



This item is Chapter 15 of

Language, land & song:
Studies in honour of Luise Hercus

Editors: Peter K. Austin, Harold Koch & Jane Simpson

ISBN 978-0-728-60406-3

<http://www.elpublishing.org/book/language-land-and-song>

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Cite this item:

Sarah Cutfield (2016). Common lexical semantics in Dalabon ethnobiological classification. In *Language, land & song: Studies in honour of Luise Hercus*, edited by Peter K. Austin, Harold Koch & Jane Simpson. London: EL Publishing. pp. 209-227

Link to this item:

<http://www.elpublishing.org/PID/2015>

This electronic version first published: March 2017

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Common lexical semantics in Dalabon ethnobiological classification

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1. Introduction¹

This paper is an analysis of the common lexical semantics in ethnobiological classification in Dalabon (Gunwinyguan, non-Pama-Nyungan), based on the intensive documentation in Bordulk et al. (2012), who cover 821 names for over 550 species, an unusually high number of named species for languages in Australia's Top End (GW pers. com.). Dalabon shares many of the common formal and semantic features described for ethnoclassification in Australian languages. I present an overview and detailed exemplification of these phenomena in Dalabon, and highlight data which do not pattern according to common observations of 'formal linguistic similarities indicate semiotic relationship' in Australian languages.

Dalabon is a severely endangered polysynthetic language of southwestern Arnhem Land, adjacent to Bininj Gun-Wok, Rembarrnga and Jawoyn (see map p211). Dalabon speakers have shifted to speaking Barunga Kriol in southern communities, and Bininj Gun-Wok in northern communities. There is a real possibility that the data may bear the hallmarks of language endangerment and shift, e.g. under-specification or over-specification of dialectal variation,

¹ I am profoundly grateful for the intellectual contributions of Dalabon speakers †Lily Bennett (LB), Nikipini Dalak (ND), Maggie Tukumba (MT), Manuel Pamkal (MP), ethnobiologist Glenn Wightman (GW), and linguist Nicholas Evans (NE). Interviewing each of these individuals has led me to many of the insights presented here, though I alone am responsible for any errors in the representation of their accounts. I am very grateful to Stephanie Gamble Morse, Aung Si and Maïa Ponsonnet for their comments on earlier versions of this paper. I also thank two anonymous reviewers for their valuable comments.

borrowing, inaccurate recall, loss of familiarity with animal behaviours and plant uses and the interrelatedness of these. Bordulk et al. (2012: 28-31) describe the 20+ year data collection process in detail, including intensive field surveys and elicitation sessions involving multiple Dalabon speakers, ethnobiologists and linguists.²

Most often, there was consensus on species identification and names, including synonyms and taxonomy (cf. Sillitoe 2002). The most common point of difference was whether a given species name was in fact Dalabon, or from a neighbouring language. As many species names are shared across these languages, this is an understandable source of confusion and disagreement, especially in the language endangerment context, e.g. on some occasions speakers disagreed with their own previous assessments about Dalabon authenticity. Where the linguistic evidence clearly suggested a contested term was not Dalabon, it was not included in Bordulk et al. (2012); otherwise, all terms nominated more than once are included.

The analysis presented in this paper is based on Bordulk et al. (2012) as well as additional individual interviews I conducted with several Dalabon speakers, with GW, and with NE.

The structure of the paper is as follows. In Section 1, I discuss the common formal features identified in Dalabon species naming, including onomatopoeia (1.1), reduplication (1.2), and the dominant use of monomorphemic names at the species level (1.3). The common semantic features of this domain are discussed in Section 2, in particular: hyponymy and the motivations for having very few generic terms (2.1); polysemies based on metonymic and metaphorical relationships between biologically unrelated taxa (2.2); monosemous names which denote multiple taxa (3.3), and naming strategies for introduced species (2.4). I show in Section 4 that not all formal similarities identified in Dalabon species names are indicative of a semiotic relationship between species. This has potential consequences for our understanding of the role of polysemous species names in diachronic Australian semantics (Evans 1997). In Section 5, I conclude by suggesting that the new observations made here for Dalabon may also be identified for other Australian languages, and outline directions for future research on Dalabon ethnoclassification.

² Bordulk et al. (2012:1) has nine named authors, and acknowledges a further 20 individuals who contributed to the work.

2. Formal features

The formal features of Dalabon species naming deserve detailed exploration. While they are given only brief treatment here, outstanding questions for future research are identified.

2.1 Onomatopoeia

Onomatopoeia is a very common naming strategy for almost all noisy species such as birds and frogs, with the mimicked call functioning as the species' name. The only non-bird-or-frog species identified as having an onomatopoeic name is *wuluhwuluh* 'Left-hand Kangaroo, Nailtail Wallaby (*Onychogalea unguifera*)', which makes a noise when it hops along.

