A Check List of Flowering Plants of the Kalahari Gemsbok National Park

N. VAN ROOYEN, D.J. VAN RENSBURG, G.K. THERON and J. DU P. BOTHMA


A check list containing 397 plant species has been compiled for the Kalahari Gemsbok National Park which occupies an area of approximately 9 600 km². These species represent 191 genera and 51 families. The Monocotyledoneae are represented by 98 species (24.7% of the total number of species) and the Dicotyledoneae by 299 species (75.3% of the total number of species). According to the life form spectrum the Kalahari Gemsbok National Park is a therophyte-hemicyryptophyte area.

Key words: Check list, flora, Kalahari, life forms.

N. van Rooyen, D.J. van Rensburg, G.K. Theron, Department of Botany, University of Pretoria; J. du P. Bothma, Eugéne Marais Chair of Wildlife Management, Department of Zoology, University of Pretoria, 0002 Republic of South Africa.

Introduction

The history of floristic explorations in the southern Kalahari since 1760, when Acacia erioloba was recorded by J.C. Jansz, is described by Leistner (1967). The first scientist to collect plants from the eastern fringes of the southern Kalahari was Dr. M.H.K. Lichtenstein in 1805, but it was W.J. Burchell (1822) who laid the foundation of our knowledge of the flora of the southern Kalahari region.

Leistner (1967) compiled a check list of 454 species for the dune-covered southernmost arid part of the whole Kalahari System and referred to it as the southern Kalahari. Leistner (1967) lists a host of collectors whose plant specimens were included in his check list. His study area covered about 124 320 km² and included parts of South West Africa/Namibia and the Republic of Botswana. The Kalahari Gemsbok National Park (KGNP) forms part of the southern Kalahari and covers approximately 9 600 km². It is situated between 24°15'S and 26°30'S latitudes and 20°00'E and 20°45'E longitudes. The
height above sea level varies from about 870 m at Twee Rivieren in the south to 1 080 m at Union's End in the north. There is also an increase in the average annual rainfall from approximately 223 mm in the south to 250 mm in the north, a distance of some 160 kilometers.

Descriptions of the plant ecology of the KGNP can be found in Story (1958), Brynard (1958), Leistner (1959a, 1967), Bothma & De Graaff (1973), Leistner & Werger (1973), Acocks (1953, 1975), Werger & Leistner (1975), Van Rooyen, Van Rensburg, Therou & Bothma (1984) and Werger (1986). Leistner & Werger (1973) and Bothma & De Graaff (1973) described the different plant communities and habitat characteristics of most of the species mentioned in the check list that follows.

Leistner (1959b) compiled a preliminary list of 181 flowering plants for the KGNP. This study was undertaken to provide a more definite inventory of the flora of this large conservation area. Particular attention is also given to the life form spectrum of the taxa.

Methods


The specimens of Van Rooyen and co-workers were identified by the National Herbarium and are housed in the H.G.W.J. Schweickerdt Herbarium.

Nomenclature and arrangement follow Gibbs Russell, Germishuizen, Herman, Olivier, Perhold, Reid, Retief, Smook, Van Rooy & Welman (1984), Gibbs Russell, Reid, Van Rooy & Smook (1985), Gibbs Russell, Welman, Retief, Immelman, Germishuizen, Pienaar, Van Wyk & Nicholas (1987) and collecting numbers of N. van Rooyen are indicated in parentheses. Taxa without N. van Rooyen's collecting numbers represent specimens collected by one or more of the above-mentioned authors or those specimens housed at the National Herbarium (PRE). Species are arranged alphabetically under each genus and the species name is followed by the author citation, collectors number or publication, life form and soil type/habitat.

Life form classes are according to Rutherford & Westfall (1986) and the following are used:

Phanerophytes (P): Perennial plants, usually woody, with the mean height of the renewal buds > 0.7 m above ground level. The height classes of the phanerophytic divisions are based on Mueller-Dombois & Ellenberg (1974):

Microphanerophytes (M): Perennial plants, usually woody, with the mean height of the renewal bud 2-5 metres.

Nanophanerophytes (N): Perennial plants, usually woody, with the mean height of the renewal buds < 2 metres.

Although Acacia erioloba and A. luederitzii var. luederitzii reach heights of more than 5 m, they were included in the M-life form class.

Chamaephytes (Ch): Perennial plants, generally woody or partly woody, with the mean height of the renewal buds less than or equal to 0.7 m.

Hemicyryptophytes (H): Perennial plants, generally herbaceous, with the renewal buds at, or more often, close to ground level, but seldom exceeding 0.1 m in height.
Geophytes (G): Perennial plants, usually herbaceous, with renewal buds below ground level.
Therophytes (T): Ephemeral plants that complete their entire life cycle in one year or less. Succulents (S) and parasites (Par) are also distinguished.

The following soil/habitat types based on Leistner (1967) are distinguished:
- Fine textured soils: Rivers and calcere river banks (R)
- Fine textured soils: Pans and brack areas (P)
- Sandy soils (S) ranging from:
  - Compact sand of dune valleys (SV)
  - Low sand of dunes (SD)
- Fine soils and sandy soils (FS)

Results and discussion

A total of 397 plant species representing 191 genera and 51 families, was recorded in the KGNP (Table 1). An analysis of Table 1 shows that six families (11.76% of the total number of families) belong to the Monocotyledonae and 45 families (88.24%) to the Dicotyledonae. The Monocotyledonae is repre

<table>
<thead>
<tr>
<th>Families</th>
<th>Genera</th>
<th>Species</th>
<th>Families</th>
<th>Genera</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poaceae</td>
<td>22</td>
<td>57</td>
<td>Zygophyllaceae</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Cyperaceae</td>
<td>4</td>
<td>6</td>
<td>Polygalaceae</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Commelinaceae</td>
<td>1</td>
<td>1</td>
<td>Euphorbiaceae</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Liliaceae</td>
<td>9</td>
<td>29</td>
<td>Anacardiaceae</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Amaryllidaceae</td>
<td>4</td>
<td>4</td>
<td>Tiliaceae</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Iridaceae</td>
<td>1</td>
<td>1</td>
<td>Malvaceae</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Sterculiaceae</td>
<td>2</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violaceae</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thymelaeaceae</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combretaceae</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apiaceae</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apocynaceae</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asclepiadaceae</td>
<td>10</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convolvulaceae</td>
<td>3</td>
<td>9</td>
<td>Boraginaceae</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Verbenaceae</td>
<td>1</td>
<td>2</td>
<td>Lamiaceae</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Caryophyllaceae</td>
<td>1</td>
<td>1</td>
<td>Solanaceae</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Illicaceae</td>
<td>1</td>
<td>1</td>
<td>Scorpiulaceae</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Papaveraceae</td>
<td>1</td>
<td>1</td>
<td>Selaginaceae</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Brassicaceae</td>
<td>2</td>
<td>2</td>
<td>Bignoniaceae</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Capparaceae</td>
<td>2</td>
<td>8</td>
<td>Pedaliaceae</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Resedaceae</td>
<td>1</td>
<td>1</td>
<td>Acanthaceae</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Vahliaeae</td>
<td>1</td>
<td>1</td>
<td>Rubiaceae</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Rosaceae</td>
<td>2</td>
<td>4</td>
<td>Cucurbitaceae</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Fabaceae</td>
<td>17</td>
<td>44</td>
<td>Asteraceae</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>Geraniaceae</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxalidaceae</td>
<td>1</td>
<td>1</td>
<td>Total</td>
<td>191</td>
<td>397</td>
</tr>
</tbody>
</table>
sented by 98 species (24.7% of the total number of species) and the Dicotyledonae by 299 species (75.3%).

The Poaceae with 57 species (14.4% of all species), the Fabaceae with 44 species (11.1%), Asteraceae with 42 species (10.6%), the Liliaceae with 29 species (7.3%) and the Aizoaceae with 26 species (6.5%) are the largest families in the KGNP. There are ten genera with seven or more species, namely the genus Eragrostis (15 species), Hermannia (11), Indigofera (11), Limeum (10), Dipcadi (9), Aptsimum (8), Protasparragus (8), Acacia (8), Cleome (7), and Lottsonis (7).

There are very few leaf and/or stem succulents in the KGNP (< 1% of the total species) and the only ones recorded are Orbeopsis knobelii, Psilocaulon articulatum, Stapelia barklyi and Tridenspia marialensis subsp. marialensis. The southern Kalahari succulent (chamaephytes) score is only 2% according to Werger (1986).

In Table 2 the life form spectrum of the KGNP is summarised and compared to the life form spectrum of the southern Kalahari (Leistner 1967), the Hester Malan Nature Reserve in Namaqualand/Karoo (Rösch 1977) and the “normal spectrum” of Raunkiaer as cited in Shimwell (1971).

