# Australian phonemic inventories contributed to PHOIBLE 2.0 Essential explanatory notes

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## 1. Comparative analysis of Australian phoneme inventories

Phonemic analysis is a valuable prelude to cross-linguistic comparison. Nevertheless, phonemicization is not a deterministic process and linguistic practice is not uniform. This has certain consequences for the compilation and use of cross-linguistic summary datasets such as this one. The following notes are arranged by topic and highlight how these issues have been accommodated in the compilation of the Australian dataset.

Labels The labeling of phonemes acts to group phonemes, implicitly or explicitly, into classes (e.g. 'the stops'), yet phonemes may class together differently with respect to allophony vs phonological alternations vs phonotactics and even vs their history. Consequently, analysts are often forced to choose between multiple conceivable classifications, each of which captures only some of the facts. When they do so, one analyst's criteria may differ from those of another. As a result, some cross-doculectal variation in phoneme labels may reflect more a variation among analysts' necessary choices between multiple, defensible options, than empirical differences among languages. Where this appears to be the case, I have in some instances relabelled phonemes relative to source documents, to promote cross-linguistic comparability. For example, stops in languages with no contrast for voicing or fortition are labelled here with plain, voiceless IPA symbols, following widespread phonological practice. More cases are noted below.

Segmentation The task of dividing words into segments can itself present challenges, since in this task phonemic analysis becomes interdependent with the analysis of phonotactics. The phonotactics of Australian languages are highly constrained (Hamilton 1996), and this has enabled researchers to converge on broadly similar criteria for segmentation, enhancing the comparability of cross-linguistic data. However, in cases where languages contain unusual phonotactic sequences at the phonetic level, the analytical response in terms of segmentation and phonemicization has been more varied. By comparing across sources, it is possible to discern certain recurrent patterns of analytic practice. The next set of topics records attempts to accommodate these issues in the Australian dataset. The aim has been to bring to the fore empirical variation, over the variability among analytic choices.

**Complex Segments** Some sources analyse a phonotactically unusual phonetic sequence [X+Y], particularly ones which descend historically from  $^*[X]$  or  $^*[Y]$ , as a complex phonemic segment /XY/; others analyse it as a phonemic sequence /X/+/Y/. However, no complex segment /XY/ posited for an Australian language is contrastive with /X/+/Y/, at least under some, reasonable set of assumptions about the rest of the inventory. Consequently, for the purposes of enhanced cross-linguistic comparability, all such sequences are treated in the dataset as two-segment phonemic sequences, /X/+/Y/.

Notes on specific types: (1) A minority of Australian languages permit phonetic stop+nasal or stop+lateral sequences only at homorganic places of articulation. In original sources these are analysed as sequences (e.g. Sommer 1969 on Kunjen) or single complex segments (e.g. Breen 1981 on Arandic languages). (2) Almost all Australian languages permit phonetic nasal+stop sequences at homorganic places of articulation, but word-initially they are rare. In original sources they are analysed as sequences (e.g. Dixon 1991 on Mbabaram) or single complex segments (e.g. Crowley 1981 on Mpakwithi). (3) Few Australian languages permit phonetic stop+liquid sequences. The sequence [tr] in particular is sometimes analysed in original sources as a single complex segment (e.g. Hale 1997 on Linngithigh). (4) In Australian languages [w] often colors neighboring vowels; furthermore, most Australian languages permit [C+w] phonetic sequences, and these may be temporally coarticulated (e.g. Round 2009:65 on Kayardild). In some languages, these facts are analysed with phonemic /C/+/w/ sequences (e.g. Round 2009), but occasionally with complex, labialized consonants (Dixon 1991 on Mbabaram). (5) Harvey (2011) presents arguments for analysing 'pre-palatalized' complex segments in Arandic languages as /j/+/C/.