2.2 Reduplication

Close to one third of the 821 Dalabon species names recorded in Bordulck et al. (2012) feature reduplication, in one of three types: full (YY), partial (XYY, XXY, etc.) or double (XXYY). Tokens of the latter, e.g. *kidjigidjidayhdayh* 'Rat and mouse-like animals in general (Planigale, Dunnart)' are few. Examples of full and partial reduplication from all plant and animal classes are presented in Table 1. Reduplication in names for introduced species is discussed in Section 2.4.

While reduplication in names for noisy species is understood to be motivated by onomatopoeia, this does not account for reduplication in 'silent' species, such as *banganjanganj* 'Prickly Bush Tomato (*Solanum echinatum*)', *warrkwarrk* 'Black Sugar Ant (Hymenoptera, *Ochtellus* spp.)', or *bembem* 'Freshwater Tongue Sole (*Cynoglossus heterolepis*)'. A full account of the phonological types and semiotic functions of reduplication in Dalabon species naming remains a goal for future research.

2.3 Monomorphemic species names

Dalabon nominals may be mono- or multi-morphemic. Species names in Australian languages are reported to be overwhelmingly monomorphemic (e.g. Baker 2007), as is the case in Dalabon, with many species names consisting of multi-syllabic, monomorphemic names.

The few multimorphemic Dalabon species' names are given here, grouped into semantically multimorphemic and grammatically multimorphemic categories. Importantly, these forms do not feature hyponymic embedding, i.e. they are not constituted of a generic name plus modifier typical of English folk taxonomy, e.g. *White Oak*.

Table 1: Reduplication Patterns in Dalabon Plant and Animal Names

Dalabon form	Common name	Species	Class
<i>warrkwarrk</i>	Black Sugar Ant	Hymenoptera, <i>Ochetellus</i> spp.	Insect
<i>kirnhkirnh</i>	Little Blue Catfish, Highfin Catfish	<i>Neoarius berneyi</i>	Fish
<i>burrurburrun</i>	Maidenhair Fern	<i>Lygodium flexuosum</i>	Vine
<i>korrongkorrong</i>	Brown Frog, Giant Frog	<i>Litoria australis</i>	Frog
<i>damdam</i>	Several Mushroom species	Agaricales, Basidiomycota, <i>Pisolithus tinctorius</i>	Fungus
<i>danuhdanuh</i>	Wild Rice	<i>Oryza</i> sp. ?	Grass
<i>ramburambu</i>	Yellow Tree Snake	<i>Dendrelaphis punctulata</i>	Snake
<i>marangmarang</i>	Apple Bush, Bush Medicine	<i>Pterocaulon serrulatum</i>	Herb/fern
<i>buladbulad</i>	River Wallaby, Agile Wallaby	<i>Macropus agilis</i>	Macropod
<i>loklok</i>	Legless Lizard	<i>Delma borea</i> , <i>D. tincta</i>	Lizard
<i>djirungdjirung</i>	Yellow Oriole	<i>Oriolus flavocinctus</i>	Noisy bird
<i>bukbuk</i>	Pheasant Coucal	<i>Centropus phasianinus</i>	Owl
<i>djimdjim</i>	River Pandanus, Freshwater Pandanus	<i>Pandanus aquaticus</i>	Pandanus
<i>barlungbarlung</i>	White Turkey Bush	<i>Calytrix acheata</i> , <i>Calytrix brownii</i> , <i>Verticordia cunninghamii</i>	Shrub
<i>berbern</i>	Salmon Gum	<i>Eucalyptus alba</i> var. <i>australasica</i>	Tree
<i>yalbualbu</i>	Pig-nosed Turtle	<i>Carettochelys insculpta</i>	Turtle
<i>wayakwayak</i>	Grass-leaf Yam	<i>Ipomoea graminea</i>	Yam
<i>kodjbombom</i>	Fire Ant, Ginger Ant	Hymenoptera, Formicidae	Insect
<i>manawokwok</i>	Smilax	<i>Smilax australis</i>	Vine
<i>djadngerejdngeredj</i>	Pandanus Frog	<i>Litoria bicolor</i>	Frog
<i>katwarrandadadadaj</i>	Plains Goanna (large one)	<i>Varanus panoptes</i>	Goanna
<i>walamarrimarri</i>	Long-nose Crocodile, Freshwater Crocodile	<i>Crocodylus johnstoni</i>	Crocodile
<i>wunwunbu</i>	Black Eagle, Black-breasted Buzzard	<i>Hamirostra melanosternon</i>	Hunting bird
<i>war-lwar-Ingurru</i>	Two-lined Dragon (big)	<i>Diporiphora bilineata</i>	Lizard

Full (YY)

Partial (XXY, XXY)

