Vries 1968/69) and the soil is relatively deep (> 500 mm) (Land Type Survey Staff 1988).

Floristics

The *Faurea saligna-Setaria sphacelata* **variation** is differentiated by the following plant species (species group K, Table 4.2):

Acrotome hispida	***Perotis patens***
Callilepis leptophylla	***Pollichia campestris***
Digitaria monodactyla	***Solanum panduriforme***
Drimiopsis burkei	***Terminalia sericea***
Eragrostis gummiflua	***Trichoneura grandiglumis***
Evolvulus alsinoides	***Triumfetta sonderi***
Hermannia depressa	***Walleria nutans***
Indigofera comosa	

The dominant tree stratum is between five and eight metres tall with an average height of 6,0 metres. The average canopy cover is 39 % (Table 4.2). *Burkea africana* and *Faurea saligna* are the dominant trees on the plains and the north facing and northwest facing slopes. Other prominent trees are *Acacia caffra* (species group M), *Dombeya rotundifolia* subsp. *rotundifolia* and *Berchemia zeyheri* (species group N, *Burkea africana, Ochna pulchra* and *Combretum molle* (species group X, Table 4.2). The latter species also differentiates the *Burkea africana-Setaria lindenbergiana* Major Community (Table 4.2).

The shrub stratum, which is on average 1,0 metres tall, has an average canopy cover of 7 % (Table 4.2). The dominant shrubs are *Dichrostachys cinerea* subsp. *cinerea* (species group N, Table 4.2), *Elephantorrhiza elephantina* (species group S, Table 4.2), on north facing and northwest facing slopes. The latter species also differentiates the *Protea welwitchii-Tristachya leucothrix* Low Open Woodland Community (species group S, Table 4.2).

Other prominent shrubs are *Lantana rugosa* and *Ozoroa paniculosa* (species group X, Table 4.1). Grasses and forbs cover 22 % with an average height of 0,7

metres. The dominant plant species in the herbaceous layer are *Setaria sphacelata* subsp. *sphacelata* and *Bewsia biflora* (species group L), *Heteropogon contortus* and *Pogonarthria squarrosa* (species group M, Table 4.2). Other prominent herbaceous species are *Xerophyta retinervis* (species group V) and *Cryptolepis oblongifolia* (species group W, Table 4.2).

General

The *Faurea saligna-Setaria sphacelata* **variation** has many characteristic species in common with the *Burkea africana-Ochna pulchra* Woodland described by Coetzee (1975) in the Rustenberg Nature Reserve and the *Combretum molle-Euclea crispa* Closed Woodland described by Westfall (1981) on the farm Groothoek, south of the study area. Variation 4.3.2.1 is related to community 4.2.4 through the mutual presence of the *Dombeya rotundifolia* subsp. *rotundifolia* species group (species group N, Table 4.2) and the *Protea caffra-Loudetia simplex* Major Community through the mutual presence of the *Loudetia simplex* species group (species group Z, Table 4.2).

4.3.2.2 *Acacia caffra-Setaria sphacelata* **variation**

Type: relevé 89

Habitat

The *Acacia caffra-Setaria sphacelata* **variation** is found at 1 300 m to 1 600 m above sea level (Figure 4.1) on level surfaces and gentle slopes (1 - 16°) (see section 3.7.4). It is represented by nine relevés and an average of 35 species was recorded per sample plot.

This variation is a representative of Acocks's (1988) Sour Bushveld, with the structure as a low closed woodland (Edwards 1983) with six relevés (51, 85, 48, 89, 92 and 52) occurring in the Ad Land type (Figure 2.5) and with three relevés (41, 90 and 93) occurring in the Ib Land Type (Figure 2.7) (Land Type Survey Staff 1988).

The soils on the fairly level surfaces (2 and 5), (see section 3.7.4), (relevés 52 & 90), (Figures 2.5 & 2.7) are of the Hutton, Clovelly and Glenrosa Forms derived from sandstone of the Sandriviersberg Formation (De Vries 1968/69). The soil is relatively shallow (< 500 mm) (Land Type Survey Staff 1988). Soils of the Shortlands Form, derived from diabase of the post-Waterberg Group, are also found in this variation, (see section 3.7.4), (relevés 51, 89 & 92), (MacVicar et al. 1977; Westfall 1981). Rocks cover more than 22 % of the soil surface (Figure 4.3).

