

Appendix A: The different vegetation types of the southern Cape.

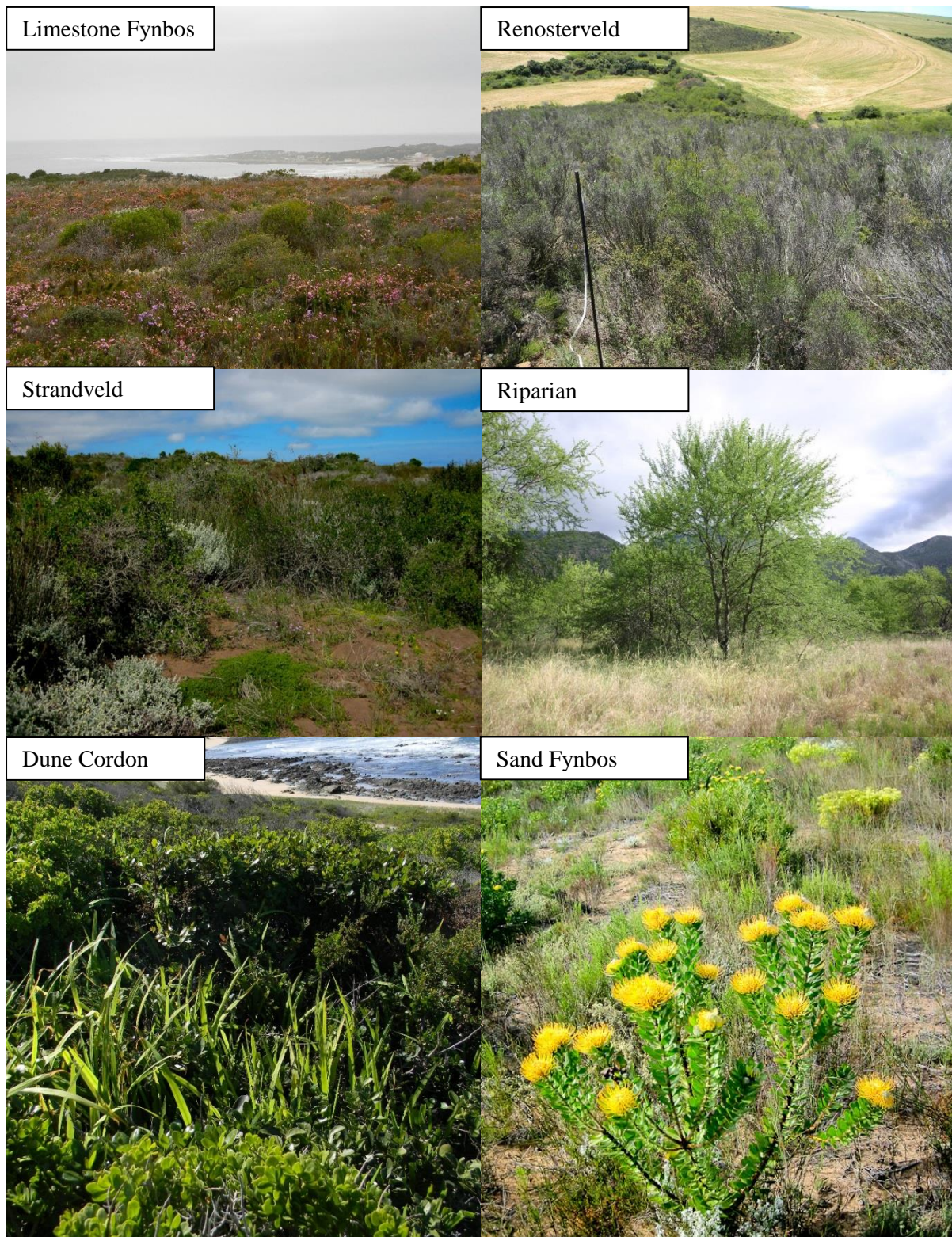


Figure A.1. Photos of the six major vegetation types sampled in this study.