<table>
<thead>
<tr>
<th>Locality</th>
<th>M</th>
<th>N</th>
<th>Ch</th>
<th>H</th>
<th>G</th>
<th>T</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>KGNP</td>
<td>1</td>
<td>7</td>
<td>15</td>
<td>31</td>
<td>13</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td>Southern Kalahari</td>
<td>3</td>
<td>8</td>
<td>14</td>
<td>21</td>
<td>21</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>(Leistner 1967)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Namaqualand/Karoo</td>
<td>1</td>
<td>4</td>
<td>32</td>
<td>17</td>
<td>16</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>(Rösch 1977)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal spectrum</td>
<td>18</td>
<td>15</td>
<td>9</td>
<td>26</td>
<td>4</td>
<td>13</td>
<td>15</td>
</tr>
</tbody>
</table>

M = Microphanerophyte; N = Nanophanerophyte; Ch = Chamaephyte; H = Hemicryptophyte; G = Geophytic cryptophyte; T = Therophyte.

The KGNP is classified by Rutherford & Westfall (1986) as part of the Savanna Biome and according to them the codominant life forms of the Savanna Biome are phanerophytes and hemicryptophytes. The KGNP is, however, a therophyte-hemicryptophyte area, even though a fairly large percentage of phanerophytes, especially nanophanerophytes, does occur. The area is phy-siognomically a marginal savanna and the life form spectrum confirms this. The chamaephyte value of the KGNP is very low when compared to the Namaqualand/Karoo site, but the phanerophyte component is very distinct. The geophyte value for the southern Kalahari (Leistner 1967) is exaggerated, since two-thirds of this value (14%) are made up by species which are intermediate between geophytes and hemicryptophytes (Werger 1986). In this study these intermediate forms were included as hemicryptophytes. The predominantly sandy soils of the KGNP most probably account for the low cha-
<table>
<thead>
<tr>
<th>Angiospermae</th>
<th>Life form: soil/habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monocotyledoneae</td>
<td></td>
</tr>
<tr>
<td>Poaceae</td>
<td></td>
</tr>
<tr>
<td>64 Dichanthium Willemet</td>
<td>H:S</td>
</tr>
<tr>
<td>D. annulatum (Forssk.) Stapf var.</td>
<td></td>
</tr>
<tr>
<td>papillosum (A. Rich.) De Wet &amp; Harlan</td>
<td></td>
</tr>
<tr>
<td>(Leistner 1959b)</td>
<td></td>
</tr>
<tr>
<td>88.1 Megaloprotachne C.E. Hubb.</td>
<td>T:S</td>
</tr>
<tr>
<td>M. albensens C.E. Hubb. (3960)</td>
<td></td>
</tr>
<tr>
<td>104 Brachiaria Griseb.</td>
<td>T:S</td>
</tr>
<tr>
<td>B. glomerata (Hack.) A. Camus (3805)</td>
<td></td>
</tr>
<tr>
<td>B. marlothii (Hack.) Stent</td>
<td></td>
</tr>
<tr>
<td>(Leistner 1967)</td>
<td>H:SV</td>
</tr>
<tr>
<td>110 Urochloa Beauv.</td>
<td>T:R</td>
</tr>
<tr>
<td>U. trichopus (Hochst.) Stapf</td>
<td></td>
</tr>
<tr>
<td>(Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td>112 Echinochloa Beauv.</td>
<td>T:FS,SV</td>
</tr>
<tr>
<td>E. colona (L.) Link (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td>116 Panicum L.</td>
<td>H:R</td>
</tr>
<tr>
<td>P. coloratum L. var. coloratum (3901)</td>
<td></td>
</tr>
<tr>
<td>P. impeditum Launert</td>
<td></td>
</tr>
<tr>
<td>(Leistner &amp; Werger 1973)</td>
<td>H:R</td>
</tr>
<tr>
<td>P. infestum Peters (PRE)</td>
<td>H:R</td>
</tr>
<tr>
<td>S. incrassata (Hochst.) Hack. (PRE)</td>
<td></td>
</tr>
<tr>
<td>S. verticillata (L.) Beauv. (3926)</td>
<td>T:R,SV</td>
</tr>
<tr>
<td>138 Antheophora Schreb.</td>
<td></td>
</tr>
<tr>
<td>A. argentea Goossens</td>
<td></td>
</tr>
<tr>
<td>(De Beer collecting nr. A47)</td>
<td>H:S</td>
</tr>
<tr>
<td>A. schinzii Hack. (Leistner 1967)</td>
<td>H:S</td>
</tr>
<tr>
<td>140 Cenchrus L.</td>
<td></td>
</tr>
<tr>
<td>C. ciliaris L. (3950)</td>
<td>H:R,SV</td>
</tr>
<tr>
<td>203.3 Centropodia Reichb.</td>
<td></td>
</tr>
<tr>
<td>C. glauca (Nees) T.A. Cope (3655)</td>
<td>H:S</td>
</tr>
<tr>
<td>260 Stipagrostis Nees</td>
<td></td>
</tr>
<tr>
<td>S. amabilis (Schweick.) De Winter (3638)</td>
<td>Ch,H:SD</td>
</tr>
<tr>
<td>S. ciliata (Desf.) De Winter var.</td>
<td></td>
</tr>
<tr>
<td>capensis (Trin. &amp; Rupr.) De Winter</td>
<td></td>
</tr>
<tr>
<td>(Leistner 1967)</td>
<td>H:S</td>
</tr>
<tr>
<td>S. namaquensis (Nees) De Winter</td>
<td></td>
</tr>
<tr>
<td>(Leistner 1967)</td>
<td>Ch,H:S</td>
</tr>
<tr>
<td>S. obtusa (Del.) Nees (Leistner 1967)</td>
<td>H:FS,SV</td>
</tr>
<tr>
<td>S. uniplumis (Licht.) De Winter var.</td>
<td></td>
</tr>
<tr>
<td>uniplumis (3677)</td>
<td>H:S</td>
</tr>
<tr>
<td>262 Aristida L.</td>
<td></td>
</tr>
<tr>
<td>A. adscensionis L. subsp. adscensionis</td>
<td>T:FS,SV</td>
</tr>
<tr>
<td>(Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td>A. adscensionis L. subsp. guineensis</td>
<td>T:FS</td>
</tr>
<tr>
<td>(Trin. &amp; Rupr.) Henr. (PRE)</td>
<td></td>
</tr>
<tr>
<td>A. congesta Roem. &amp; Schult. subsp.</td>
<td></td>
</tr>
<tr>
<td>congesta (3919)</td>
<td>H:R,FS</td>
</tr>
<tr>
<td>Taxonomy</td>
<td>Life form: soil/habitat</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>A. meridionalis Henr. (3844, 3863)</td>
<td>H:S,SV</td>
</tr>
<tr>
<td>A. stipitata Hack. subsp. gracilliflora (Pilg.) Meld. (Leistner &amp; Werger 1973)</td>
<td>H:S</td>
</tr>
<tr>
<td>A. stipitata Hack. subsp. spicata (De Winter) Meld. (3629, 3814)</td>
<td>H:S</td>
</tr>
<tr>
<td>274 Tragus Haller</td>
<td></td>
</tr>
<tr>
<td>T. berteronianus Schult. (Leistner 1967)</td>
<td>T:FS,SV</td>
</tr>
<tr>
<td>T. racemosus (L.) All. (3915)</td>
<td>T:R,FS</td>
</tr>
<tr>
<td>283 Sporobolus R. Br.</td>
<td></td>
</tr>
<tr>
<td>S. coromandelianus (Retz.) Kunth (Leistner &amp; Werger 1973)</td>
<td>H:FS</td>
</tr>
<tr>
<td>S. engleri Pilg. (PRE)</td>
<td>H:FS</td>
</tr>
<tr>
<td>S. ioclados (Trin.) Nees (3833)</td>
<td>H:P</td>
</tr>
<tr>
<td>S. nervosus Hochst. (3643)</td>
<td>T:S</td>
</tr>
<tr>
<td>S. rangei Pilg. (Leistner 1967)</td>
<td>H:P</td>
</tr>
<tr>
<td>286 Eragrostis Beauv.</td>
<td></td>
</tr>
<tr>
<td>E. annulata Rendle ex S. Elliot (3934)</td>
<td>T:R,SV</td>
</tr>
<tr>
<td>E. bergiana (Kunth) Trin. (3688)</td>
<td>H:S,SV</td>
</tr>
<tr>
<td>E. bicolor Nees (Leistner 1967)</td>
<td>H:R</td>
</tr>
<tr>
<td>E. biflora Hack. ex Schinz (Leistner 1967)</td>
<td>T:S</td>
</tr>
<tr>
<td>E. brizantha Nees (Leistner 1967)</td>
<td>T:SV</td>
</tr>
<tr>
<td>E. echinocholeoida Stapf (Leistner 1967)</td>
<td>H:FS,SV</td>
</tr>
<tr>
<td>E. heteromera Stapf (PRE)</td>
<td>H:SV,FS</td>
</tr>
<tr>
<td>E. homomalla Nees (PRE)</td>
<td>H:R</td>
</tr>
<tr>
<td>E. lehmanniana Nees var. chaunantha (Pilg.) De Winter (PRE)</td>
<td>H:S</td>
</tr>
<tr>
<td>E. lehmanniana Nees var. lehmanniana (3715, 3843, 3862)</td>
<td>H:S</td>
</tr>
<tr>
<td>E. pallens Hack. (3584, 3910)</td>
<td>H:S</td>
</tr>
<tr>
<td>E. porosa Nees (Leistner 1967)</td>
<td>T:FS,SV</td>
</tr>
<tr>
<td>E. rotifer Rendle (Leistner 1967)</td>
<td>H:R</td>
</tr>
<tr>
<td>E. trichophora Coss. &amp; Dur. (3583)</td>
<td>H:SD</td>
</tr>
<tr>
<td>E. truncata Hack. (3582, 3830, 3841, 3873)</td>
<td>H:R,P</td>
</tr>
<tr>
<td>301 Chloris Swartz</td>
<td></td>
</tr>
<tr>
<td>C. virgata Swartz (3900)</td>
<td></td>
</tr>
<tr>
<td>320 Oropetium Trin.</td>
<td></td>
</tr>
<tr>
<td>O. capense Stapf (3641)</td>
<td>H:R,P,SV</td>
</tr>
<tr>
<td>345 Diplachne Beauv.</td>
<td></td>
</tr>
<tr>
<td>D. fusca (L.) Beauv. ex Roem. &amp; Schult. (Leistner 1967)</td>
<td>H:R</td>
</tr>
<tr>
<td>350 Triraphis R. Br.</td>
<td></td>
</tr>
<tr>
<td>T. purpurea Hack. (3617)</td>
<td>T:P,SV</td>
</tr>
<tr>
<td>357 Enneapogon Desv. ex Beauv.</td>
<td></td>
</tr>
<tr>
<td>E. cenchoroides (Roem. &amp; Schult.)</td>
<td></td>
</tr>
<tr>
<td>C.E. Hubb. (3947)</td>
<td></td>
</tr>
<tr>
<td>E. desvauxii Beauv. (3580, 3836, 3948)</td>
<td></td>
</tr>
<tr>
<td>E. scaber Leh. (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td>361 Schmidtea Steud.</td>
<td>T:FS</td>
</tr>
<tr>
<td>S. kalihariensis Stent (3701)</td>
<td></td>
</tr>
<tr>
<td>371 Fingerhuthia Nees</td>
<td></td>
</tr>
<tr>
<td>F. africana Lehm. (3918)</td>
<td>H:R,SV</td>
</tr>
</tbody>
</table>
Table 3 (Continued)

Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

<table>
<thead>
<tr>
<th>Life form: soil/habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyperaceae</td>
</tr>
<tr>
<td>454  Ascolepis Nees ex Steud.</td>
</tr>
<tr>
<td>A. capensis (Kunth) Ridley (PRE)</td>
</tr>
<tr>
<td>459  Cyperus L.</td>
</tr>
<tr>
<td>C. margaritaceus Vahl (Leistner 1967)</td>
</tr>
<tr>
<td>C. aestates Burch. var. macrobulbus Keukenth. (3620)</td>
</tr>
<tr>
<td>471  Fimbristyliis Vahl</td>
</tr>
<tr>
<td>F. jerruginea (L.) Vahl (PRE)</td>
</tr>
<tr>
<td>F. hispidula (Vahl) Kunth (3626)</td>
</tr>
<tr>
<td>471.01  Bulbosylis Kunth</td>
</tr>
<tr>
<td>B. hispidula (Vahl) R. Haines (3855)</td>
</tr>
<tr>
<td>Commelinaeae</td>
</tr>
<tr>
<td>896  Commelina L.</td>
</tr>
<tr>
<td>C. benghalensis L. (3684)</td>
</tr>
<tr>
<td>Liliaceae</td>
</tr>
<tr>
<td>969  Androcymbium Wildl.</td>
</tr>
<tr>
<td>A. sp. (3892)</td>
</tr>
<tr>
<td>975.01  Camptorhiza Phill.</td>
</tr>
<tr>
<td>C. strumosa (Bak.) Oberm. (Leistner 1967)</td>
</tr>
<tr>
<td>985.01  Trachyandra Kunth</td>
</tr>
<tr>
<td>T. laxa (N.E. Br.) Oberm. var. laxa (3713, 3913)</td>
</tr>
<tr>
<td>1012  Eriospherum Jacq. ex Willd.</td>
</tr>
<tr>
<td>E. abyssinicum Bak. (Steyn 1984)</td>
</tr>
<tr>
<td>E. confusum V. Poellm. (Leistner 1967)</td>
</tr>
<tr>
<td>E. rautanenii Schinz (Leistner &amp; Werger 1973)</td>
</tr>
<tr>
<td>1084  Dipcadi Medik.</td>
</tr>
<tr>
<td>D. bakersianum H. Bol. (3664)</td>
</tr>
<tr>
<td>D. crispum Bak. (Leistner &amp; Werger 1973)</td>
</tr>
<tr>
<td>D. gracillimum Bak. (PRE)</td>
</tr>
<tr>
<td>D. longifolium (Lindl.) Bak. (De Beer collecting nr. A61)</td>
</tr>
<tr>
<td>D. marlothii Engl. (Leistner 1967)</td>
</tr>
<tr>
<td>D. cf. papillatum Oberm. (Leistner 1967)</td>
</tr>
<tr>
<td>D. platyphyllum Bak. (Leistner 1967)</td>
</tr>
<tr>
<td>D. vaginatum Bak. (Leistner 1967)</td>
</tr>
<tr>
<td>D. sp. (3905)</td>
</tr>
<tr>
<td>1089  Ornithogalum L.</td>
</tr>
<tr>
<td>O. seineri (Engl. &amp; Krause) Oberm. (De Beer collecting nr. A43)</td>
</tr>
<tr>
<td>O. tenuifolium Delaroche (Van Rooyen et al. 1984)</td>
</tr>
<tr>
<td>1090  Ledebouria Roth.</td>
</tr>
<tr>
<td>L. apertiflora (Bak.) Jessop (3904)</td>
</tr>
<tr>
<td>L. graminitifolia (Bak.) Jessop (Leistner &amp; Werger 1973)</td>
</tr>
</tbody>
</table>
Table 3 (Continued)
Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

<table>
<thead>
<tr>
<th>Life form: soil/habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. undulata (Jacq.) Jessop (Leistner &amp; Werger 1973)</td>
</tr>
<tr>
<td>Pseudogaltonia Kuntze</td>
</tr>
<tr>
<td>P. clava (Mast. ex Bak.) Phill. (Leistner 1967)</td>
</tr>
<tr>
<td>Protasparagus Oberm.</td>
</tr>
<tr>
<td>P. africanaus (Lam.) Oberm. (Leistner 1967)</td>
</tr>
<tr>
<td>P. cooperi (Bak.) Oberm. (3692)</td>
</tr>
<tr>
<td>P. denudatus (Kunth) Oberm. (Leistner 1967)</td>
</tr>
<tr>
<td>P. exuvialis (Burch.) Oberm. (Leistner 1967)</td>
</tr>
<tr>
<td>P. nelssii (Schinz) Oberm. (3808)</td>
</tr>
<tr>
<td>P. pearsonii (Kies) Oberm. (3949)</td>
</tr>
<tr>
<td>P. suaveolens (Burch.) Oberm. (Leistner 1967)</td>
</tr>
<tr>
<td>P. sp. cf. plumosus Bak. (Leistner 1959b)</td>
</tr>
<tr>
<td>Amaryllidaceae</td>
</tr>
<tr>
<td>Böophane Herb.</td>
</tr>
<tr>
<td>B. disticha (L.f.) Herb. (Leistner 1967)</td>
</tr>
<tr>
<td>Nerine Herb.</td>
</tr>
<tr>
<td>N. latifolia (Ker-Gawl.) Dur. &amp; Schinz (Leistner 1967)</td>
</tr>
<tr>
<td>Gethyllis L.</td>
</tr>
<tr>
<td>G. spiralis L.f. (Leistner &amp; Werger 1973)</td>
</tr>
<tr>
<td>Crinum L.</td>
</tr>
<tr>
<td>C. sp. aff. C. harmsii Bak. (Leistner collecting nr. 2206)</td>
</tr>
<tr>
<td>Iridaceae</td>
</tr>
<tr>
<td>Lapeirousia Pourret</td>
</tr>
<tr>
<td>L. caudata Schinz subs. burchellii (Bak.) Marais &amp; Goldbl. (PRE)</td>
</tr>
<tr>
<td>Dicotyledonae</td>
</tr>
<tr>
<td>Loranthaceae</td>
</tr>
<tr>
<td>Tapinanthus (Blume) Reichb.</td>
</tr>
<tr>
<td>T. oleifolius (Wendl.) Danser (Leistner 1959b)</td>
</tr>
<tr>
<td>Polygonaceae</td>
</tr>
<tr>
<td>Polygonum L.</td>
</tr>
<tr>
<td>P. pulchrum Blume (PRE)</td>
</tr>
<tr>
<td>Oxygonum Burch.</td>
</tr>
<tr>
<td>O. alatum Burch. var. alatum (3804)</td>
</tr>
<tr>
<td>O. delagoense Kuntze (3708, 3802)</td>
</tr>
<tr>
<td>O. dregeanum Meisn. var. canescens (Sond.) R. A. Grah. (3646, 3670)</td>
</tr>
<tr>
<td>Chenopodiaceae</td>
</tr>
<tr>
<td>Chenopodium L.</td>
</tr>
<tr>
<td>C. album L. (3888)</td>
</tr>
<tr>
<td>Life form: soil/habitat</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>T:FS</td>
</tr>
<tr>
<td>T:FS</td>
</tr>
<tr>
<td>Ch:R</td>
</tr>
<tr>
<td>Ch:P</td>
</tr>
<tr>
<td>T:R</td>
</tr>
<tr>
<td>N:P,R,SV</td>
</tr>
<tr>
<td>Ch:R,P,SV</td>
</tr>
<tr>
<td>Ch:R,P,SV</td>
</tr>
<tr>
<td>T:S</td>
</tr>
<tr>
<td>T:S</td>
</tr>
<tr>
<td>T:S</td>
</tr>
<tr>
<td>H:R,SV,SV</td>
</tr>
<tr>
<td>T:S</td>
</tr>
<tr>
<td>T:SV,P</td>
</tr>
<tr>
<td>T:FS,SV</td>
</tr>
<tr>
<td>T:FS,SV</td>
</tr>
<tr>
<td>T:FS,SV</td>
</tr>
<tr>
<td>Ch:R,P</td>
</tr>
<tr>
<td>G:S</td>
</tr>
<tr>
<td>Ch:R</td>
</tr>
<tr>
<td>H:R,P,SV</td>
</tr>
<tr>
<td>H:R,P</td>
</tr>
<tr>
<td>H:R,P</td>
</tr>
</tbody>
</table>