Table 2: Semantically Multimorphemic Species Names

Dalabon form	Gloss	Translation	Scientific name
<i>ngurrurdu-karrubar-lbarl</i>	emu-Furina.ornata	Emu-killer Snake, Orange-naped Snake	<i>Furina ornata</i>
<i>kunj-kurlba</i>	kangaroo-blood	Red Plum Tree	<i>Terminalia erythrocarpa</i>
<i>wurrrh-karndayh</i>	grass-female.plains.kangaroo	Spear Grass (blue form)	<i>Sorghum intrans</i>
<i>wurrrh-kurdubu</i>	grass-male.plains.kangaroo	Spear Grass (green form)	<i>Sorghum intrans</i>
<i>nguh-djirrworlk</i>	guts-?	Hookworms; Black Threadworm in macropods	Nematoda, <i>Ancylostoma duodenale</i> ; <i>Strongyloides stercoralis</i>
<i>bod-barng</i>	fly-poison	Green Tree Ant	<i>Hymenoptera, Oecophylla smaragdina</i>
<i>kodj-kurduk</i>	head-black	Black-headed Python	<i>Aspidites melanocephalus</i>
<i>dje-kurduk</i>	face-black	Black-headed Python	<i>Aspidites melanocephalus</i>
<i>djorrrkkun dedjimdungh</i>	possum semen	Rock Fig	<i>Ficus leucotricha</i>
<i>djorrrkkun dedjmurduh</i>	possum ?	Rock Fig	<i>Ficus leucotricha</i>
<i>djumi-mulk</i>	?-water.grass ⁴	Freshwater Snake, Keelback	<i>Tropidonophis mairii</i>
<i>kom-orlo</i>	neck-?	Long-necked Egret, White Heron, Plumed Egret	<i>Ardea intermedia</i>

⁴ 'This snake lives in the green weed, nulk, at the edge of creeks and billabongs.' (Bordulak et al. 2012: 180).

2.3.1 Semantically multimorphemic

Most of the forms given in Table 2 are compositional compounds, with one or both morphemes being semantically transparent. The non-transparent morphemes are perhaps either too far lexicalised or are cranberry morphemes. These are indicated with a question mark.

2.3.2 Grammatically multimorphemic

The grammatically multimorphemic forms presented in Table 3 mostly feature a lexicalised nominal affix. In most cases the semantic motivation for the affix is apparent. The gender prefixes are an exception to this, though it is presumed these tokens are borrowed from neighbouring Bininj Gun-Wok dialects, which have noun class prefixes.

3. Common semantics

Here I present data to demonstrate common lexical semantic phenomena found in the Dalabon ethnobiological semantic domain – phenomena which are also described for other (mostly unrelated) Aboriginal languages (e.g. Evans 1997, McKnight 1999, Baker 2007, Turpin 2013, Turpin et al. 2013).

3.1 Hyponymy and classification terms

As most recently discussed in Baker (2007), species' names in Australian languages are typically monomorphemic (or, monomial) and there are very few generic names. Dalabon fits this pattern, with overwhelmingly monomorphemic species names and very few hypernymic taxa, resulting in a flat taxonomic structure.

Table 3: Grammatically Multimorphemic Species Names

Dalabon Form	Gloss	Translation	Scientific Name
Lexicalised gender prefixes: na- MASC, ngal- FEM			
<i>(Ngal-)kordow</i>	(FEM-)brolga	Brolga	<i>Grus rubicunda</i>
<i>Ngal-mûrlangmûrlang</i>	FEM-?	Brown/black Falcon ⁵	<i>Falco subniger</i> , <i>F. berigora</i>
<i>(Na-)worrkorl</i>	(MASC-) green.tree.ant	Green tree ant ⁶	Hymenoptera, <i>Oecophylla smaragdina</i>
-NO nominal suffix, 3SG.POSS			
<i>Bod-no</i>	fly-3SG.POSS	Bushfly, housefly (lit. 'its fly')	Diptera, Muscidae, <i>Musca</i> spp.
<i>Dord-no</i>	lice-3SG.POSS	Lice, nits (lit. 'its lice')	<i>Pediculus humanus</i> , Phthiraptera
<i>Kuy-no</i>	lice-3SG.POSS	Lice, nits (lit. 'its lice')	<i>Pediculus humanus</i> , Phthiraptera
Purposive suffix			
<i>Kurruk-kûn</i>	mussel-PURP ⁷	Red-kneed dotterel	<i>Erythrogonys cinctus</i>
<i>Yawoyawok-kûn</i>	cheeky.yam.RDP-PURP ⁸	Green grasshopper	<i>Caedicia</i> spp.
Compounding of English binomial names in Kriol, used in Dalabon			
<i>Nanikud</i>	< Kriol <i>nanigud</i> < Eng. <i>nanny goat</i>	Goat	<i>Capra hircus</i>
<i>Budjiked</i>	< Kriol <i>bujiket</i> < Eng. <i>pussy cat</i>	Cat	<i>Felis catus</i>
<i>Kayndowd</i>	< Kriol <i>kaintoud</i> < Eng. <i>cane toad</i>	Cane toad	<i>Rhinella marina</i>

⁵ The male 'equivalent' is *karrkanj* 'Whistling Kite (*Haliastur sphenurus*)'.