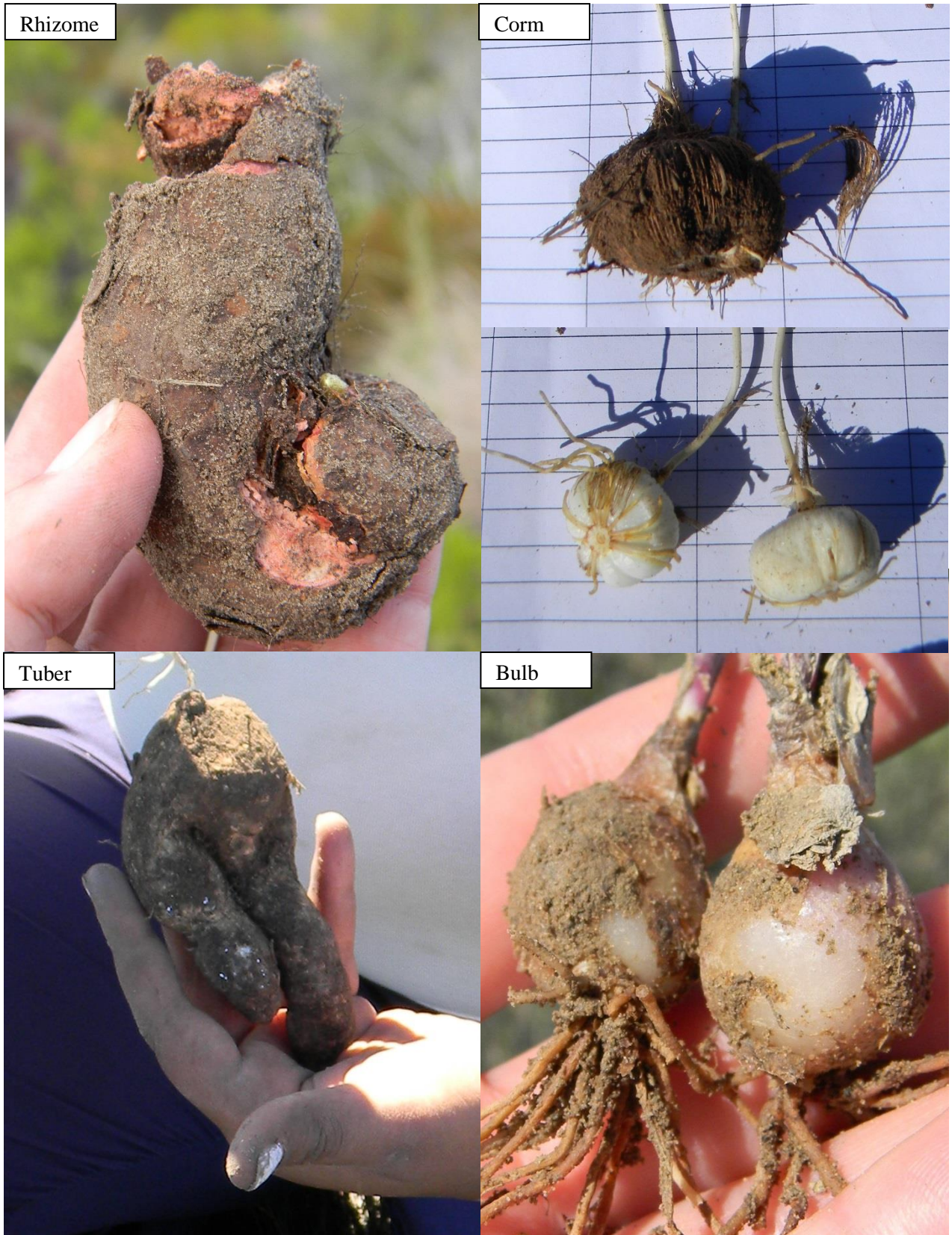


Figure A.2. Examples of the different USO types. Clockwise: rhizome, corm with corm sheaths, corms with corm sheaths removed, bulb and tuber.

Appendix B: The species list of underground storage organs found in the 100 plots, sampling the vegetation of the southern Cape.

Table B.1. The species list of underground storage organs (USOs) found in the 100 plots sampled in the southern Cape. The type of USO of each species, the edibility status, the source for the edibility classification and the number of plots the species were encountered in are listed in the different columns. References: 1: Norwood Young and Fox (1982) 2: Watt and Breyer-Brandwijk (1932) 3: Watt and Breyer-Brandwijk (1962) 4: Van Wyk and Gericke (2000) 5: Van Wyk et al. (2002) 6: Parkington (1977). * denotes a reference to the specific species in the literature and not a synonym species.