**Amaranthaceae**

<table>
<thead>
<tr>
<th>2293</th>
<th><em>Hermbstaedia</em> Reichb.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>H. fleckii</em> (Schinz) Bak. &amp; C.B. Cl. (3697)</td>
</tr>
<tr>
<td></td>
<td><em>H. linearis</em> Schinz (3651)</td>
</tr>
<tr>
<td></td>
<td><em>H. odorata</em> (Burch.) T. Cooke var. odorata (3600)</td>
</tr>
<tr>
<td></td>
<td><em>H. schaeferi</em> (Schinz) Schinz &amp; Dinter (3847)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2299</th>
<th><em>Amaranthus</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>A. dinteri</em> Schinz (Leistner 1967)</td>
</tr>
<tr>
<td></td>
<td><em>A. schinzianus</em> Thell. (Leistner 1967)</td>
</tr>
<tr>
<td></td>
<td><em>A. thunbergii</em> Moq. (Leistner 1967)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2305</th>
<th><em>Sericocoma</em> Fenzl</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>S. avolans</em> Fenzl (PRE)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2307</th>
<th><em>Sericorema</em> Lopr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>S. remotiflora</em> (Hook. f.) Lopr. (3660)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2309</th>
<th><em>Kyphocarpa</em> (Fenzl) Lopr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>K. angustifolia</em> (Moq.) Lopr. (3935)</td>
</tr>
</tbody>
</table>

**Nyctaginaceae**

<table>
<thead>
<tr>
<th>2349</th>
<th><em>Boerhavia</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>B. cf. diffusa</em> L. (Leistner 1959b)</td>
</tr>
<tr>
<td></td>
<td><em>B. repens</em> L. (Leistner 1967)</td>
</tr>
</tbody>
</table>

**Aizoaceae**

<table>
<thead>
<tr>
<th>2376</th>
<th><em>Limeum</em> L.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>L. aethiopicum</em> Burm. subsp. aethiopicum var. intermedium Friedr. (Leistner 1967)</td>
</tr>
<tr>
<td></td>
<td><em>L. arenicolum</em> Schellenb. (3597, 3662)</td>
</tr>
<tr>
<td></td>
<td><em>L. arguta-carinatum</em> Wawra &amp; Peyr. (3936)</td>
</tr>
<tr>
<td></td>
<td><em>L. fenestratum</em> (Fenzl) Heimerl (3604, 3845)</td>
</tr>
<tr>
<td></td>
<td><em>L. myosotis</em> H. Walter var. <em>confusum</em> Friedr. (3579)</td>
</tr>
<tr>
<td></td>
<td><em>L. myosotis</em> H. Walter var. <em>myosotis</em> (PRE)</td>
</tr>
<tr>
<td></td>
<td><em>L. pierocarpum</em> (Gay) Heimerl (Leistner &amp; Werger 1973)</td>
</tr>
<tr>
<td></td>
<td><em>L. sulcatum</em> (Klotzsch) Hutch. cf. var. sulcatum (3695)</td>
</tr>
</tbody>
</table>

ISSN 0075–6458 123 KOEDOE 31(1988)
Table 3 (Continued)
Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