⁶ There is no report from Dalabon speakers that the *naworrkorl* variant has any male semantics (compared to the unmarked variant *worrkorl*).

⁷ The Red-kneed dotterel likes to eat mussels.

⁸ The grasshopper's mating call signals the yam can be harvested.

For evidence of inclusive taxa, we use an ‘X is a type of Y’ sentence frame.⁹ The Dalabon frame is given in (1) and the Kriol equivalent is in (2). The examples in (3) and (4) are for *kunj*, which is a generic term for macropods.

- (1) (hyponym) *kah-dja*-(hypernym)¹⁰
 species.name 3sg-FOC-suspected.hypernym
 ‘(Hyponym) is a type of (hypernym)’
- (2) (hyponym) *im* (hypernym)
 species.name 3sg suspected.hypernym
 ‘(Hyponym) is a type of (hypernym)’
- (3) *Karndayh* *kah-dja-kunj*
 plains.kangaroo 3sg-FOC-macropod
 ‘Plains kangaroo (*Macropus antilopinus*) is a type of macropod.’
- (4) *Karndayh* *im* *kunj*
 plains.kangaroo 3sg macropod
 ‘Plains kangaroo (*Macropus antilopinus*) is a type of macropod.’

Baker (2007: 247) rightly points out that the boundary ‘between “genuine” superordinate biological taxonomic terms, and superordinate terms of other classificatory bases’ such as function or appearance is fuzzy, and that an ‘X is (a type of) Y’ construction does not distinguish between the two. He proposes treating both categories as part of the taxonomy, while recognising that some labels are functional and others are biological superordinates. I adopt this approach here, with biological superordinates considered here, and classificational categories discussed in Section 3.3. Dalabon plant hypernyms are given in Table 4, and animal hypernyms are given in Table 5.

Table 4: Plant Hypernyms

Dalabon Form	Denotation
<i>Dulh</i>	Plants; Trees
<i>Yakngarra</i>	Pandanus species
<i>Murlmu</i>	Paperbark species
<i>Kung</i>	Sugarbag (native honey)
<i>Wurrh-no, Wurrh, Birnday-no</i>	Grasses and grass-like plants

⁹ Note there is no lexical equivalent for ‘type of/kind of’ in Dalabon.

¹⁰ FOC ‘focus’.

Table 5: Animal Hypernyms

Dalabon form	Denotation
<i>Manjh</i>	Animals; Birds; Snakes
<i>Kunj</i>	Macropods (kangaroos and wallabies)
<i>Djenj</i>	Fish
<i>Marrngunj</i>	Eel-tailed catfish species
<i>Kodwongkodwong</i>	Frogs
<i>Boywek</i>	Geckos
<i>Borlurrng</i>	Ants
<i>Manjh-yayaw-no</i>	Insects
<i>Dumdum</i>	Beetles

Many of the larger, hunted or dangerous animal species have handsigns (Bordulk et al. 2012: 17-19), which are typically used when maintaining silence while hunting. Dalabon speakers often use handsigns for game when recounting hunting stories, e.g. ‘And then I saw a (kangaroo name) [handsign for kangaroo species]’. Of interest here is non-verbal evidence of the existence of generic categories, such as that described for Lardil (McKnight 1999). The three known Dalabon examples of generic handsigns are for ‘snakes’, ‘turtles’ and ‘goannas and crocodiles’ (descriptions given in Table 6). There is no spoken lexeme for the categories of ‘turtles’ or ‘goannas and crocodiles’. The latter can be further specified to differentiate between goannas and crocodiles.

Several hypernyms are polysemous, referring either to a natural class or one of its members. For example, *borlurrng* has the senses ‘1. Red Meat Ant (Hymenoptera, *Iridomyrmex* spp.); 2. Ants (generic)’. This appears to be a prototype effect, with a salient ant species coming to refer to the whole category: the red meat ant is common, big, obvious, i.e. has archetypal ant characteristics (GW p.c.). Other prototype examples include *dulh* ‘1. Plant; 2. Tree’; *yakngarra* ‘1. *Pandanus Spiralis*; 2. Pandanus trees’. The polysemous *manjh* can be used to refer to the category of ‘animal’ as well as two of its own co-hyponyms: ‘snake’ and ‘bird’.

Table 6: Non-verbal Hypernyms

Lexeme	Denotation	Equivalent handsign (Bordulk et al. 2012: 19)
<i>Manjh</i>	Snakes	Hand held out straight and vertically with fingers together, moved sideways in a slithering motion in the same way a snake moves.
∅	Turtles	Hand clenched with tip of thumb poking out between index and middle finger first knuckles. The shape of the back of the hand represents the turtle shell and the thumb tip its head poking out of the shell.
∅	Goannas and Crocodiles	Index and middle fingers held out straight, with thumb holding ring and little finger underneath, and moved from side to side. To indicate a crocodile, the signer uses minimal sideways movement. A slightly greater movement is used to indicate a goanna.