Species	Growth form	Family	Edibility	References:	Frequency encountered
<i>Albuca flaccidum</i>	Bulb	Hyacinthaceae	Edible	1; 2	12
<i>Albuca fragrans</i>	Bulb	Hyacinthaceae	Edible	1; 2	5
<i>Albuca maxima</i>	Bulb	Hyacinthaceae	Edible	1; 2	7
<i>Androcymbium eucomoides</i>	Corm	Colchicaceae	Poisonous	2; 3*	4
<i>Babiana patula</i>	Corm	Iridaceae	Edible	1; 3; 4	13
<i>Babiana ringens</i>	Corm	Iridaceae	Edible	1; 3; 4	1
<i>Babiana tubulosa</i>	Corm	Iridaceae	Edible	1; 3; 4	4
<i>Bonatea speciosa</i>	Tuber	Orchidaceae	Unknown		1
<i>Brunsvigia orientalis</i>	Bulb	Amaryllidaceae	Poisonous	2; 3	2
<i>Bulbinella caudafelis</i>	Rhizome	Asphodelaceae	Unknown		2
<i>Chasmanthe aethiopica</i>	Corm	Iridaceae	Edible	6	8
<i>Chlorophytum crispum</i>	Rhizome	Anthericaceae	Edible	1; 3	1
<i>Chlorophytum undulatum</i>	Rhizome	Anthericaceae	Edible	1; 3	3
<i>Crossyne guttata</i>	Bulb	Amaryllidaceae	Poisonous	2	1
<i>Cyanella lutea</i>	Corm	Tecophilaeaceae	Edible	1; 3; 4*	11
<i>Cyperus esculentus</i>	Corm	Cyperaceae	Edible	1; 3; 4*	1
<i>Cyphia digitata</i>	Tuber	Campulaceae	Edible	1*	11
<i>Cyphia phyteuma</i>	Tuber	Campulaceae	Edible	1	1
<i>Dipcadi viride</i>	Bulb	Hyacinthaceae	Poisonous	2; 3*	2
<i>Drimia fosteri</i>	Bulb	Hyacinthaceae	Poisonous	2; 3; 5	7
<i>Empodium gloriosum</i>	Corm	Hypoxidaceae	Unknown		3
<i>Eriospermum cordiforme</i>	Tuber	Convallariaceae	Poisonous	2	1

<i>Eriospermum lancifolium</i>	Tuber	Convallariaceae	Poisonous	2	2
<i>Eriospermum pubescens</i>	Tuber	Convallariaceae	Poisonous	3*	2
<i>Ferraria crispa</i>	Corm	Iridaceae	Edible	4*	2
<i>Freesia alba</i>	Corm	Iridaceae	Edible	1; 2	6
<i>Freesia caryophyllacea</i>	Corm	Iridaceae	Edible	1; 2	1
<i>Freesia leichtlinii</i>	Corm	Iridaceae	Edible	1; 2	7
<i>Geissorhiza aspera</i>	Corm	Iridaceae	Edible	1; 2	2
<i>Gladiolus canonioides</i>	Corm	Iridaceae	Edible	1; 2; 3; 4	13
<i>Gladiolus floribundus</i>	Corm	Iridaceae	Edible	1; 2; 3; 4	5
<i>Gladiolus involutus</i>	Corm	Iridaceae	Edible	1; 2; 3; 4	1
<i>Gladiolus rogersii</i>	Corm	Iridaceae	Edible	1; 2; 3; 4	2
<i>Gladiolus</i> sp 1	Corm	Iridaceae	Edible	1; 2; 3; 4	1
<i>Gladiolus stellatus</i>	Corm	Iridaceae	Edible	1; 2; 3; 4	3
<i>Haemanthus coccineus</i>	Bulb	Amaryllidaceae	Poisonous	2; 5*	3
<i>Hesperantha juncea</i>	Corm	Iridaceae	Edible	3	8
<i>Holothrix burchellii</i>	Tuber	Orchidaceae	Unknown		2
<i>Holothrix mundii</i>	Tuber	Orchidaceae	Unknown		2
<i>Ixia flexuosa</i>	Corm	Iridaceae	Edible	1; 3	3
<i>Ixia micandra</i>	Corm	Iridaceae	Edible	1; 3	8
<i>Lachenalia bulbifera</i>	Bulb	Hyacinthaceae	Unknown		2
<i>Lachenalia pustulata</i>	Bulb	Hyacinthaceae	Unknown		6
<i>Lachenalia rubida</i>	Bulb	Hyacinthaceae	Unknown		1
<i>Lachenalia</i> sp 2	Bulb	Hyacinthaceae	Unknown		1
<i>Lachenalia</i> sp 4	Bulb	Hyacinthaceae	Unknown		1
<i>Lapeirousia pyramidalis</i>	Corm	Iridaceae	Poisonous	1; 2; 3	1
<i>Ledebouria revoluta</i>	Bulb	Hyacinthaceae	Poisonous	5	1
<i>Ledebouria valifolia</i>	Bulb	Hyacinthaceae	Poisonous	5	2
<i>Massonia echinata</i>	Bulb	Hyacinthaceae	Unknown		3
<i>Moraea flaccida</i>	Corm	Iridaceae	Poisonous	5	3
<i>Moraea fugax</i>	Corm	Iridaceae	Edible	1; 4*	3