The soils on the gentle slopes (15 - 16°), (see section 3.7.4), (relevés 41, 85 & 93), (Figures 2.5 & 2.7) are of the Clovelly, Glenrosa and Mispah Forms derived from sandstone of the Sandriviersberg Formation (De Vries 1968/69). The soil is relatively shallow (< 500 mm) (Land Type Survey Staff 1988). Soils of the Shortlands Form, derived from diabase of the post-Waterberg Group, are also found in this variation (relevé 48), (see section 3.7.4), (MacVicar et al. 1977; Westfall 1981). Rocks cover more than 26 % of the soil surface.

Floristics

Although no differential species occur in this variation, it can be distinguished from the *Faurea saligna-Setaria sphacelata* **variation** by the absence of species in species group K and the presence of species in species group L (Table 4.2).

The dominant tree stratum is between three and five metres tall with an average canopy cover of 53 %. *Acacia caffra* is the dominant tree on nearly all the slopes. Other prominent trees are *Combretum apiculatum* (species group J), which also differentiates the *Acacia karroo- Eragrostis chloromelas* Closed Woodland, *Dombeya rotundifolia* subsp. *rotundifolia, Berchemia zeyheri* and *Ziziphus mucronata* (species group N), *Lannea discolor* (species group X,) and *Vangueria infausta* and *Vitex rehmannii* (species group BB, Table 4.2).

The shrub stratum, which is on average 1,2 metres tall, has an average canopy cover of 14 % (Table 4.2). The dominant shrubs are *Acacia caffra, Dombeya rotundifolia* subsp. *rotundifolia* (species group M), *Dichrostachys cinerea* (species group N), *Lannea discolor* (species group X) and *Vangueria infausta* (species group BB, Table 4.2). Grasses and forbs cover 52 % of the area with an average height of 0,7 metres.

The dominant plant species in the herbaceous layer are *Elionurus muticus* (species group M), *Eragrostis curvula* and *E. lehmanniana* (species group N,), *Andropogon schirensis* (species group Z,) and *Themeda triandra, Eragrostis racemosa, Melinis nerviglume, Cymbopogon plurinodis, Pearsonia cajanifolia, Vernonia oligocephala* and *Gerbera piloselloides* (species group AA, Table 4.2).

General

The *Acacia caffra-Setaria sphacelata* **variation** is related to community 4.2.4 through the mutual presence of the *Dombeya rotundifolia* subsp. *rotundifolia* species group (species group N, Table 4.2) and has many characteristic species in common with the *Eustachys mutica-Acacia caffra* Woodland described by Coetzee (1975) from the Rustenburg Nature Reserve. This closed woodland variation has many characteristic species in common with the *Combretum molle-Themeda triandra* Open Woodland described by Westfall (1981) from the farm Groothoek, south of the study area.

4.4 *Protea caffra-Loudetia simplex* Major Community

The species composition of the *Protea caffra-Loudetia simplex* Major Community is given in Table 4.1. This major community is differentiated by the following diagnostic plant species (species group C, Table 4.1):

Acalypha angustata
Anthospermum hispidula
Chaetacanthus costatus
Helichrysum kraussii
H. setosum
Indigofera burkeana
I. mollicoma
Monocymbium ceresiiforme
Panicum natalense
Rhus magalismontana
Rhynchosia monophylla
R. nitens
Xerophyta retinervis

This major community is related to the *Loudetia simplex- Aristida aequiglumis* Woodlands, Shrublands and Grasslands described by Coetzee (1975) in the Rustenburg Nature Reserve. The *Loudetia simplex-Aristida aequiglumis* Woodlands, Shrublands and Grasslands includes *Protea caffra* - dominated evergreen

woodlands, *Protea welwitchii* and *P. gaguedi* - dominated evergreen shrublands and seasonal grasslands (Coetzee 1975).

The *Protea caffra-Loudetia simplex* Major Community is representative of Acocks's (1988) Sour Bushveld on moderately deep to deep soils in moderately exposed habitats. The Grassland is representative of Acocks's (1988) North-eastern Mountain Sourveld on shallow rocky soils in exposed habitats, as described by Westfall (1981) on the farm Groothoek south of the study area. Similar vegetation was described by Matthews et al. (1991) and Du Preez (1992 a&b).

The soils are mainly of the Mispah-, Glenrosa-, Clovelly- and/or Hutton Forms. The soil depth varies from 10 mm to more than 1 000 mm (Land Type Survey Staff 1988).

The *Acacia caffra-Heteropogon contortus* Major Community is related to the *Protea caffra-Loudetia simplex* Major Community through the mutual presence of the *Themeda triandra* species group (species group AA, Table 4.2).