Dalabon speaker MP presents a possible motivation for generic categories for hunted animals such as macropods, fish, turtles and goannas. When hunting, one might say *ngah-boniyān kunj-kun/djenj-kun* ‘I’m going (hunting) for macropods/fish’, as it is difficult to predict which species the hunt will yield. MP also advises that once a particular species is identified in this process (either as a target, or as catch), it becomes pragmatically infelicitous (indicated by #) to refer to it with the generic term, i.e. it is the usual speech practice to then only use the species name, e.g. *ngah-manginj karndayh/#kunj* ‘I got a female plains kangaroo/#macropod’. The plant hypernyms, *yakngarra* ‘pandanus’ and *murlmu* ‘paperbark’, refer to classes of heavily utilised plants, and as such would appear to be labels for functional categories rather than generic terms.

Dalabon speakers can use Kriol generic terms to refer to categories which are unnamed in Dalabon, e.g. speakers use *bojum* ‘possum’ to refer to possum-like mammals (Bordulck et al. 2012: 173-4).

3.2 Polysemy

Polysemous plant and animal names are well described for Aboriginal languages (e.g. Evans 1997, Turpin 2013). I present Dalabon data for metonymic and metaphorical relationships below. Of particular interest are polysemies across biological domains.

3.2.1 Metonymy

Metonymic polysemies are based on unrelated species sharing a spatial connection, typically of proximity or interdependence (Evans 1997). Dalabon examples are given in Tables 7 and 8.

Actual-Potential polysemy is a type of metonymy commonly found in Australian languages in which one term is used to refer to both a thing and its potential uses (Dixon 1980:102-103, Evans 1992a). Dalabon examples include *mimal* ‘firewood/fire’ and *bibbi-no* ‘breast/milk’. Table 7 presents actual-potential polysemies from the ethnobiological domain.

Table 7: Actual-Potential Polysemies

Dalabon Form	Actual	Potential
<i>Manjh</i>	Animal	Meat
<i>Dulh</i>	Tree	Wood
<i>Dulh</i>	Tree; Wood	Fighting stick
<i>Danj</i>	Bamboo	Spear
<i>Kung</i>	Bees	Honey

Table 8: Metonymic Relationships in Dalabon Plant and Animal Names

Dalabon form	Senses	Metonymic relationship
Formally Identical		
<i>Kung</i>	1. Hive 2. Bees	Insect and its nest.
<i>Djirririin</i>	1. Mistletoebird (<i>Dicaeum hirundinaceum</i>) 2. Various Mistletoe species (<i>Amyema benthamii</i> , <i>A. sanguineum</i> , <i>A. villiflorum</i> ; <i>Dendrophthoe glabrescens</i> ; <i>Lysiana spathulata</i>)	The mistletoe bird eats the mistletoe fruit and then defecates the seeds on the tree branch.
<i>Dordord</i>	1. Bloodwood (<i>Eucalyptus (Corymbia) terminalis</i>) 2. Bush Coconut, Bloodwood Apple (Hemiptera, <i>Cystococcus</i> spp.)	The bush coconut is a gall containing small insect larvae. It is found on gum trees and bloodwoods and often named after the most commonly-occurring bloodwood (GW, p.c.).
Compounding		
<i>Djuminulk</i>	1. Freshwater Snake, Keelback (<i>Tropidonophis mairii</i>)	This snake lives in the green weed, nulk, at the edge of creeks and billabongs.
<i>Nulk</i>	2. Sundew (<i>Drosera petiolaris</i>); Green Water-grass (<i>Myriophyllum dicoccum</i> , <i>Najas tenuifolia</i>)	
<i>Ngurrurdu</i>	1. Emu (<i>Dromaius novaehollandiae</i>)	The emu is the snake's victim.
<i>Ngurrurdu-karrubarbarl</i> , <i>Karrubarbarl</i>	2. Emu-killer Snake, Orange-naped Snake (<i>Furina ornata</i>)	
Inflectional Morphology, Reduplication		
<i>Kurruk-kân</i> , <i>Kurrukkurruk-kân</i>	1. Red-kneed dotterel (<i>Erythrogonyx cinctus</i>) (mussel (.REDUP)-PURP)	The bird eats mussels.
<i>Kurruk</i>	2. Freshwater Mussel (<i>Velesunito wilsonii</i>)	

Sign metonymy is ‘one biological entity signal(ling) the presence or availability of another’ (Evans 1997: 135). Despite considerable enquiry after this phenomenon, the only Dalabon example encountered in our documentation is *yawok* ‘1. Cheeky Yam (*Dioscorea bulbifera*); 2. Green Grasshopper (*Caedicia* spp. Ensifera, Orthoptera)’: the mating call of the grasshopper indicates the yam is ripe for harvest. The grasshopper is also known by *yawoyawok-kûn* (cheeky.yam.REDUP-GEN) ‘lit. belonging to the cheeky yam’. In Kriol, speakers say of the grasshopper: *im pappap fo thet yem*: the grasshopper is a ‘mate’¹¹ species (lit. dog, pet) of the yam. The derivation and the Kriol analogy suggest that the direction of the extension is from the yam to the grasshopper, i.e. that which is signified is primary and the signifier is secondary.