<table>
<thead>
<tr>
<th>Species (Synonym)</th>
<th>Life form: soil/habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. viscosum (Gay) Fenzl subsp. viscosum</td>
<td>T:SV,P</td>
</tr>
<tr>
<td>var. glomeratum (Eckl. &amp; Zeyh.) Friedr. (3851)</td>
<td></td>
</tr>
<tr>
<td>L. viscosum (Gay) Fenzl subsp. transvaalense Friedr.</td>
<td>T:SD,SV,P</td>
</tr>
<tr>
<td>(3865, 3870)</td>
<td></td>
</tr>
<tr>
<td>Gisekia L.</td>
<td></td>
</tr>
<tr>
<td>G. africana (Lour.) Kuntze var. africana</td>
<td>T:S</td>
</tr>
<tr>
<td>(3661,3710)</td>
<td></td>
</tr>
<tr>
<td>G. pharnacioides L. (3848)</td>
<td>T:SV,P</td>
</tr>
<tr>
<td>Mollugo L.</td>
<td></td>
</tr>
<tr>
<td>M. cerviana (L.) Ser. (3637, 3689, 3849)</td>
<td>T:FS</td>
</tr>
<tr>
<td>Glinus L.</td>
<td></td>
</tr>
<tr>
<td>G. oppositifolius (L.) DC.</td>
<td>T:S</td>
</tr>
<tr>
<td>(Knight collecting nr. 39a)</td>
<td></td>
</tr>
<tr>
<td>Pharmaceum L.</td>
<td></td>
</tr>
<tr>
<td>P. dichotomum L.f. (3595)</td>
<td>T:S</td>
</tr>
<tr>
<td>Hypertelis E. Mey. ex Fenzl</td>
<td></td>
</tr>
<tr>
<td>H. spergulacea E. Mey. ex Fenzl</td>
<td>H:S</td>
</tr>
<tr>
<td>(Knight collecting nr. 56)</td>
<td></td>
</tr>
<tr>
<td>Trianthema L.</td>
<td></td>
</tr>
<tr>
<td>T. triguera Willd. subsp. parvifolia</td>
<td>T:R,SV</td>
</tr>
<tr>
<td>(Sond.) Jeffrey (3939)</td>
<td></td>
</tr>
<tr>
<td>T. triguera Willd. subsp. triguera (3928)</td>
<td>T:R,SV</td>
</tr>
<tr>
<td>Pointhus Fenzl</td>
<td></td>
</tr>
<tr>
<td>P. cryptocarpus Fenzl (3894)</td>
<td>Ch:FS,SV,R</td>
</tr>
<tr>
<td>P. karooicus Verdoorn (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td>P. sericeus Pax (3621, 3635, 3658, 3815)</td>
<td>Ch:FS</td>
</tr>
<tr>
<td>Galenia L.</td>
<td></td>
</tr>
<tr>
<td>G. africana L. var. africana (Leistner 1967)</td>
<td>N:FS,SV</td>
</tr>
<tr>
<td>G. cf. secunda (L.f.) Sond. (3682)</td>
<td>Ch:S</td>
</tr>
<tr>
<td>Aizoon L.</td>
<td></td>
</tr>
<tr>
<td>A. schellenbergii Adamson (Leistner 1967)</td>
<td>Ch:R</td>
</tr>
<tr>
<td>Tetragonia L.</td>
<td></td>
</tr>
<tr>
<td>T. arbuscula Fenzl (Leistner 1967)</td>
<td>N:S</td>
</tr>
<tr>
<td>T. macroptera Pax (PRE)</td>
<td>Ch:S</td>
</tr>
<tr>
<td>Mesembryanthemaceae</td>
<td></td>
</tr>
<tr>
<td>Psilocaution N.E. Br.</td>
<td>Ch:R,P</td>
</tr>
<tr>
<td>P. articulatum (Thunb.) N.E. Br. (Leistner Collecting nr. 3039)</td>
<td></td>
</tr>
<tr>
<td>Portulacaceae</td>
<td></td>
</tr>
<tr>
<td>Talinum Adans.</td>
<td>G:SV</td>
</tr>
<tr>
<td>T. caffrum (Thunb.) Eckl. &amp; Zeyh. (3610)</td>
<td></td>
</tr>
<tr>
<td>Portulaca L.</td>
<td></td>
</tr>
<tr>
<td>P. kermesina N.E. Br. (Leistner 1967)</td>
<td>T:SV</td>
</tr>
<tr>
<td>P. oleracea L. (Leistner 1967)</td>
<td>T:R,SV</td>
</tr>
<tr>
<td>P. quadrifida L. (Leistner 1967)</td>
<td>T:SV</td>
</tr>
<tr>
<td>Illecebraceae</td>
<td></td>
</tr>
<tr>
<td>Pollichia Ait.</td>
<td>H:FS</td>
</tr>
<tr>
<td>P. campestris Ait. (3605, 3667, 3691)</td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>Species</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Caryophyllaceae</td>
<td></td>
</tr>
<tr>
<td>2490</td>
<td><em>Silene</em> L.</td>
</tr>
<tr>
<td></td>
<td><em>S. burchellii</em> Otth var. <em>angustifolia</em> Sond. (PRE)</td>
</tr>
<tr>
<td>Papaveraceae</td>
<td></td>
</tr>
<tr>
<td>2852</td>
<td><em>Argemone</em> L.</td>
</tr>
<tr>
<td></td>
<td><em>A. subfusiformis</em> G.B. Ownbey (3924)</td>
</tr>
<tr>
<td>Brassicaceae</td>
<td></td>
</tr>
<tr>
<td>2875</td>
<td><em>Heliophila</em> L.</td>
</tr>
<tr>
<td></td>
<td><em>H. minima</em> (Stephens) Marais (Leistner 1967)</td>
</tr>
<tr>
<td>2884</td>
<td><em>Coronopus</em> Zinn.</td>
</tr>
<tr>
<td></td>
<td><em>C. integrifolius</em> (DC.) Spreng. (Leistner 1967)</td>
</tr>
<tr>
<td>Capparaceae</td>
<td></td>
</tr>
<tr>
<td>3082</td>
<td><em>Cleome</em> L.</td>
</tr>
<tr>
<td></td>
<td><em>C. angustifolia</em> Forssk. subsp. <em>diandra</em> (Burch.) Kers (3933)</td>
</tr>
<tr>
<td></td>
<td><em>C. gynandra</em> L. (3861)</td>
</tr>
<tr>
<td></td>
<td><em>C. haasteriana</em> Chod. (PRE)</td>
</tr>
<tr>
<td></td>
<td><em>C. kalahariensis</em> (Schinz) Gilg &amp; Ben. (3852)</td>
</tr>
<tr>
<td></td>
<td><em>C. paxii</em> (Schinz) Gilg &amp; Ben. (3592)</td>
</tr>
<tr>
<td></td>
<td><em>C. rubella</em> Burch. (Leistner 1967)</td>
</tr>
<tr>
<td></td>
<td><em>C. suffruticosa</em> Schinz (Leistner 1959b)</td>
</tr>
<tr>
<td>3106</td>
<td><em>Boscia</em> Lam.</td>
</tr>
<tr>
<td></td>
<td><em>B. albitruncata</em> (Burch.) Gilg &amp; Ben. (Leistner 1967)</td>
</tr>
<tr>
<td>Resedaceae</td>
<td></td>
</tr>
<tr>
<td>3126</td>
<td><em>Oligomeris</em> Camb.</td>
</tr>
<tr>
<td></td>
<td><em>O. dipetala</em> (Ait.) Turcz. var. <em>dipetala</em> (Leistner 1967)</td>
</tr>
<tr>
<td>Vahliaeae</td>
<td></td>
</tr>
<tr>
<td>3201</td>
<td><em>Vahlia</em> Thunb.</td>
</tr>
<tr>
<td></td>
<td><em>V. capensis</em> (L.f.) Thunb. (Leistner 1967)</td>
</tr>
<tr>
<td>Rosaceae</td>
<td></td>
</tr>
<tr>
<td>3390.01</td>
<td><em>Neurodopsis</em> Brem. &amp; Oberm.</td>
</tr>
<tr>
<td></td>
<td><em>N. australafricana</em> (Schinz) Brem. &amp; Oberm. (3586, 3601)</td>
</tr>
<tr>
<td></td>
<td><em>N. bechuanensis</em> Brem. &amp; Schweick. (Leistner 1959b)</td>
</tr>
<tr>
<td>3391</td>
<td><em>Grielium</em> L.</td>
</tr>
<tr>
<td></td>
<td><em>G. humifusum</em> Thunb. (Leistner 1967)</td>
</tr>
<tr>
<td>Fabaceae</td>
<td></td>
</tr>
<tr>
<td>3443</td>
<td><em>Albizia</em> Durazz.</td>
</tr>
<tr>
<td></td>
<td><em>A. anhythmiea</em> (A. Rich.) Brongn. (Leistner 1967)</td>
</tr>
<tr>
<td>3446</td>
<td><em>Acacia</em> Mill.</td>
</tr>
<tr>
<td></td>
<td><em>A. erioloba</em> E. Mey. (Leistner 1967)</td>
</tr>
<tr>
<td></td>
<td><em>A. erioloba</em> X A. <em>haematoxyylon</em> (hibrid) (Ross 1979)</td>
</tr>
<tr>
<td></td>
<td><em>A. haematoxyylon</em> Willd. (Leistner 1967)</td>
</tr>
</tbody>
</table>

Table 3 (Continued)

Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)
<table>
<thead>
<tr>
<th>Life form: soil/habitat</th>
<th>A. hebeclada DC. subsp. hebeclada (Leistner 1967)</th>
<th>N:FS,R</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A. karroo Hayne (Leistner 1967)</td>
<td>M:R,SV</td>
</tr>
<tr>
<td></td>
<td>A. luideritzii Engl. var. luideritzii (3647, 3822, 3875)</td>
<td>M:S</td>
</tr>
<tr>
<td></td>
<td>A. mellifera (Vahl) Benth. subsp. detinens (Burch.) Brenan (Leistner 1967)</td>
<td>N:S</td>
</tr>
<tr>
<td></td>
<td>A. reficiens Wawra subsp. reficiens (Leistner 1967)</td>
<td>M:S</td>
</tr>
<tr>
<td>3452</td>
<td>Dichrostanachys (A. DC.) Wight &amp; Arn.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D. cinerea (L.) Wight &amp; Arn. subsp. africana Brenan &amp; Brumm. (Leistner 1967)</td>
<td>N:SD</td>
</tr>
<tr>
<td>3467</td>
<td>Elephandorrhiza Benth.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E. elephantina (Burch.) Skeels (Leistner 1967)</td>
<td>G:S</td>
</tr>
<tr>
<td>3536</td>
<td>Cassia L.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. italica (Mill.) Lam. ex F.W. Andr. subsp. arachoides (Burch.) Brenan (Leistner 1967)</td>
<td>G:FS</td>
</tr>
<tr>
<td>3551</td>
<td>Parkinsonia L.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P. africana Sond. (3959)</td>
<td>M:FS</td>
</tr>
<tr>
<td>3557</td>
<td>Hoffmannseggia Cav.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H. burchelli (DC.) Benth. ex Oliv. subsp. burchelli (3816)</td>
<td>H:S</td>
</tr>
<tr>
<td>3567</td>
<td>Lotononis (DC.) Eckl. &amp; Zeyh.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L. clandestina (E. Mey.) Benth. (3937)</td>
<td>T:R,SV</td>
</tr>
<tr>
<td></td>
<td>L. crumana (Burch. ex Benth. (Leistner &amp; Werger 1973)</td>
<td>T:FS</td>
</tr>
<tr>
<td></td>
<td>L. curtii Harms (3860, 3941)</td>
<td>T:R,P</td>
</tr>
<tr>
<td></td>
<td>L. furcata (Merxm. &amp; A. Schreib.) A. Schreib. (3940)</td>
<td>T:R,SV</td>
</tr>
<tr>
<td></td>
<td>L. platycarpa (Viv.) Pichi-Serm. s.l. (3690, 3705, 3895)</td>
<td>T:FS,R</td>
</tr>
<tr>
<td></td>
<td>L. schwansiana Dinter (Leistner 1959b)</td>
<td>T:S</td>
</tr>
<tr>
<td></td>
<td>L. steingroeveriana Duemmer (PRE)</td>
<td>T:S</td>
</tr>
<tr>
<td>3660</td>
<td>Lebeckia Thunb.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L. linearifolia E. Mey. (3954)</td>
<td>N:FS</td>
</tr>
<tr>
<td>3665</td>
<td>Melolobium Eckl. &amp; Zeyh.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M. macrocalyx Duemmer var. longifolium Duemmer (Leistner 1967)</td>
<td>T:S</td>
</tr>
<tr>
<td>3669</td>
<td>Crotalaria L.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. spartioides DC. (Leistner 1967)</td>
<td>N:SD</td>
</tr>
<tr>
<td></td>
<td>C. sphaerocarpa Perr. ex DC. (3681, 3824)</td>
<td>N:S</td>
</tr>
<tr>
<td></td>
<td>C. virgutalis Burch. ex DC. (3676)</td>
<td>N:S</td>
</tr>
<tr>
<td>3700</td>
<td>Cyamopsis DC.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. serrata Schinz (Leistner 1967)</td>
<td>T:SV</td>
</tr>
<tr>
<td>3702</td>
<td>Indigofera L.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I. alternans DC. (3596, 3608, 3857)</td>
<td>H:FS,SV</td>
</tr>
<tr>
<td></td>
<td>I. argyrodes E. Mey. (Leistner &amp; Werger 1973)</td>
<td>T:S</td>
</tr>
<tr>
<td></td>
<td>I. auricoma E. Mey. (Leistner 1967)</td>
<td>H:SV</td>
</tr>
<tr>
<td></td>
<td>I. charlieriana Schinz var. charlieriana (3821)</td>
<td>T:SV</td>
</tr>
<tr>
<td></td>
<td>I. cf. costata Guill. &amp; Perr. subsp. macra (E. Mey.) J.B. Gillett (3817)</td>
<td>H:S</td>
</tr>
<tr>
<td>Life form: soil/habitat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:SD,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:SD,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:R,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch:R,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G:S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G:S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H:SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:FS,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:FS,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:FS,SV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch:S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T:FS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 (Continued)
Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