A dendrogram to illustrate the habitat relationship of the plant communites of the *Protea caffra-Loudetia simplex* Major Community is shown in Figure 4.4.

In the phytosociological classification, the plant communites identified within the *Protea caffra-Loudetia simplex* Major Community are the following (Tables 4.1 & 4.2):

4.4.1 *Protea caffra-Tristachya rehmannii* Low Open Shrubland
4.4.2 *Protea caffra-Encephalartos eugene-maraisii* Low Open Woodland
4.4.3 *Protea caffra-Rhus dentata* Low Open Woodland
4.4.4 *Protea welwitchii-Tristachya leucothrix* Low Open Shrubland
4.4.5 *Andropogon schirensis-Dicoma anomala* Short Closed Grassland

4.4.1 *Protea caffra-Tristachya rehmannii* Low Open Shrubland
Type: relevé 33

Habitat

The *Protea caffra-Tristachya rehmannii* Low Open Shrubland is found at 1 240 m to 1 880 m above sea level (Figure 4.1) on gentle to moderate slopes (16 - 32°) (see

section 3.7.4). It is represented by 18 relevés and an average of 44 species was recorded per sample plot.

This community is a representative of Acocks's (1988) Sour Bushveld, with the structure as a low closed woodland (Edwards 1983). Two relevés (40 & 47) occur in the Ad Land Type (Figure 2.5), three relevés (44, 14 & 49) in the Fa Land Type (Figure 2.6) and 13 relevés in the Ib Land Type (Figure 2.7) (Land Type Survey Staff 1988).

The soils are very rocky (all sizes) and rocks cover an average of 50 % of the soil surface. The soils are classified as Mispah- and Glenrosa Forms, derived from sandstone of the Sandriviersberg Formation. The soil is relatively shallow (< 500 mm) (Land Type Survey Staff 1988) (Figure 4.4).

Floristics

The *Protea caffra-Tristachya rehmannii* Low Open Shrubland is differentiated by the following plant species (species group O, Table 4.2):

Becium obovatum
Berkheya zeyheri
Castalis spectabilis
Crassula capitella
Enneapogon pretoriae
Erica drakensbergensis
Eriosema cordatum
Gerbera viridifolia
Gladiolus atropurpureus
Helichrysum cephaloideum
H. coriaceum
H. dasymallum
Helichrysum nudifolium
Hypoxis acuminata
Indigofera hedyantha
I. hilaris
Kohautia amatymbica
Pentanisia angustifolia
Polygala uncinata
Psammotropha myriantha
Scabiosa columbaria
Tristachya rehmannii
Urelytrum agropyroides

The tree stratum is between two and four metres tall with an average canopy cover of 28 % (Table 4.2). *Protea caffra* is the dominant tree on south facing, southeast facing and southwest facing slopes. In two relevés, (79 & 83), *Protea caffra* occurs on the northeast facing and northwest facing steep slopes (27 & 23°) at 1 700 m and

1 850 m respectively. It seems that the occurrence of *Protea caffra* on the north facing slopes is associated with altitude (> 1 700 m) and temperature, because dominant trees in this community on the north facing slopes are *Acacia caffra* and *Englerophytum magalismontanum* and they occur at lower altitudes (1 400 m), where it may be warmer (Table 4.2).

The shrub stratum, which is on average 0,7 metres tall, has an average canopy cover of 11 % (Table 4.2). The dominant shrubs are *Protea caffra, Rhus dentata* and *Erica drakensbergensis* on south facing, southeast facing and southwest facing slopes. The herbaceous layer covers 40 % of the soil surface with an average height of 0,9 metres. The dominant plant species in the herbaceous layer are the xerophytic fern *Cheilanthus hirta* and *Athrixia elata* (species group R), *Loudetia simplex, Diheteropogon amplectens* and *Aristida transvaalensis* (species group Z) and *Themeda triandra, Eragrostis racemosa, Bulbostylis burchellii* and *Trachypogon spicatus* (species group AA, Table 4.2).

General

The *Protea caffra-Tristachya rehmannii* Low Open Shrubland has many characteristic species in common with the *Tristachya biseriata-Protea caffra* Woodland (Coetzee 1975) and the *Combretum molle-Heteropogon contortus* closed and open woodlands (Westfall 1981). Communities, 4.4.1, 4.4.2 and 4.4.3 are related through the mutual presence of the *Protea caffra-Loudetia simplex* Major Community.

Protea caffra species group (species group R, Table 4.2) and communities 4.4.1, 4.4.4 and 4.4.5 are related through the mutual presence of the *Panicum natalense* species group (species group V, Table 4.2).