Evans (1997) finds several Australian languages to be rich sources of sign metonymy, including Mayali, a language closely related to Dalabon. He observes that languages with a vegetable class in their noun class system seem to have the largest collections of sign metonymies, with the same root being marked with different noun classes. Mayali has a noun class system, including a vegetable class, while Dalabon does not. This perhaps explains the lack of attested sign metonymies in the Dalabon data.

3.2.2 Metaphor

Physical resemblance is the basis for the two biologically-unrelated senses of *bembem* ‘1. Freshwater Tongue Sole, Leaf-fish, Flounder (*Cynoglossus heterolepis*); 2. Croton (*Croton arnhemicus*)’: the fish resembles the Croton leaf. Contemporary Dalabon speakers recognise neither a semantic relationship nor a physical resemblance between these two species, apparently because the fish is very rarely encountered.

3.3 Monosemy

Monosemy in ethnobiological classification is a complex issue, one which is given only brief treatment here. We are interested here in terms which have multiple denotata (i.e. they refer to multiple species, or in some cases, multiple genera), but are not considered to be polysemous. Instead, these terms are classificational categories with a single denotational range. We find four main types of monosemous names referring to multiple taxa: biological closeness, resemblance, functional categories and underclassified categories.

Biologically-close species which have the same name typically resemble one another, e.g. *manbal* ‘Cycad, Cycad Palm (*Cycas armstrongii*, *C. calcicola*)’;

¹¹ Mate (from Australian English ‘friend, pal’) species share an association, typically metonymic, but also attested are resemblance or similar use (see e.g. Turpin et al. 2013: 18).

moban ‘Sleepy Cod (*Oxyeleotris lineolata*, *O. selheimi*)’. Names which refer to multiple unrelated species which resemble one another are also monosemous, e.g. *nulk* ‘Sundew (*Drosera petiolaris*)’, Green Water-grass (*Myriophyllum dicoccum*, *Najas tenuifolia*); *malawirdiwirdi/malawurdûwurdû* ‘Chicken-hawk, Brown Goshawk, Peregrine Falcon (*Accipiter fasciatus*, *Falco peregrinus*)’.

Functional categories are defined on semantic criteria, e.g. they denote several species which can all be used for a similar purpose. For example, *manjarr* refers to the following plant species, all of which can be used as fish poisons: *Acacia nuperrima*, *A. wickhamii*, *A. holosericea*, *A. multisiliqua*, *Barringtonia acutangula*. Food sources with a similar appearance and preparation method can also be functional categories, e.g. the species denoted by *didjkala* ‘Yellow-flowered Yam (*Carotema spicatum*, *C. trigonospermum*), Bush Onion (*Cyperus bulbosus*)’ are prepared by rubbing the dark skin off the edible root (GW p.c.). Only plant species are attested as functional categories.

Several names refer to multiple biological genera (or species across multiple genera), e.g. *kanbukbuk* ‘various small shrubs (e.g. *Crotalaria calycina*, *Gomphrena canescens*, *Gossypium australe*, *Hibiscus meraukensis*, *Spermacoce exserta*, *Bossiaea bossiaeoides*)’; *djirribinjinj* (male)/*yirribinjinj* (female) ‘Little Bats, Microbats, Insectivorous Bats (many taxa)’. While they may resemble one another, typically these species are not heavily utilised or closely observed and are apparently not further classified. I refer to these tokens as ‘underclassified taxa’.

3.4 Naming strategies for introduced species

Borrowing English common names via Kriol is the most common naming strategy for introduced animal species, given in Dalabon orthography in Table 9. The Kriol name sometimes features reduplication of the source English name, e.g. *djukdjuk* ‘chicken’, *bikibiki* ‘pig’ and *dongkidongki* ‘donkey’.

A strategy applied to both plant and animal introduced species is the extension of Dalabon species names (Table 10). For plant species, the extension is based on function; for animal species it is based on resemblance.

The prototype hypernym *kodwongkodwong* ‘1. Green tree frog (*Litoria caerulea*); 2. Frogs (generic)’ is extended to name the introduced Cane Toad species (*Rhinella marina*). The green tree frog and cane toad do not closely resemble one another: they are distinct in colour, skin texture, size and habitat. As such, it appears that the generic sense of *kodwongkodwong* has been extended to refer to the cane toad.