Coronal Places of Articulation All Australian languages contrast either one or two 'apical' places of articulation, where the primary constriction is formed with the tongue tip; and either one or two 'laminal' places of articulation, with constriction formed by the tongue blade. In this dataset, laminals are labelled either as dental (with the IPA bridge diacritic) or pre-palatal (with IPA curl). Apicals are plain /t/, /n/ etc. for apical alveolars, IPA retroflex for retroflexes, and for languages with no alveolar–retroflex contrast, the single apical place is explicitly labelled as apical (with the IPA inverted bridge diacritic).

**Stop Series** Some Australian languages contrast two series of stops, typically matched at all superlaryngeal places of articulation, and sources may phonemicize them in a number of ways. For the purposes of enhanced cross-linguistic comparability, this dataset follows Butcher (2004, 2012) and phonemicizes them as fortis and lenis, with no voicing contrast.

**Taps, Flaps and Lenis Apical Stops** Some Australian languages have an extra, voiced lenis, stop-like or tap/flap-like phoneme solely at the apical place(s) of articulation. Sources may phonemicize these as voiced/lenis stops or as taps/flaps (see Breen 1997 for discussion). For cross-linguistic comparability, they are phonemicized here as tap/flaps.

**Vowel Length** Most sources phonemicize long vowels as a single long vowel segment. Some phonemicize them as two, adjacent short vowels (e.g. McDonald & Wurm 1979:5 for Wangkumara [a:]). The phonemicization here is as the single, long segment.

**Glottal Stop** Some sources analyse the unpredictable presence/absence of a glottal stop as a prosodic feature (e.g. Waters 1980 for Djinang) and others as a phonemic segment. The representation here is as a phonemic segment.

### Works cited above

- Breen, Gavan. 1981. *The Mayi Languages of the Queensland Gulf Country*. A.I.A.S. New Series 29. Canberra: Australian Institute of Aboriginal Studies.
- Breen, Gavan. 1997. "Taps, Stops and Trills." In *Boundary Rider: Essays in Honour of Geoffrey O'Grady*, edited by Darrell Tryon and Michael Walsh, 71–93. Canberra: Pacific Linguistics.
- Butcher, A. R. 2004. "'Fortis/Lenis' Revisited One More Time: The Aerodynamics of Some Oral Stop Contrasts in Three Continents." *Clinical Linguistics & Phonetics* 18: 547–57.
- Butcher, Andrew. 2012. "On the Phonetics of Long, Thin Phonologies." In *Quantitative Approaches to Problems in Linguistics*, edited by Cathryn Donohue, Shunichi Ishihara, and William Steed, 133–154. Munich: Lincom Europa.
- Crowley, Terry. 1981. "The Mpakwithi Dialect of Anguthimri." In *Handbook of Australian Languages*, edited by R. M. W. Dixon and Barry Blake, 2:147–194. Canberra: Australian National University Press.
- Dixon, R. M. W. 1991. "Mbabaram." In *Handbook of Australian Languages*, edited by R. M. W. Dixon and Barry J. Blake, 4:348–402. Melbourne: Oxford University Press.
- Hale, Kenneth. 1997. "A Linngithigh Vocabulary." In *Boundary Rider: Essays in Honour of Geoffrey O'Grady*, edited by Darrell Tyron and Michael Walsh, 209–46. Pacific Linguistics Series C 136. Canberra: Pacific Linguistics.
- Hamilton, Philip James. 1996. "Phonetic Constraints and Markedness in the Phonotactics of Australian Aboriginal Languages." Ph.D. dissertation, University of Toronto.
- Harvey, Mark. 2011. "Prepalatals in Arandic." Australian Journal of Linguistics 31 (1): 79-110.
- McDonald, M., and S. A. Wurm. 1979. *Basic Materials in Wankumara (Galali): Grammar, Sentences and Vocabulary*. Pacific Linguistics Series B 65. Canberra: Pacific Linguistics.
- Round, Erich R. 2009. "Kayardild Phonology, Morphology, and Morphosyntax." Ph.D. Dissertation, New Haven: Yale University.
- Sommer, Bruce A. 1969. *Kunjen Phonology: Synchronic and Diachronic*. Pacific Linguistics Series B 11. Canberra: Pacific Linguistics.
- Waters, Bruce E. 1980. "Djinang Phonology." In *Papers in Australian Linguistics No. 14*, edited by Bruce E. Waters and P. Busby, 1–72. Pacific Linguistics Series A 60. Canberra: Pacific Linguistics.