4.4.2 *Protea caffra-Encephalartos eugene-maraisii* Low Open Woodland

Type: relevé 120

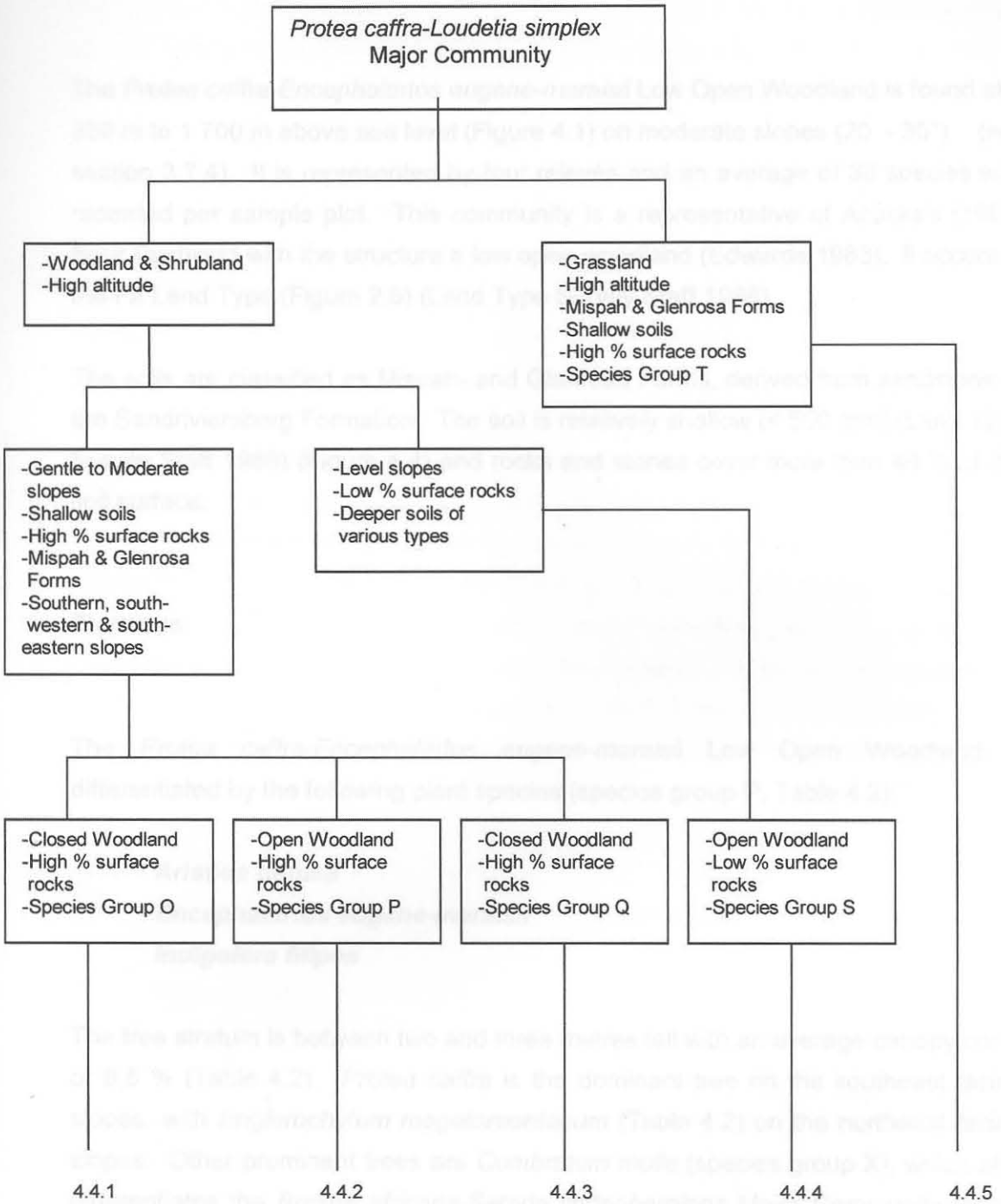

Figure 4.4 A dendrogram to illustrate the habitat relationships of the plant communities classified under the *Protea caffra-Loudetia simplex* Major Community.

Habitat

The *Protea caffra-Encephalartos eugene-maraisii* Low Open Woodland is found at 1 380 m to 1 700 m above sea level (Figure 4.1) on moderate slopes (20 - 30°) (see section 3.7.4). It is represented by four relevés and an average of 38 species was recorded per sample plot. This community is a representative of Acocks's (1988) Sour Bushveld with the structure a low open woodland (Edwards 1983). It occurs in the Fa Land Type (Figure 2.6) (Land Type Survey Staff 1988).