Table 9: Borrowed Names for Introduced Species

Dalabon Form (<Kriol)	Denotatum	English Source
<i>Bawurl</i>	Chicken	<i>Fowl</i>
<i>Bikibiki</i>	Pig	<i>Pig</i>
<i>Budjiked</i>	(Feral) Cat	<i>Pussy Cat</i>
<i>Buliki</i>	Cattle	<i>Bullock</i>
<i>Derki</i>	Turkey (<i>Meleagris gallopavo</i>)	<i>Turkey</i>
<i>Djukdjuk</i>	Chicken	<i>Chook (Aust. Eng.)</i>
<i>Dongkidongki</i>	Donkey (<i>Equus asinus</i>)	<i>Dongkidongki</i>
<i>Kayndowd</i>	Cane Toad (<i>Rhinella marina</i>)	<i>Cane Toad</i>
<i>Kemul</i>	Camel	<i>Camel</i>
<i>Kobulkobul</i>	Turkey (<i>Meleagris gallopavo</i>)	<i>Gobble Gobble</i>
<i>Miyul</i>	Mule	<i>Mule</i>
<i>Nenigud</i>	Goat	<i>Nanny Goat</i>

Regionally common names for two large introduced animals, *yarraman* ‘horse (*Equus caballus*)’ and *nganabbarrû* ‘buffalo (*Bubalus bubalis*)’, are attested. The former is hypothesised to have spread from an Aboriginal language from coastal New South Wales via an early pidgin (Dixon 1990). Evans (1992b: 87) suggests that Timorese languages may be the source of *nganabbarrû*, just as Timor is the source of the water buffaloes first introduced to Australia.

The origin of the names used in Dalabon for the following introduced species is unclear: *djabarrarrin* ‘Horehound, Hyptis (*Hyptis suaveolens*)’; *warnarrambal* ‘Gmelina (*Gmelina arborea*)’; *Mardawk/Djalamardawk* ‘Bush Passionfruit (*Passiflora foetida*)’. Some introduced species which are readily recognised by Dalabon speakers do not have a Dalabon name, borrowed or otherwise, e.g. Tamarind Tree (*Tamarindus indica*), Bindi-eye (*Tribulus terrestris*), Chinese Plum, Chinese Apple (*Ziziphus mauritiana*), Black Bean, Common Bean (*Phaseolus vulgaris*).

4. Homonymy

A number of lexemes have a full or partial formal resemblance, but no currently identified semantic relationship, according to Dalabon speakers. Homonymy and non-semiotic segment matching are common in the world’s languages. However, when such tokens are identified in a semantic domain known to feature complex semantic relationships – one which is central to the reconstruction of semantic change in Australian languages (Evans 1997) – it is important to confirm the lack of any identifiable semantic relationship. GW (p.c.) confirms that there are no obvious biological or phenomenological explanations for the formal similarities reported in Table 11 and Table 12.¹²

¹² The only known exception is *wurk-wurk*, which is used to refer to two different bird species: Spotted Nightjar (*Caprimulgus guttata*) and Red-kneed dotterel (*Erythrogonys cinctus*). Dalabon speakers do not recognise any relationship. GW (p.c.) confirms their calls are similar, so coincidental onomatopoeia is likely responsible for these homonyms.

Table 10: Extension of Dalabon Species Names to Introduced Species

Dalabon lexeme	Native species	Introduced species	Relationship
<i>Plants with the same genus and function</i>			
<i>Kirrinjikirrinj</i>	Rattlepod (<i>Crotalaria novae-hollandiae</i>)	Necklace-seed Rattlepod (<i>Crotalaria goreensis</i>)	The seeds of both are used to make necklaces.
<i>Djirr</i>	Lemon Grass (<i>Cymbopogon bombycinus</i> , <i>C. procerus</i>)	Lemon Grass (<i>Cymbopogon citratus</i>)	Both are used as a bush medicine for pain relief, and have a similar smell.
<i>Animal species bearing a resemblance</i>			
<i>Kidjikidjidaydayh</i>	Delicate Mouse (Planigale, Dunnart)	House mouse (<i>Mus musculus</i>)	
<i>Djirrbiyuk</i>	Whistling-duck (<i>Dendrocygna</i> spp.)	Domestic Duck (<i>Anas</i> spp.)	