# 2. Notes on individual languages

Variety name	Source	Comments
Adnyamathanha	Schebeck 1974	Please see also the general comparative notes in section 1. Prestopped sonorants in Schebeck 1974 interpreted here as segment sequences.
Aghu Tharnggala	Jolly 1989	Please see also the general comparative notes in section 1. Prenasalized stops in Jolly 1989 interpreted as nasal + lenis stop.
Agwamin	Sutton 1976	Please see the general comparative notes in section 1.
Alawa	Sharpe 1972	Please see the general comparative notes in section 1.
Alngith	Hale 1997	Please see also the general comparative notes in section 1. Trill-released and prenasalized stops in Hale 1997 interpreted here as segment sequences.
Alyawarr	Breen 2001	Please see also the general comparative notes in section 1. Prestopped nasals in Breen 2001 interpreted here as segment sequences.
Amurdak	Handelsmann 1991; Mailhammer 2011	Please see the general comparative notes in section 1.
Angkamuthi	Crowley 1983	Please see the general comparative notes in section 1.
Anguthimri	Crowley 1981	Please see also the general comparative notes in section 1. Trill-released and prenasalized stops in Crowley 1975 interpreted here as segment sequences.
Anindilyakwa	van Egmond 2012	Please see also the general comparative notes in section 1. Prenasalized stops and labiovelars in van Egmond 2012 interpreted here as segment sequences.
Antakirinya	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Antekerrepenhe	Breen 2001	Please see also the general comparative notes in section 1.  Prestopped nasals in Breen 2001 interpreted here as segment sequences.
Arabana	Hercus 1994	Please see the general comparative notes in section 1.
Aritinngithigh	Hale 1976	Please see also the general comparative notes in section 1. Trill-released stops in Hale 1976 interpreted here as segment sequences.
Atampaya	Crowley 1983	Please see the general comparative notes in section 1.
Awabakal	Lissarrague 2006	Please see the general comparative notes in section 1.
Awu Alaya	Rigsby 1976	Please see also the general comparative notes in section 1. Prenasalized stops in Rigsby 1976 interpreted as nasal + lenis stop.
Ayapathu	www.oocities.org/at hens/delphi/2970/ay apathu.htm	Please see the general comparative notes in section 1.
Ayerrerenge	Breen 2001	Please see the general comparative notes in section 1.
Baanbay	Hoddinott 1967	Please see the general comparative notes in section 1.
Badimaya	Dunn 1988	Please see the general comparative notes in section 1.
Bakanh	http://www.oocities. org/athens/delphi/29 70/orthopak.pdf	Please see also the general comparative notes in section 1. Hamilton's online pdf inventory omits glottal stop.
Balardung	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Bandjigali	Hercus 1982	Please see the general comparative notes in section 1.
Barada	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Bardi	Bowern 2012	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Barna	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Barunggam	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative. The data in Holmer 1983 likely conflates a distinct rhotic glide and trill.
Bibbulman	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Bidhawal	Wafer&Lissarague 2008:559	Please see also the general comparative notes in section 1. This inventory is tentative.
Bidyara	Breen 1973	Please see the general comparative notes in section 1.
Bigambal	Wafer&Lisserague 2008:767	Please see also the general comparative notes in section 1. This inventory is tentative.
Bilinarra	Meakins 2013	Please see the general comparative notes in section 1.
Binbinka	Chadwick 1978	Please see also the general comparative notes in section 1. Two adjacent identical short vowels in Chadwick 1978 interpreted here as one long vowel.
Biri	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Boonwurrung	Blake 1991	Please see also the general comparative notes in section 1. This inventory is tentative.
Bularnu	Breen 1980	Please see the general comparative notes in section 1.
Bundjalung	Sharpe 2005	Please see the general comparative notes in section 1.
Bunuba	Rumsey 2000	Please see the general comparative notes in section 1.
Burarra	Green 1987	Please see the general comparative notes in section 1.
Butchulla	Bell 2003	Please see the general comparative notes in section 1.
Buwandik	Blake 2003	Please see also the general comparative notes in section 1. This inventory is tentative.
Central Arrernte	Breen 2001	Please see also the general comparative notes in section 1. Prestopped nasals and prepalatalized segments in Breen 2001 interpreted here as segment sequences.
Dalabon	Evans&alia 2008	Please see the general comparative notes in section 1.
Darkinyung	Jones 2008	Please see also the general comparative notes in section 1. This inventory is tentative.
Daungwurrung	Blake 1991	Please see also the general comparative notes in section 1. This inventory is tentative.
Dhangu	Wood 1978	Please see the general comparative notes in section 1.
Dharawal	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.
Dharawala	Breen 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Dharuk	Troy 1994	Please see also the general comparative notes in section 1. This inventory is tentative.
Dharumba	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.
Dharumbal	Terrill 2002	Please see also the general comparative notes in section 1. This inventory is tentative.
Dhay'yi	Walker&Zorc 1981	Please see the general comparative notes in section 1.
Dhudhuroa	Blake&Reid 2002	Please see also the general comparative notes in section 1. This inventory is tentative. /a:/ is not mentioned in the phonology chapter of Blake&Reid 2002 but is in the lexicon.
Dhurga	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.