The soils are classified as Mispah- and Glenrosa Forms, derived from sandstone of the Sandriviersberg Formation. The soil is relatively shallow (< 500 mm) (Land Type Survey Staff 1988) (Figure 4.4) and rocks and stones cover more than 48 % of the soil surface.

Floristics

The *Protea caffra-Encephalartos eugene-maraisii* Low Open Woodland is differentiated by the following plant species (species group P, Table 4.2):

Aristida diffusa
Encephalartos eugene-maraisii
Indigofera filipes

The tree stratum is between two and three metres tall with an average canopy cover of 8,5 % (Table 4.2). *Protea caffra* is the dominant tree on the southeast facing slopes, with *Englerophytum magalismontanum* (Table 4.2) on the northeast facing slopes. Other prominent trees are *Combretum molle* (species group X), which also differentiates the *Burkea africana-Setaria lindenbergiana* Major Community (Table 4.2).

The shrub stratum, which is on average 1,8 metres tall, has an average canopy cover of 10 % (Table 4.2). A conspicuous shrub is *Encephalartos eugene-maraisii* on southeast facing slopes and northeast facing slopes. Other prominent shrubs are *Rhus dentata* (species group R), *Ozoroa paniculosa* (species group X) and *Ancylobotrys capensis* (species group Y, Table 4.2).

The herbaceous layer covers 29 % with an average height of 1,0 metre (Table 4.1). The dominant plant species in this layer are *Andropogon schirensis* (species group Z) and *Trachypogon spicatus* (species group AA, Table 4.2). Other plant species in this layer are *Panicum natalense*, *Rhynchosia monophylla, Indigofera mollicoma* and *Helichrysum setosum* (species group V) and *Littonia modesta* (species group X, Table 4.2). The latter species also differentiate the *Burkea africana-Setaria lindenbergiana* Major Community.

General

The *Protea caffra-Encephalartos eugene-maraisii* Low Open Woodland has many characteristic species in common with the *Tristachya biseriata-Protea caffra* Woodland (Coetzee 1975) and the *Combretum molle-Protea caffra* Open Woodland (Westfall 1981). Communities, 4.4.2 and 4.4.3 are related through the mutual presence of the *Protea caffra* species group (species group R, Table 4.2). Communities, 4.4.2, 4.4.4 and 4.4.5 are related through the mutual presence of the *Panicum natalense* species group (species group V, Table 4.2). Community 4.4.2 is related to the *Burkea africana-Setaria lindenbergiana* Major Community through the mutual presence of the *Rhynchosia totta* species group (species group Y, Table 4.2).

4.4.3 *Protea caffra-Rhus dentata Low* Open Woodland

Type: relevé 27

Habitat

The *Protea caffra-Rhus dentata* Low Open Woodland is found at 1 400 m to 1 540 m above sea level (Figure 4.1) on gentle to moderate slopes (12 - 28°) (see section 3.7.4). It is represented by seven relevés and an average of 48 species was recorded per sample plot. This community is a representative of Acocks's (1988) Sour Bushveld with the structure, a low closed woodland (Edwards 1983). All the relevés occur in the Fa Land Type (Figure 2.6) except relevé 34, which occurs in the Ib Land Type (Figure 2.7) (Land Type Survey Staff 1988).

The soils are classified as Mispah- and Glenrosa Forms, derived from sandstone of the Sandriviersberg Formation. The soil is relatively shallow (< 500 mm) (Land Type Survey Staff 1988) (Figure 4.4) and rocks and stones cover more than 40 % of the soil surface.

Floristics

The *Protea caffra-Rhus dentata* Low Open Woodland is differentiated by the following plant species (species group Q, Table 4.2):

Argyrolobium transvaalensis
Crassula swaziensis
Mundulea sericea
Silene burchellii

The tree stratum is between two and five metres tall with an average canopy cover of 19 % (Table 4.2). *Protea caffra* is the dominant tree on the southeast facing slopes and southwest facing slopes, with *Englerophytum magalismontanum*, *Burkea africana, Strychnos pungens* and *Lannea discolor* on the northeast facing slopes (Table 4.2). Other prominent trees are *Combretum molle* (species group X), which also differentiates the *Burkea africana-Setaria lindenbergiana* Major Community, *Vangueria infausta* and *Vitex rehmannii* (species group BB, Table 4.2).