<i>Moraea inconspicua</i>	Corm	Iridaceae	Unknown		1
<i>Moraea polyanthos</i>	Corm	Iridaceae	Poisonous	2*	8
<i>Moraea setifolia</i>	Corm	Iridaceae	Edible	1; 2	1
<i>Moraea tripetala</i>	Corm	Iridaceae	Unknown		5
<i>Oxalis obtusa</i>	Corm	Oxalidaceae	Edible	1; 3	1
<i>Oxalis pes-caprae</i>	Corm	Oxalidaceae	Edible	1*	4
<i>Oxalis polyphylla</i>	Corm	Oxalidaceae	Edible	1; 3	1
<i>Pelargonium lobatum</i>	Rhizome	Geraniaceae	Edible	1*	3
<i>Pelargonium rapaceum</i>	Rhizome	Geraniaceae	Edible	1; 4*	1
<i>Pelargonium triste</i>	Rhizome	Geraniaceae	Edible	1; 2; 3; 4*	5
<i>Rhoicissus digitata</i>	Rhizome	Vitaceae	Edible	1; 3; 4*	6
<i>Romulea rosea</i>	Corm	Iridaceae	Edible	1; 3; 4*	2
<i>Satyrium carneum</i>	Tuber	Orchidaceae	Edible	3*	3
<i>Satyrium corrifolium</i>	Tuber	Orchidaceae	Edible	1; 3*	1
<i>Satyrium longicolle</i>	Tuber	Orchidaceae	Edible	1; 3*	2
<i>Satyrium stenopetalum</i>	Tuber	Orchidaceae	Edible	1; 3*	1
<i>Spiloxene flaccida</i>	Corm	Hypoxidaceae	Unknown		1
<i>Trachyandra cilliata</i>	Rhizome	Asphodelaceae	Edible	1; 4*	16
<i>Trachyandra falcata</i>	Rhizome	Asphodelaceae	Edible	1; 4*	1
<i>Trachyandra revoluta</i>	Rhizome	Asphodelaceae	Edible	1; 4*	7
<i>Tritonia crocata</i>	Corm	Iridaceae	Edible	1	7
<i>Tritonia squalida</i>	Corm	Iridaceae	Edible	1	7
<i>Tulbaghia alliacea</i>	Bulb	Alliaceae	Unknown		4
<i>Wachendorfia paniculata</i>	Rhizome	Haemodoraceae	Unknown		6
<i>Watsonia alletroides</i>	Corm	Iridaceae	Edible	2; 3	5
<i>Watsonia coccinea</i>	Corm	Iridaceae	Edible	2; 3	1
<i>Watsonia fergusoniae</i>	Corm	Iridaceae	Edible	2; 3	2
<i>Watsonia fourcadei</i>	Corm	Iridaceae	Edible	2; 3	5
<i>Watsonia laccata</i>	Corm	Iridaceae	Edible	2; 3	1
<i>Watsonia meriana</i>	Corm	Iridaceae	Edible	2; 3	1

<i>Wurmbea marginata</i>	Corm	Colchicaceae	Poisonous	2; 3	1
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Appendix C: USO foraging return rates.