Variety name	Source	Comments
Diyari	Austin 1981[2011]	Please see also the general comparative notes in section 1. Trill-released stops in Austin 1981 interpreted here as segment sequences.
Djabugay	Patz 1991	Please see the general comparative notes in section 1.
Djabwurung	Blake 2011	Please see also the general comparative notes in section 1. This inventory is tentative.
Djambarrpuyngu	Wilkinson 1991	Please see the general comparative notes in section 1.
Djangun	Patz 2002	Please see the general comparative notes in section 1.
Djapu	Morphy 1983	Please see the general comparative notes in section 1.
Djinang	Waters 1980	Please see the general comparative notes in section 1.
Djinba	Waters 1989	Please see the general comparative notes in section 1.
Djindewal	Jefferies 2011	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Jefferies 2011.
Djirringany	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.
Duungidjawu	Kite&Wurm 2004	Please see the general comparative notes in section 1.
Dyirbal	Dixon 1972	Please see the general comparative notes in section 1.
East	Blake 2011	Please see also the general comparative notes in section 1. This
Djadjawurung	0 2010	inventory is tentative.
Eastern Anmatyerre	Green 2010	Please see also the general comparative notes in section 1.  Prestopped nasals and prepalatalized segments in Green 2010 interpreted here as segment sequences.
Eastern Arrernte	Breen 2001	Please see also the general comparative notes in section 1. Prestopped nasals and prepalatalized segments in Breen 2001 interpreted here as segment sequences.
Eastern Wakaya	Breen 1974[1985]	Please see the general comparative notes in section 1.
Emmi	Ford 1998	Please see the general comparative notes in section 1.
Eora	Troy 1994	Please see also the general comparative notes in section 1. This inventory is tentative.
Erre	Campbell 2006	Please see the general comparative notes in section 1.
Gaagudju	Harvey 2002	Please see the general comparative notes in section 1.
Gabalbara	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Gabi-Gabi	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative. The data in Holmer 1983 likely conflates a distinct rhotic glide and trill.
Galaagu	O'Grady&alia 1966	Please see also the general comparative notes in section 1. This inventory is tentative.
Gambera	Capell&Coate 1984	Please see the general comparative notes in section 1.
Gamilaraay	Giacon 2014	Please see the general comparative notes in section 1.
Gangalidda	Keen 1983	Please see the general comparative notes in section 1.
Gangulu	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Ganulu	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Garig	Evans 1998	Please see the general comparative notes in section 1.
Garingbal	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.