| I. daleoides Benth. ex Harv. var. daleoides |
| (3585, 3623, 3819, 3871) |
| I. diphylla Vent. (Leistner 1959b) |
| I. flavicans Bak. (3602, 3606, 3694, 3807) |
| I. ingraue N.E. Br. (PRE) |
| I. cf. parviflora Heyne ex Wight & Arn. (3889) |

| 3703 | Cidlen Medik. |
| C. obtusifolia (DC.) C.H. Stirton (Leistner 1967) |

| 3717 | Psycholobium Harms. |
| P. biflorum (E. Mey.) Brummitt subsp. biflorum (3925, 3942) |

| 3718.01 | Reuienia DC. |
| R. pseudosophraesperma (Schinz) Brummitt |
| R. sphaerasperma DC. (3590, 3668, 3812) |

| 3756 | Lessertia DC. |
| L. macrostachya DC. var. macrostachya (Leistner 1967) |
| L. puciflora Harv. (Leistner 1967) |

| 3925 | Monsonia L. |
| M. angustifolia E. Mey. ex A. Rich. (Leistner & Werger 1973) |
| M. burkeana Planch. ex Harv. (Leistner 1959b) |
| M. glauca Kunth (3837) |

| 3926 | Sarcocaulon Sweet |
| S. salmoniflorum Moffett (Leistner collecting nr. 2246) |

| 3936 | Oxalis L. |
| O. lawsonii Bol. f. (Leistner 1967) |

| 3963 | Fagonia L. |
| F. sinaica Boiss. var. minutistipula (Engl.) Hadidi |
| (Leistner 1967) |

| 3965 | Zygophyllum L. |
| Z. pubescens Schinz (Leistner 1967) |
| Z. tenue P.E. Glover (3864, 3877) |

| 3978 | Tribulas L. |
| T. cristatus Presl (Leistner 1967) |
| T. terresris L. (Leistner 1967) |
| T. zeyheri Sond. (Leistner 1967) |

| 4273 | Polygala L. |
| P. hottenotia Presl (Leistner 1967) |
| P. leptophrystyla Burch. (3678) |

| 4299 | Phyllanthus L. |
| P. burchellii Muell. Arg. (3896) |
| P. maderaspatensis L. (Leistner 1967) |

ISSN 0075–6458 127 KOEDOE 31(1988)
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Life Form/Soil/Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>P. nitida</em> L. (PRE)</td>
<td>T:S</td>
</tr>
<tr>
<td><em>P. onakheensis</em> Dinter &amp; Pax (Leistner &amp; Werger 1973)</td>
<td>T:S</td>
</tr>
<tr>
<td><em>P. pentandrus</em> Schumach. &amp; Thonn. (Leistner &amp; Werger 1973)</td>
<td>T:S</td>
</tr>
<tr>
<td><em>Jatropha L.</em></td>
<td>G:S</td>
</tr>
<tr>
<td><em>J. erythopoda</em> Pax &amp; K. Hoffm. (3906)</td>
<td></td>
</tr>
<tr>
<td><em>Cluita L.</em></td>
<td>H:SD</td>
</tr>
<tr>
<td><em>C. natalensis</em> Bernh. ex Krauss (3630)</td>
<td></td>
</tr>
<tr>
<td><em>Chamaesyce S.F. Gray</em></td>
<td>T:R</td>
</tr>
<tr>
<td><em>C. glanduligera</em> (Pax) Koutnik (3943)</td>
<td></td>
</tr>
<tr>
<td><em>C. inequilatera</em> (Sond.) Sójak (3826, 3838)</td>
<td>T:FS,P,S</td>
</tr>
</tbody>
</table>

**Anacardiaceae**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Life Form/Soil/Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Rhus L.</em></td>
<td></td>
</tr>
<tr>
<td><em>R. montana</em> Diels (PRE)</td>
<td>N:SV</td>
</tr>
<tr>
<td><em>R. tenuinervis</em> Engl. (3704, 3827, 3869)</td>
<td>N:S,SD</td>
</tr>
</tbody>
</table>

**Tiliaceae**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Life Form/Soil/Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Corchorus L.</em></td>
<td>H:R</td>
</tr>
<tr>
<td><em>C. schimperi</em> Cufod. (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td><em>Grewia L.</em></td>
<td>N:FS</td>
</tr>
<tr>
<td><em>G. flava</em> DC. (3639)</td>
<td></td>
</tr>
<tr>
<td><em>G. reinervis</em> Burret (Leistner 1967)</td>
<td>N:FS</td>
</tr>
</tbody>
</table>

**Malvaceae**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Life Form/Soil/Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Abutilon Mill.</em></td>
<td>Ch:FS,SV</td>
</tr>
<tr>
<td><em>A. austro-africanum</em> Hochr. (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td><em>Sida L.</em></td>
<td>H:S</td>
</tr>
<tr>
<td><em>S. ovata</em> Forssk. (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td><em>Pavonia Cav.</em></td>
<td>H:S</td>
</tr>
<tr>
<td><em>P. burchellii</em> (DC.) R.A. Dyer (Leistner 1967)</td>
<td></td>
</tr>
<tr>
<td><em>Hibiscus L.</em></td>
<td>T:P</td>
</tr>
<tr>
<td><em>H. trionum</em> L. (3891)</td>
<td></td>
</tr>
<tr>
<td><em>Radyera Bullock</em></td>
<td></td>
</tr>
<tr>
<td><em>R. urens</em> (L.f.) Bullock (3903)</td>
<td>H:R</td>
</tr>
</tbody>
</table>

**Sterculiaceae**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Life Form/Soil/Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Melhania Forssk.</em></td>
<td>H:S</td>
</tr>
<tr>
<td><em>M. burchellii</em> DC. (3671, 3813)</td>
<td></td>
</tr>
<tr>
<td><em>Hermania L.</em></td>
<td>H:R</td>
</tr>
<tr>
<td><em>H. abrotanoides</em> Schrad. (3927)</td>
<td></td>
</tr>
<tr>
<td><em>H. argillicola</em> Dinter ex M. Holzhammer (Leistner &amp; Werger 1973)</td>
<td>H:S</td>
</tr>
<tr>
<td><em>H. bicolor</em> Engl. &amp; Dinter (Leistner &amp; Werger 1973)</td>
<td>H:S</td>
</tr>
<tr>
<td><em>H. burchellii</em> (Sweet) Verdoorn (3645)</td>
<td>Ch:S</td>
</tr>
<tr>
<td><em>H. eenii</em> Bak. f. (Leistner &amp; Werger 1973)</td>
<td>H:S,SD</td>
</tr>
<tr>
<td><em>H. glanduligera</em> K. Schum. (3650)</td>
<td>Ch:R,SV</td>
</tr>
<tr>
<td><em>H. modesta</em> (Ehrenb.) Mast. (3611, 3666, 3672, 3685, 3853)</td>
<td>H:FS,SV</td>
</tr>
<tr>
<td><em>H. pulchella</em> L.F. (Leistner &amp; Werger 1973)</td>
<td>H:S</td>
</tr>
</tbody>
</table>
Table 3 (Continued)

Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

<table>
<thead>
<tr>
<th>Life form: soil/habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H. stricta</strong> (E. Mey. ex Turcz.) Harv. (PRE)</td>
</tr>
<tr>
<td><strong>H. tomentosa</strong> (Turcz.) Schinz ex Engl. (3657)</td>
</tr>
</tbody>
</table>

**Violaceae**

5271  *Hybanthus* Jacq.

5271  *H. densifolius* Engl. (Leistner 1967)  T:SV

**Thymelaeaceae**

5435  *Gnidia* L.

5435  *G. polypephala* (C.A. Mey.) Gilg (3722)  H:S

**Combretaceae**

5544  *Terminalia* L.