Figure C.1. The digging tool supplied to the subjects for each foraging experiment. The digging stick was made from branch of a wild olive tree (*Olea europaea subsp. africana*), sharpened and hardened



in a fire. The digging stone weighed 1.31 kg, while the digging stick was 121 cm long and weighed 0.28 kg. The digging stone is an archaeological find (found in the Stillbay area supplied by J. de Vynck).

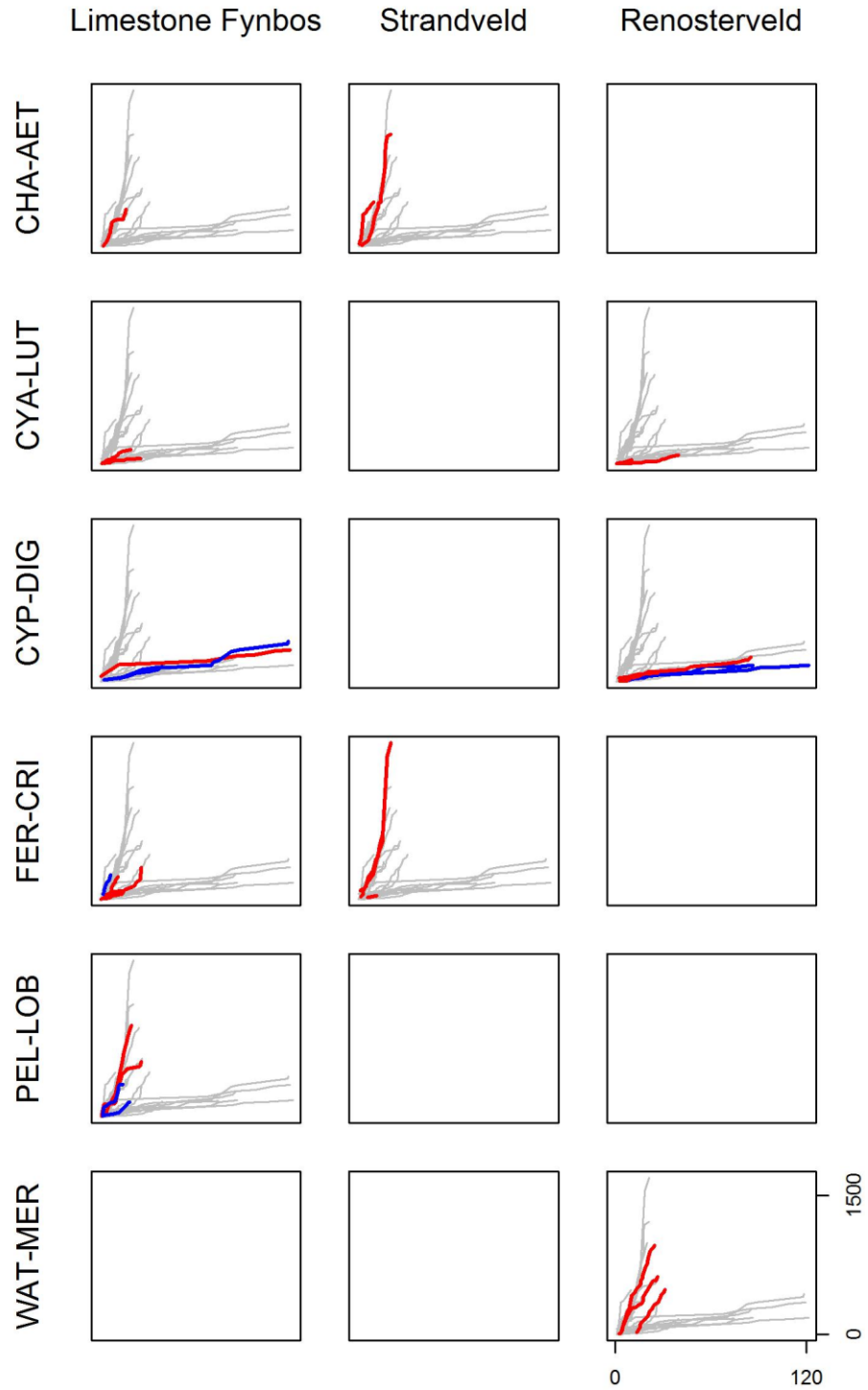


Figure C.2. The actual foraging return rates for 30 foraging events by a naïve forager that could only forage for a single species in a specific vegetation type. Foraging events took place in spring and autumn (blue and red, respectively). X and Y axes follow those in Fig. 3.A (Time in minutes and calories, respectively). Species are *Chasmanthe aethiopica*, *Cyanella lutea*, *Cyphia digitata*, *Ferraria crispa*, *Pelargonium lobatum* and *Watsonia meriana*.