The shrub stratum is between 0,5 metres and 1,5 metres tall with an average canopy cover of 11 % (Table 4.2). The dominant shrubs are *Elephantorrhiza burkei* (species group X) and *Rhoicissus revoilii* (species group BB, Table 4.2). Young individuals of *Protea caffra* (0,5 - 1 metres tall) may be present. A prominent shrub is *Ozoroa paniculosa* (species group X), which also differentiates the *Burkea africana-Setaria lindenbergiana* Major Community (Tables 4.1 & 4.2). *Apodytes dimidiata* and *Heteropyxis natalensis* (species group BB, Table 4.2) are also conspicuously present.

The herbaceous layer covers 34 % with an average height of 0,9 metres (Table 4.2). The dominant plant species in this layer are *Andropogon schirensis, Aristida transvaalensis, Loudetia simplex* and *Diheteropogon amplectens* (species group Z, Table 4.2).

General

The *Protea caffra-Rhus dentata* Low Open Woodland has many characteristic species in common with the *Rhus dentata- Heteropogon contortus-Combretum molle* Closed Woodland **variation** (Westfall 1981). Communities, 4.4.3, 4.4.4 and 4.4.5 are related through the mutual presence of the *Panicum natalense* species group (species group V, Table 4.2). Community 4.4.3 is related to the *Burkea africana-Setaria lindenbergiana* Major Community through the mutual presence of the *Rhynchosia totta* species group (species group Y, Table 4.2).

4.4.4 *Protea welwitchii-Tristachya leucothrix* Low Open Shrubland.

Type: relevé 123

Habitat

The *Protea welwitchii-Tristachya leucothrix* Low Open Shrubland is found at 1 480 m to 1 500 m above sea level (Figure 4.1) on level ground (1 - 5°) (see section 3.7.4). It is represented by three relevés and an average of 56 species was recorded per sample plot. This community is a representative of Acocks's (1988) Sour Bushveld, with a short open shrubland structure (Edwards 1983). It occurs in the Fa Land Type (Figure 2.6) (Land Type Survey Staff 1988).

The soils are of the Hutton-, Clovelly- or Avalon Forms, derived from sandstone of the Sandriviersberg Formation and no rocks and stones occur in this community. The soil depth varies between 400 mm - 1 200 mm (Land Type Survey Staff 1988) (Figure 4.4).

Floristics

The *Protea caffra-Tristachya leucothrix* Low Open Shrubland is differentiated by the following plant species (species group S, Table 4.2):

Aster harveyanus
Cymbopogon excavatus
Cynodon dactylon
Dicoma zeyheri
Elephantorrhiza elephantina
Eragrostis plana
Gladiolus pretoriensis
Gnidia kraussiana
Hyparrhenia hirta
Hypoxis rigidula
Indigofera acuticephala
***Ledebouria* sp.**
Protea welwitchii
Triraphis andropogonoides
Tristachya leucothrix
Vernonia natalensis
Walafrida densiflora

The dominant woody species in this community are the shrubs *Protea welwitchii* and *Elephantorrhiza elephantina*, with an average canopy cover of 10% and average height of 0,7 metres (Table 4.2). The dwarf deciduous shrub *Parinari capensis* subsp. *capensis*, which forms large stands, forms part of this community (species group U, Table 4.2). The herbaceous layer covers 18 % of the area with an average height of 1,0 metre (Table 4.2). The dominant species are *Tristachya leucothrix, Hyparrhenia hirta, Gnidia kraussiana* and *Cynodon dactylon* (Table 4.2).

General

The *Protea welwitchii-Tristachya leucothrix* Low Open Shrubland has many characteristic species in common with the *Digitaria brazzae-Tristachya rehmannii* Woodlands and Shrublands (Coetzee 1975). Communities, 4.4.4 and 4.4.5 are related through the mutual presence of the *Parinari capensis* species group (species group U, Table 4.2).

4.4.5 *Andropogon schirensis-Dicoma anomala* Short Closed Grassland.

Type: relevé 1

Habitat

The *Andropogon schirensis-Dicoma anomala* Short Closed Grassland is found at 1 620 m to 2 010 m above sea level (Figure 4.1) on level slopes (1 - 3°) (see section

3.7.4). It is represented by 12 relevés and an average of 45 species was recorded per sample plot. This community is a representative of Acocks's (1988) North-eastern Mountain Sourveld, with a short closed grassland structure (Edwards 1983). This community occurs in the Ad -, Fa - and Ib land types (Figure 2.4). The soils are of the Mispah and Glenrosa Forms derived from sandstone of the Sandriviersberg Formation (De Vries 1968/69). The soil depth varies between 10 - 300 mm (Land Type Survey Staff 1988) and rocks cover more than 33 % of the soil surface (Figure 4.4).