5544  *T. sericea* Burch. ex DC. (Leistner 1967)  M:S

**Apiceae**

6013  *Deverra* DC.

6013  *D. aphylla* (Cham. & Schlechtd.) DC. (Leistner 1967)  H:FS,SV

**Apocynaceae**

6680  *Adenium* Roem. & Schult.

6680  *A. oleifolium* Stapf (3916)  G:SV,R

**Asclepiadaceae**

6791  *Asclepias* L.

6791  *A. buchenaviana* Schinz (Van Rooyen et al. 1984)  H:S

6791  *A. fruticosa* L. (Leistner 1967)  Ch:FS,SV

6834  *Cynanchum* L.

6834  *C. orangeanum* (Schltr.) N.E. Br. (3593)  G:S

6862  *Orthosiphon* Wight

6862  *O. jasminiflora* (Decne.) Schinz (3654, 3656)  G:FS

6870  *Brachyselma* R. Br.

6870  *B. stenophyllum* (Schltr.) R.A. Dyer (Steyn 1984)  G:S,SD

6885  *Orbeopsis* Leach

6885  *O. knobelii* (Phill.) Leach (Steyn 1984)  S:SV,R

6885  *Stapelia* L.

6885  *S. barklyi* N.E. Br. (PRE)  S:SV,R

6885  *Tridentea* Haw.

6885  *T. marientalis* (Nel) Leach subsp. marientalis (Leistner 1967)  S:SV,R

6917  *Pergularia* L.

6917  *P. daemia* (Forssk.) Chiov. var. daemia (3699, 3931)  G:R,SV

6921  *Ternarid* E. Mey.

6921  *T. schultzii* (Schltr.) Phill. (Steyn 1984)  G:S

6924  *Fockea* Endl.

6924  cf. F. sp. (De Beer collecting nr. 42)  G:SD

**Convolvulaceae**

6993  *Convolvulus* L.

6993  *C. arvensis* L. (Leistner & Werger 1973)  T:S

6993  *C. multifidus* Thunb. (Leistner 1959b)  H:SV
| Life form: soil/habitat | Table 3 (Continued)
Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols) |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C. sagittatus Thunb. subsp. sagittatus var. sagittatus (3881, 3882)</td>
<td>H:FS,P</td>
</tr>
<tr>
<td>C. sagittatus Thunb. var. ulosepalus (Hallier f.) Verde. (Leistner 1967)</td>
<td>H:R,FS</td>
</tr>
<tr>
<td>Merremia Dennst. M. tridentata (L.) Hallier f. subsp. angustifolia (Jacq.) Ooststr. (3587, 3588, 3679, 3803, 3823, 3876)</td>
<td>T:S</td>
</tr>
<tr>
<td>M. verecunda Rendle (3607, 3820)</td>
<td>T:S</td>
</tr>
<tr>
<td>Ipomoea L. I. bolusiana Schinz (Leistner 1967)</td>
<td>G:SV</td>
</tr>
<tr>
<td>I. hackeltiana (Schinz) Hallier f. (Leistner 1967)</td>
<td>T:S</td>
</tr>
<tr>
<td>I. magnusiana Schinz (Leistner 1967)</td>
<td>T:S</td>
</tr>
<tr>
<td>Boraginaceae</td>
<td></td>
</tr>
<tr>
<td>7043 Ehretia P. Br. E. rigida (Thunb.) Druce (Leistner 1967)</td>
<td>N:S</td>
</tr>
<tr>
<td>7052 Heliotropium L. H. ciliatum Kaplan (3609, 3810)</td>
<td>H:S</td>
</tr>
<tr>
<td>H. cirassavicum L. (Leistner 1967)</td>
<td>T:R</td>
</tr>
<tr>
<td>H. lineare (A. DC.) C.H. Wr. (3839, 3944)</td>
<td>Ch:R,P,SV</td>
</tr>
<tr>
<td>H. steudneri Vatke (Leistner 1959b)</td>
<td>T:SV,R</td>
</tr>
<tr>
<td>H. strigosum Willd. (Leistner &amp; Werger 1973)</td>
<td>T:SV,R</td>
</tr>
<tr>
<td>Verbenaceae</td>
<td></td>
</tr>
<tr>
<td>7148 Plexipus Rafin P. garipensis (E. Mey.) R. Fernandes (3809)</td>
<td>T:S</td>
</tr>
<tr>
<td>P. pumilus (E. Mey.) R. Fernandes (Leistner 1967)</td>
<td>H:S</td>
</tr>
<tr>
<td>Lamiaceae</td>
<td></td>
</tr>
<tr>
<td>7236 Acrotome Benth. A. angustifolia G. Tayl. (3693, 3806)</td>
<td>T:S,SV</td>
</tr>
<tr>
<td>A. inflata Benth. (3619, 3648)</td>
<td>T:SV</td>
</tr>
<tr>
<td>7281 Stachys L. S. spathulata Burch. ex Benth. (3721)</td>
<td>H:R</td>
</tr>
</tbody>
</table>
| Solanaceae | *
| 7379 Lycium L. L. boissifolium Schinz (3828, 3858) | N:FS,SV,SD |
| L. cinereum Thunb. (sens. lat.) (3842) | N:FS,R,P |
| L. hirsutum Dun. (Leistner 1967) | N:FS |
| L. villosum Schinz (3909) | N:SV |
| 7407 Solanum L. S. capense L. (3829) | H:FS,SV,SD |
| Scrophulariaceae | |
| 7466 Anticharis Endl. A. linearis (Benth.) Hochst. ex Aschers. (Leistner & Werger 1973) | H:SV |

KOEDOE 31(1988) 130
ISSN 0075–6458
Table 3 (Continued)
Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

<table>
<thead>
<tr>
<th>Life form: soil/habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

| A. decumbens Schinz (3811, 3867) | H:S,SV       |
| A. lineare Marloth & Engl. (3878, 3917) | H:SV,P.R     |
| A. marlothii (Engl.) Hiern (Leistner 1967) | Ch:R,SV      |
| A. procumbens (Lehm.) Steud. var. elongatum (Hiern) Codd (Leistner 1959b) | H:FS         |
| A. procumbens (Lehm.) Steud. var. procumbens (Leistner & Werger 1973) | H:S          |
| A. pubescens Weber (3631, 3687, 3707) | H:S          |
| A. spinosescens (Thunb.) Weber (3938) | Ch:R,SV      |

7468 *Peliostomum* Benth.

| P. leucorrhizum E. Mey. ex Benth. var. linearifolium Weber (3632, 3663, 3866, 3872) | Ch:P,SV     |
| P. origanoides E. Mey. ex Benth. (Leistner 1967) | Ch:SV       |

7517 *Manuela* L.

| M. burchellii Hiern ex deser. (Leistner collecting nr. 1889) | T:S         |

7519 *Sutera* Roth

| S. canescens (Benth.) Hiern (Leistner 1967) | T:R,P,SV     |
| S. microphylla (L.f.) Hiern (3720) | Ch:SD        |
| S. integerrima (Benth.) Hiern (3886) | H:P          |

7625 *Striga* Lour.

| S. gesnerioides (Willd.) Vatke ex Engl. (Leistner 1967) | Par:SV      |

**Selaginaceae**

7568 *Selago* L.

| S. albida Choisy (De Beer collecting nr. 13) | Ch:SV       |
| S. welwitschii Rolfe var. holubii (Rolfe) Brenan (3907) | H:SV        |

7568.01 *Waliafrida* E. Mey.

| W. saxatilis (E. Mey.) Rolfe (3832, 3868) | Ch:P       |

**Bignoniaceae**

7722 *Rhigozum* Burch.

| R. trichotomum Burch. (Leistner 1967) | N:FS        |

7723 *Catophractes* D. Don

| C. alexandri D. Don (Leistner 1967) | N:SV        |

**Pedaliaceae**

7771 *Harpagophyllum* DC. ex Meissn.

| H. procumbens (Burch.) DC. ex Meissn. subsp. procumbens (3625, 3652) | G:S         |

7777 *Sesamum* L.

| S. cf. alatum Thonn. (3591, 3612) | T:S         |
| S. capense Burm. f. subsp. capense (Leistner 1967) | T:SV        |
| S. triphyllum Welw. ex Aschers. var. grandiflorum (Schinz) Merxm. (Leistner 1959b) | T:S        |
| S. triphyllum Welw. ex Aschers. var. triphyllum (3703, 3801) | T:S        |

7780 *Dicerocarya* Boj.

| D. eriocarpum (Decne.) Abels (3615) | G:SV       |

ISSN 0075–6458

KOEDOE 31(1988)
Table 3 (Continued)

Check list of flowering plants of the Kalahari Gemsbok National Park (See text for explanation of symbols)