Variety name	Source	Comments
Garlali	Holmer 1988	Please see also the general comparative notes in section 1. This inventory is tentative.
Garrwa	Mushin 2012	Please see the general comparative notes in section 1.
Gidabal	Geytenbeek&Geyten beek 1971	Please see also the general comparative notes in section 1. The place of articulation labeled 'dental' in Geytenbeek 1971 is 'apical' in standard Australianist terms.
Gooniyandi	McGregor 1990	Please see the general comparative notes in section 1.
Goreng	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Gudanji	Aguas 1968	Please see the general comparative notes in section 1.
Gudjal	Sutton 1973	Please see the general comparative notes in section 1.
Gugu Badhun	Sutton 1973	Please see the general comparative notes in section 1.
Gugu Wakura	Patz 2002	Please see the general comparative notes in section 1.
Gumatj	Walker&Zorc 1981	Please see the general comparative notes in section 1.
Gumbaynggir	Eades 1979	Please see the general comparative notes in section 1.
Gun- Dedjnjenghmi	Evans 2003	Please see the general comparative notes in section 1.
Gun-Djeihmi	Evans 2003	Please see the general comparative notes in section 1.
Gundungurra	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.
Gungabula	Breen 1973	Please see the general comparative notes in section 1.
Gunggari	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative.
Gunya	Breen 1981	Please see the general comparative notes in section 1.
Gupapuyngu	Walker&Zorc 1981	Please see the general comparative notes in section 1.
Gureng-gureng	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative.
Gurindji	Meakins&alia 2013	Please see also the general comparative notes in section 1. Long vowels are not mentioned in Meakins 2013 pp15-18, but see elsewhere in that source.
Gurr-Goni	Green 1995	Please see the general comparative notes in section 1.
Guugu Yimidhirr	Haviland 1979	Please see the general comparative notes in section 1.
Guwa	Blake&Breen 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Guwamu	Inferred from Austin 1980	Please see the general comparative notes in section 1.
Guwar	Jefferies 2011	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Jefferies 2011.
Guweng	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative.
Ikarranggal	Sommer 1999	Please see the general comparative notes in section 1.
Ilgar	Evans 1998	Please see the general comparative notes in section 1.
Iwaidja	Evans 1998	Please see the general comparative notes in section 1.
Jabirr-Jabirr	McGregor 1996	Please see also the general comparative notes in section 1. Inventory inferred from information in McGregor 1996:11-12.
Jaminjung	Schultze-Berndt 2000	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Jandai	Jefferies 2011	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Jefferies 2011.
Jardwadjali	Blake 2011	Please see also the general comparative notes in section 1. This inventory is tentative.
Jaru	Tsunoda 1981	Please see also the general comparative notes in section 1. /iji, uwu/ in Tsunoda 1981 phonemicized as /i:,u:/.
Jawi	McGregor 1996	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in McGregor 1996:11-12.
Jawoyn	Merlan&Jacq 2005	Please see the general comparative notes in section 1.
Jingulu	Pensalfini 2003	Please see the general comparative notes in section 1.
Jiwarli	Austin 2006	Please see the general comparative notes in section 1.
Jukun	Hosokawa 1991	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Hosokawa 1991.
Kala Kawaw Ya	Hunter&alia 2011	Please see the general comparative notes in section 1.
Kala Lagaw Ya	Hunter&alia 2011	Please see the general comparative notes in section 1.
Kalaamaya	O'Grady&alia 1966	Please see also the general comparative notes in section 1. This inventory is tentative.
Kalkatungu	Blake 1979	Please see also the general comparative notes in section 1. Two adjacent identical short vowels in Blake 1979 interpreted here as one long vowel.
Kaniyang	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Karajarri	McKelson 1989	Please see the general comparative notes in section 1.