Table 11: Homonyms in Dalabon Plant and Animal Names

Dalabon	Denotata	Speculated Relationship
<i>Mardawk</i>	1. Bush Passionfruit (<i>Passiflora foetida</i>) 2. Friarbird (<i>Philemon</i> spp.)	GW: while the friarbird eats this fruit (possible metonymy), other birds eat it more (parrots and cockatiels).
<i>Narddo</i>	1. Land Snail (Gastropoda, Camaenidae, <i>Xanthomelon</i> sp.) 2. Orange-root Tree (<i>Denhamia obscura</i>)	Bowerbirds collect the narddo fruit and the shells of narddo, the land snail, to decorate their bower. The fruit are round and about the size of a snail.
<i>Kumbidj</i>	1. Magnetic Termite Mound (Isoptera, <i>Amitermes</i> sp.) 2. Lancewood (<i>Acacia shirleyi</i>)	None
<i>Lerrelere</i>	1. Wing-leaf Whitewood (<i>Atalaya variifolia</i>) 2. Holly-leaved Pea-flower (<i>Bosstaea bosstaeoides</i>) 3. Apostlebird (<i>Struthidea cinerea</i>)	ND: the tree (unclear which one) provides shade for the bird.
<i>Wayakwayak</i>	1. Grass-leaf Yam (<i>Ipomoea graminea</i>) 2. Weebill (<i>Smicrornis brevirostris</i>)	ND: they are ‘family’ for one another.

Table 12: Dalabon Plant and Animal Names with Partial Formal Resemblances

Resemblance	Dalabon Form A & Denotata	Dalabon Form B & Denotata	Speculated Relationship
Y : YY	Wak Native Lasiandra, Melastoma (Melastoma affine)	Wakwak Crow, Torresian Crow (Corvus orru)	None
Y : YY	Kurndjilk Bush Sugar Cane (Heteropogon triticeus)	Kurndjilkkurndjilk small Saratoga (Scleropages jardini)	SC: maybe the many fine bones of the saratoga are like sugarcane fibres.
Y : XY	Wayakwayak Weebill (Smicromis brevirostris)	Djawayakwayak Stormbird, Eastern Koel (Eudynamys scolopacea)	ND: maybe they are 'family' for one another.
Y : XY	Bukbuk Pheasant Coucal (Centropus phasianinus)	Kanbukbuk various small shrubs	None
Y : YZ	Djamard Archerfish, Riflefish (Toxotes chaterius)	Djamarddobdob Woollybutt (Eucalyptus miniata)	LB: maybe the bark looks like the fish.
Y : YZ	Namarr male Hill Kangaroo, Euro (Macropus robustus)	Namarrkondo large male Antilopine Kangaroo (Macropus antilopinus)	None
XY : YZ	Djadjmurrung Childrens Python (Antaresia childreni)	Murrungkurn Black Currant (Antidesma ghesaembilla)	None

Full formal linguistic resemblances are homonyms, such as the use of Australian English *rosella* to refer to both a plant species '*Hibiscus sabdariffa*' and several bird species '*Platycercus* spp.', which have no real-world or semantic relationship. Dalabon homonyms are given in Table 11.¹³ Speculations about semantic relationships are included both as a source for potential future research (e.g. should comparable data from another Australian language provide evidence of a possible relationship) and as a precautionary warning that while such speculative explanations are readily available, they 'run the risk of being over-imaginative' (Evans 1997: 134).

Multiple species have phonologically variant names, where one name is a clipped version of the other, e.g. *djalamardawk/mardawk* 'Bush Passionfruit (*Passiflora foetida*)', or, the names share a common segment, e.g. *kolowirdwird/bolowirdwird* 'Variegated and Red-backed Fairy-wren (*Malurus lamberti*)'. Parallel to these observations for variant forms, unrelated species with a partial formal resemblance in Dalabon may take three forms (Table 12):

1. One species name is 'reduplicated' to give the other (i.e. Y : YY)
2. One species name is wholly embedded inside another (i.e. Y : XY or Y : YZ)
3. Both species names are partially identical (i.e. XY : YZ).

The forms with a partial resemblance are understood to be monomorphemic.

5. Conclusions

The Dalabon ethnoclassification data reviewed here show that formal and semantic features commonly reported for other Australian languages are also attested in Dalabon. Particularly noteworthy are the observations that evidence for labels for natural classes can come from auxiliary codes (McKnight 1999) and from semantic extensions used when naming introduced species, and that the logistics of hunting affect the choice of referring with a generic or species level term. I have shown that homonymy also features in this domain, i.e. that not all formally similar names indicate a semiotic relationship between unrelated species. This is significant for research on semantic change in Australian languages, which relies on (purported) polysemies in species names.

Several phenomena (which are not commonly reported for other languages) are also identified in the Dalabon data, but not discussed here for reasons of space. Synonymy, overlapping polysemies (where one member of a set of synonyms is polysemous – i.e. it can also be used to denote another species – while the other members of the set of synonyms are monosemous) and iconicity in onomatopoeia and reduplication will be the subject of future research. I have shown here that Dalabon shares many of the commonly reported features of ethnoclassification for Australian languages. As such, it is hoped that research in Dalabon on semiotic phenomena which have not yet been documented for this domain will prove relevant for other Australian languages.

¹³ The data on *narddo* appears to be strongly suggestive of a metonymic relationship, with both denotata used in the bowerbird's nest. However, this is likely purely coincidental as bowerbirds collect many different materials for their nests and neither *narddo* denotatum is identified as an iconic example of nest material.

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