<table>
<thead>
<tr>
<th>Life form: soil/habitat</th>
</tr>
</thead>
</table>

**Acanthaceae**

<table>
<thead>
<tr>
<th>Code</th>
<th>Species</th>
<th>Author</th>
<th>Location</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>7946</td>
<td>Ruelleopsis C. B. Cl.</td>
<td></td>
<td></td>
<td>Ch:R,P</td>
</tr>
<tr>
<td>7973</td>
<td>Barleria L.</td>
<td></td>
<td></td>
<td>H:R,SV</td>
</tr>
<tr>
<td>7980</td>
<td>Blepharis Juss.</td>
<td></td>
<td></td>
<td>Ch:R</td>
</tr>
<tr>
<td>8094.01</td>
<td>Monochaena Hochst.</td>
<td></td>
<td></td>
<td>Ch:R</td>
</tr>
<tr>
<td></td>
<td>M. divaricatum (Nees) C. B. Cl. (3653, 3659, 3902)</td>
<td></td>
<td></td>
<td>Ch:SV</td>
</tr>
<tr>
<td></td>
<td>M. genistifolium (Engl.) C. B. Cl. subsp. australie (P. G. Mey) ined. (3922)</td>
<td></td>
<td></td>
<td>Ch:S</td>
</tr>
<tr>
<td></td>
<td>M. genistifolium (Engl.) C. B. Cl. subsp. genistifolium (Leistner 1959b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8094.01</td>
<td>M. incanum (Nees) C. B. Cl. (Leistner 1967)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rubiaceae**

<table>
<thead>
<tr>
<th>Code</th>
<th>Species</th>
<th>Author</th>
<th>Location</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8136.06</td>
<td>Kohoutia Cham. &amp; Schlechtd.</td>
<td></td>
<td></td>
<td>H:R,SV,P</td>
</tr>
<tr>
<td></td>
<td>K. cyananchica DC. (3883, 3932)</td>
<td></td>
<td></td>
<td>H:SV</td>
</tr>
<tr>
<td></td>
<td>K. cf. lasiocarpa Klotsch (3618)</td>
<td></td>
<td></td>
<td>H:SV</td>
</tr>
<tr>
<td></td>
<td>K. ramosissima Brem. (Leistner 1967)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cucurbitaceae**

<table>
<thead>
<tr>
<th>Code</th>
<th>Species</th>
<th>Author</th>
<th>Location</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8563</td>
<td>Dactyliandra Hook. f.</td>
<td></td>
<td></td>
<td>G:S</td>
</tr>
<tr>
<td>8568</td>
<td>kedrostis Medik.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>K. capensis (Sond.) A. Meeuse (Leistner &amp; Werger 1973)</td>
<td></td>
<td></td>
<td>H:S</td>
</tr>
<tr>
<td>8569</td>
<td>Corallocarpus Welw. ex Hook. f.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. bainesii (Hook. f.) A. Meeuse (Leistner collecting nr. 2945)</td>
<td></td>
<td></td>
<td>H:S</td>
</tr>
<tr>
<td>8590</td>
<td>Acanthosicyos Welw. ex Hook. f.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. naudinianus (Sond.) C. Jeffrey (3616)</td>
<td></td>
<td></td>
<td>G:S</td>
</tr>
<tr>
<td>8591</td>
<td>Momordica L.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M. balsamina L. (Leistner 1967)</td>
<td></td>
<td></td>
<td>G:S</td>
</tr>
<tr>
<td>8598</td>
<td>Citrullus Eckl. &amp; Zeyh.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. lanatus (Thunb.) Matsumura &amp; Nakai (Leistner 1967)</td>
<td></td>
<td></td>
<td>T:FS</td>
</tr>
<tr>
<td>8599</td>
<td>Cucumis L.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. africanus L.f. (3854)</td>
<td></td>
<td></td>
<td>T:FS</td>
</tr>
<tr>
<td>8608</td>
<td>Trochohermia Hook. f.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T. debilis (Sond.) Hook. f. (3890)</td>
<td></td>
<td></td>
<td>G:SD</td>
</tr>
<tr>
<td>8628</td>
<td>Coccinia Wight &amp; Arn.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. rehmannii Cogn. var. rehmannii (3908)</td>
<td></td>
<td></td>
<td>G:SD</td>
</tr>
</tbody>
</table>

**Asteraceae**

<table>
<thead>
<tr>
<th>Code</th>
<th>Species</th>
<th>Author</th>
<th>Location</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8740</td>
<td>Erlangea Sch.</td>
<td></td>
<td></td>
<td>T:S</td>
</tr>
<tr>
<td>8862</td>
<td>Pieronia L.</td>
<td></td>
<td></td>
<td>Ch:SV</td>
</tr>
<tr>
<td></td>
<td>P. mucronata DC. (3840)</td>
<td></td>
<td></td>
<td>Ch:SV</td>
</tr>
<tr>
<td></td>
<td>P. unguiculata S. Moore (Van Rooyen et al. 1984)</td>
<td></td>
<td></td>
<td>Ch:SV</td>
</tr>
<tr>
<td>8887</td>
<td>Amellus L.</td>
<td></td>
<td></td>
<td>T:R,SV</td>
</tr>
<tr>
<td></td>
<td>A. sirigosus (Thunb.) Less. (Leistner 1967)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KOEDEO 31(1988) 132  ISSN 0075–6458
<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Life form: soil/habitat</th>
</tr>
</thead>
</table>
| 8919 | *Felicia* Cass.  
  *F. hyslopfolia* (Berg.) Nees (Leistner 1967)  
  *F. muricata* (Thunb.) Nees (Van Rooyen et al. 1984) | Ch:FS                  |
| 8926 | *Coryza* Less.  
  *C. scabrida* DC. (PRE) | T:R                   |
| 8929 | *Nolletia* Cass.  
  *N. arenosa* O. Hoffm. (3714, 3912) | H:S                   |
| 8930 | *Chrysoma* L.  
  *C. ciliata* (Leistner 1959b)  
  *C. obtusata* (Thunb.) E. Bayer (3633, 3669) | Ch:S, Ch:P             |
| 8939 | *Blumea* DC.  
  *B. gariepina* DC. (Leistner 1967) | N:R,P,SV              |
| 8943 | *Pechuet-loeschea* O. Hoffm.  
  *P. lemburichace* (Kuntze) O. Hoffm. (De Beer collecting nr. 74) | N:P                   |
| 8967 | *Ilyoga* Cass.  
  *I. molluginoides* (DC.) Hilliard (Leistner & Werger 1973) | T:S                   |
| 9006 | *Helichrysum* Mill.  
  *H. argyrophaenum* DC. (3716)  
  *H. arenicola* M.D. Henderson (Leistner 1967)  
  *H. dregeanum* Sond. & Harv. (Leistner 1959b)  
  *H. micropoides* DC. (Leistner collecting nr. 2905) | T:FS, T:S, Ch:FS, T:S  |
| 9051 | *Rosenia* Thunb. emend. Bremer  
  *R. humilis* (Less.) Bremer (3636) | Ch:R,P                 |
| 9090 | *Geigeria* Griesselich  
  *G. brevifolia* (DC.) Harv. (3887)  
  *G. filifolia* Mattf. (3672a)  
  *G. obusifolia* L. Bol. (PRE)  
  *G. ornata* O. Hoffm. (3627, 3706, 3856)  
  *G. pectidea* (DC.) Harv. (3897) | Ch:SD, Ch:SV, Ch:SV, Ch:SV,P, Ch:R,SV |
| 9320 | *Erioccephalus* L.  
  *E. aspallata* DC. (3835)  
  *E. pubescens* DC. (Leistner 1967) | Ch:P                   |
| 9366 | *Pennisia* Thunb.  
  *P. globosa* Less. (Leistner & Werger 1973)  
  *P. incana* (Thunb.) Kuntze (3923, 3946)  
  *P. spinascens* Less. (3884) | Ch:S, Ch:SV,R, Ch:P     |
| 9411 | *Senecio* L.  
  *S. arenarius* Thunb. (Leistner 1967)  
  *S. consanguineus* DC. (3698, 3717)  
| 9425 | *Dimorpolithica* Vaill. ex Moench  
  *D. polypera* DC. (3603, 3712, 3911) | T:S                   |
| 9427 | *Osteospernum* L.  
  *O. leptolobum* (Harv.) T. Norl. (PRE)  
  *O. muricatum* E. Mey. ex DC. subsp. muricatum (3879, 3929)  
| 9435 | *Hipricium* Cass.  
  *H. echinus* Less. (3598, 3680, 3825)  
  *H. gasanioides* (Harv.) Roosil. (3577) | H:SV, T:SV            |
maeophyte value and the increase in the hemicyryptophyte value (Werger 1986). This is probably due to differences in their root systems and the greater ability of hemicyryptophytes to utilise sporadic or light rains (Werger 1986). The high therophyte value seems to be correlated with increasing aridity rather than soil texture (Rutherford & Westfall 1986; Werger 1986).

Acknowledgements

We are grateful to the National Parks Board of Trustees for allowing us to carry out this study and for their assistance. We also thank Mr. and Mrs. E.A.N. le Riche for their assistance, support and hospitality as well as Dr. G. de Graaff for his contribution.

This study was done with the assistance of the Honours students in Wildlife Management and in Botany of the University of Pretoria. This project was financed by the University of Pretoria.

References