Floristics

The *Andropogon schirensis-Dicoma anomala* Short Closed Grassland is differentiated by the following plant species (species group T, Table 4.2):

Babiana hypogea
Chamaecrista mimosoides
Cleome maculata
Crassula lanceolata
Cyanotis speciosa
Cyperus rupestris
Dicoma anomala
Digitaria brazzae
Gazania krebsiana
Kohautia cynanchica
Lotononis calycina
Microchloa caffra
Osteospermum junceus
Polycarpaea corymbosa
Polygala hottentotta
Protea gaguedi
Rhus gracillima
Thunbergia atriplicifolia
Vernonia staehelinoides

No trees were recorded in the sample plots, but isolated individuals of *Podocarpus latifolius* are found in boulder clumps in this community. The *Podocarpus latifolius* trees are on average 3,0 metres tall with an average canopy cover of less than 0,1 %, resulting in the grassland classification (Edwards 1983) for this community.

The shrub layer is on average 1,5 metres tall with an average canopy cover of 1,5 % (Table 4.2). Prominent shrubs occurring in this community are *Protea roupelliae* and *Passerina montana*. Grasses and forbs cover 29 % of the area, with an average height of 0,8 metres. The dominant plant species in the herbaceous layer are *Panicum natalense, Anthospermum hispidula, Rhynchosia monophylla, Acalypha*

angustata and *Monocymbium ceresiiforme* (species group V), *Andropogon schirensis, Loudetia simplex, Diheteropogon amplectens* and *Aristida transvaalensis* (species group Z) and *Eragrostis racemosa, Trachypogon spicatus, Bulbostylis burchellii, Schizachyrium sanguineum* and *Fadogia homblei* (species group AA, Table 4.2).

General

The *Andropogon schirensis-Dicoma anomala* Short Closed Grassland has many characteristic species in common with the *Loudetia simplex-Aristida aequiglumis* Woodlands, Shrublands and Grasslands (Coetzee 1975) and the *Protea roupelliae-Helichrysum nudifolium* Sparse Woodland and the *Trachypogon spicatus-Eragrostis racemosa* Grassland (Westfall 1981). The community is exposed, being situated at a high altitude and a considerable temperature variation could be expected. Mist occurs frequently on the summit of the Kransberg massif and together with a high rainfall, contribute to the moisture regime in this exposed community, which was observed during the course of the fieldwork.

4.5 *Burkea africana-Setaria lindenbergiana* Major Community

The species composition of the *Burkea africana-Setaria lindenbergiana* Major Community is given in Table 4.1. This major community is differentiated by the following diagnostic plant species (species group D, Table 4.1):

Burkea africana	***Ochna pulchra***
Combretum molle	***Ozoroa paniculosa***
Elephantorrhiza burkei	***Pseudolachnostylis maprouneifolia***
Hypoestes forskaolii	***Setaria lindenbergiana***
Kalanchoe paniculata	***Strychnos pungens***
Lannea discolor	***Stylochiton natalense***
Lantana rugosa	***Tapiphyllum parvifolium***
Littonia modesta	

This major community occurs on gentle to moderately steep slopes of rocky sandstone hills, where soils are litholitic and rocks cover 53 % of the soil surface (Figure 4.5). The soils occur mainly in the Ad-, Fa- and Ib land types (Land Type Survey Staff 1988) (Figure 2.5, 2.6 & 2.7) and are mainly of the Mispah-, Glenrosa-, Clovelly-, Hutton- and Cartref Forms. The soil varies from 10 mm to more than 1 200 mm in depth (Land Type Survey Staff 1988).

Coetzee et al. (1976) described a similar community as the *Barleria bremekampii-Diplorhynchus* Tree Savanna and Westfall (1981) described a similar community as a Woodland, representative of Acocks's (1988) Sour Bushveld, on moderately deep to deep soils in moderately exposed habitats.

The *Burkea africana-Setaria lindenbergiana* Major Community is related to the *Acacia caffra-Heteropogon contortus* Major Community and the *Protea caffra-Loudetia simplex* Major Community through the mutual presence of species group AA (Table 4.2).