Table C.1. Summary of 26 foraging events ordered by the time estimated to reach 2000 calories. The time spent foraging, number of USOs collected (n) and USO biomass were used to estimate the time necessary to obtain 2000 calories (the daily energy requirement for a hunter-gatherer). The biomass to calories calculation used the nutrition values given in Table 3 and the conversion rate given by Vincent (1984): carbohydrates = 4.03 calories per 100g of USO; protein = 2.78 cal/100g; fat = 8.37 cal/100g. Linear regression models were used to estimate the time necessary to reach 2000 calories the rate of calorie accumulation per hour; model r^2 and significance (***) : $p < 0.005$) are shown.

Species	Vegetation type	Season	Time foraging (min)	n	Biomass (g)	Calories	r^2	Time to 2000 calories (min)	Cals/hour
<i>Ferraria crispa</i>	Strandveld	Spring	21	12	760	1686	0.8 **	29	4760
<i>Chasmanthe aethiopica</i>	Strandveld	Spring	21	24	480	1209	0.9 **	33	4443
<i>Pelargonium lobatum</i>	Limestone Fynbos	Spring	20	14	874	986	0.9 **	38	3569
<i>Chasmanthe aethiopica</i>	Strandveld	Spring	10	15	190	479	0.8 **	39	3018
<i>Ferraria crispa</i>	Strandveld	Spring	16	11	310	688	0.9 **	45	2830
<i>Ferraria crispa</i>	Limestone Fynbos	Autumn	7	12	206	266	0.9 **	47	2595
<i>Watsonia meriana</i>	Renosterveld	Spring	25	24	557	962	0.9 **	48	2662
<i>Chasmanthe aethiopica</i>	Limestone Fynbos	Spring	17	22	197	403	0.8 **	80	1513
<i>Ferraria crispa</i>	Limestone Fynbos	Spring	12	9	112	246	0.9 **	80	1548
<i>Pelargonium lobatum</i>	Limestone Fynbos	Autumn	15	16	424	350	0.8 **	81	1501
<i>Watsonia meriana</i>	Renosterveld	Spring	27	20	362	625	0.9 **	83	1480
<i>Pelargonium lobatum</i>	Limestone Fynbos	Spring	26	16	528	596	0.8 **	89	1334
<i>Watsonia meriana</i>	Renosterveld	Spring	32	19	280	483	0.9 **	93	1485
<i>Ferraria crispa</i>	Limestone Fynbos	Spring	26	19	156	341	0.8 **	217	565
<i>Cyanella lutea</i>	Limestone Fynbos	Spring	20	27	78	154	0.9 **	224	537
<i>Pelargonium lobatum</i>	Limestone Fynbos	Autumn	19	11	190	157	0.9 **	224	545
<i>Cyanella lutea</i>	Renosterveld	Spring	11	18	24	44	0.9 **	446	269
<i>Cyphia digitata</i>	Limestone Fynbos	Autumn	40	8	295	166	0.9 **	530	227
<i>Cyphia digitata</i>	Limestone Fynbos	Autumn	118	12	776	436	0.9 **	571	210
<i>Cyphia digitata</i>	Renosterveld	Spring	85	15	797	266	0.9 **	752	158
<i>Cyanella lutea</i>	Renosterveld	Spring	40	13	51	95	0.8 **	807	150
<i>Cyanella lutea</i>	Limestone Fynbos	Spring	26	14	31	60	0.9 **	822	146
<i>Cyphia digitata</i>	Renosterveld	Autumn	75	8	500	170	0.9 **	931	128
<i>Cyphia digitata</i>	Limestone Fynbos	Spring	120	11	834	345	0.8 **	1034	109
<i>Cyphia digitata</i>	Renosterveld	Autumn	86	8	524	178	0.9 **	1071	112
<i>Cyphia digitata</i>	Renosterveld	Autumn	121	8	524	178	0.9 **	1548	77