A dendrogram to illustrate the habitat relationship of the plant communities classified under the *Burkea africana-Setaria lindenbergiana* Major Community is shown in Figure 4.5. In the phytosociological classification, the plant communities classified under the *Burkea africana-Setaria lindenbergiana* Major Community (Table 4.1) is:

4.5.1 *Burkea africana-Setaria lindenbergiana* Low Thicket
4.5.1.1 *Burkea africana-Diplorhynchus condylocarpon* **variation**
4.5.1.2 *Burkea africana-Englerophytum magalismontanum* **variation**

4.5.1 *Burkea africana-Setaria lindenbergiana* Low Thicket

Type: relevé 43

Habitat

The *Burkea africana-Setaria lindenbergiana* Low Thicket is found at 1 320 m to 1 620 m above sea level (Figure 4.1) on gentle to moderate slopes (11 - 33°) (see section 3.7.4).

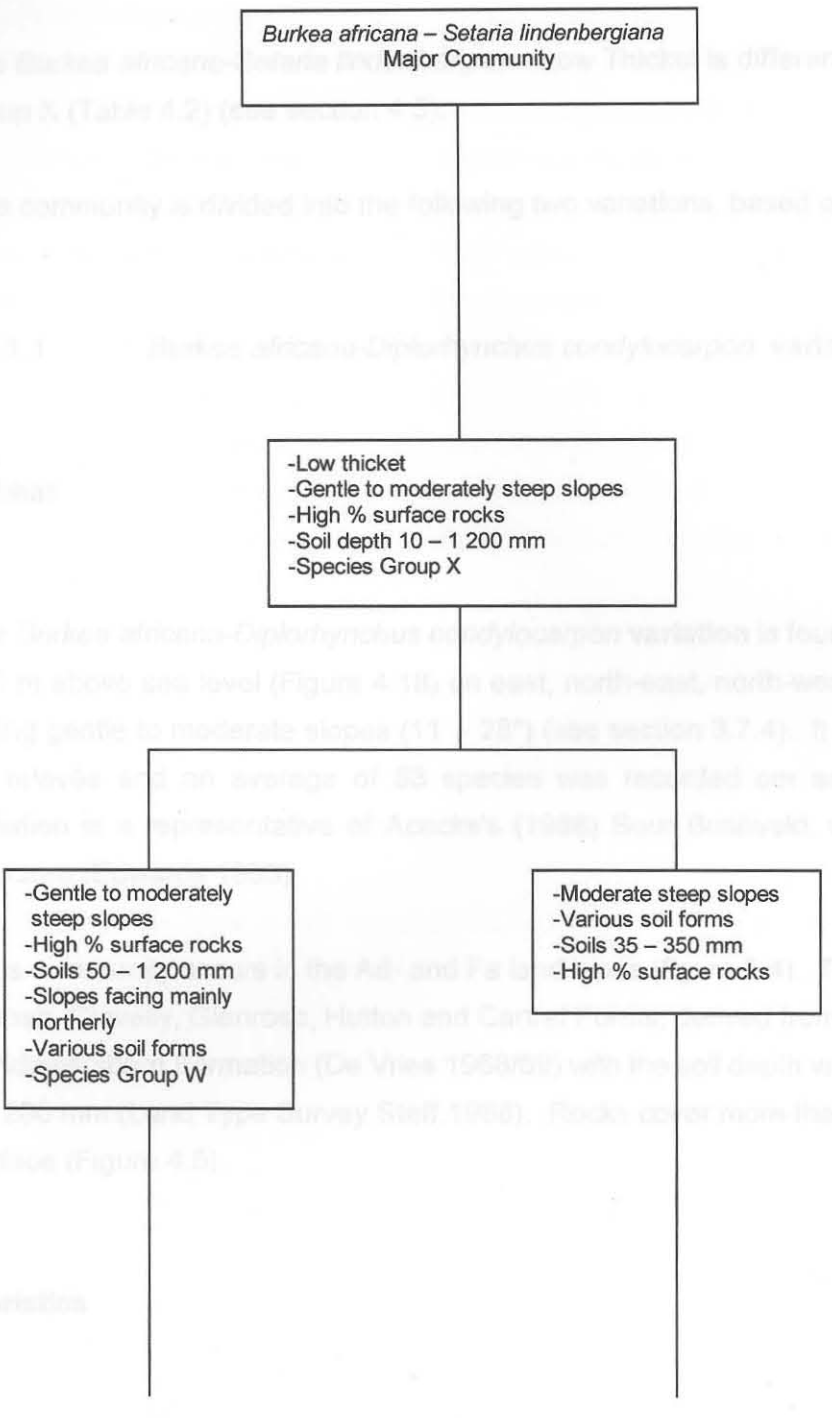

Figure 4.5 A dendrogram to illustrate the habitat relationships of the plant communities classified under the *Burkea africana-Setaria lindenbergiana* Major Community