Karangura	Austin 1990	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Austin 1990, compared to Ngamini. Trill-released stops in Austin 1990 interpreted here as segment sequences.
Kariyarra	Wangka Maya 2001	Please see also the general comparative notes in section 1. Retroflex nasal is missing from list in Wangka Maya 2001:11-12, but is in the lexicon.
Kartujarra	Marsh 1976	Please see the general comparative notes in section 1.
Katthang	Lissarrague 2010	Please see the general comparative notes in section 1.
Kaurna	Amery&Simpson 2013	Please see also the general comparative notes in section 1. This inventory is tentative. Prestopped sonorants in Amery & Simpson 1974 interpreted here as segment sequences.
Kayardild	Round 2009	Please see the general comparative notes in section 1.
Kaytetye	Turpin&Ross 2012	Please see also the general comparative notes in section 1. Prestopped nasals and prepalatalized segments in Breen 2001 interpreted here as segment sequences.
Keramin	Horgen 2004	Please see also the general comparative notes in section 1. This inventory is tentative.
Kija	Taylor&Taylor 1971	Please see the general comparative notes in section 1.
Kok Nar	Breen 1976	Please see the general comparative notes in section 1.
Koko Bera	Sommer nd	Please see the general comparative notes in section 1.
Kolakngat	Blake&alia 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Kugu Nganhcara	Smith&Johnson 2000	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Kukata	Platt 1972	Please see the general comparative notes in section 1.
Kukatj	Breen 1992	Please see the general comparative notes in section 1.
Kukatja	Hansen&Hansen 1978	Please see the general comparative notes in section 1.
Kuku Yalanji	Patz 2002	Please see the general comparative notes in section 1.
Kune	Evans 2003	Please see the general comparative notes in section 1.
Kungarakany	Parish 1983	Please see also the general comparative notes in section 1. Phonemic inventory inferred from word data in Parish 1983.
Kungardutji	McDonald&Wurm 1979	Please see also the general comparative notes in section 1. Two adjacent identical short /a/ vowels in McDonald & Wurm 1979 interpreted here as one long vowel.
Kungkari	Breen 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Kunindirri	Breen 2003	Please see the general comparative notes in section 1.
Kuninjku	Evans 2003	Please see the general comparative notes in section 1.
Kunwinjku	Evans 2003	Please see the general comparative notes in section 1.
Kurrama	Wangka Maya 2001	Please see also the general comparative notes in section 1. Retroflex lateral & dental glide are missing from list in Wangka Maya 2001:23, but are in the lexicon.
Kurtjar	Black 1996	Please see also the general comparative notes in section 1. Retroflex 'glide~tap' in Black 1996 phonemicised here as a glide.
Kuthant	Black 1980	Please see the general comparative notes in section 1.
Kuugu Ya'u	Thompson 1976	Please see the general comparative notes in section 1.
Kwini	McGregor 1993	Please see the general comparative notes in section 1.
Ladji-Ladji	Blake 2011	Please see also the general comparative notes in section 1. This inventory is tentative.
Lamalama	Verstraete 2018	Please see also the general comparative notes in section 1.  Prenasalized stops in Verstraete 2018 interpreted as nasal + lenis stop.
Lardil	Hale 1973	Please see the general comparative notes in section 1.
Larrakia	Capell 1984	Please see the general comparative notes in section 1.
Limilngan	Harvey 2001	Please see the general comparative notes in section 1.
Linngithigh	Hale 1997	Please see also the general comparative notes in section 1. Prenasalized stops in Hale 1997 interpreted as nasal + lenis stop; trill-released stops interpreted here as segment sequences.
Lower Southern Aranda	Breen 2001	Please see also the general comparative notes in section 1.  Prestopped nasals and prepalatalized segments in Breen 2001 interpreted here as segment sequences.
Luthigh	Hale 1976	Please see the general comparative notes in section 1.
Madhi-Madhi	Hercus 1986	Please see the general comparative notes in section 1.
Malak-Malak	Birk 1975	Please see the general comparative notes in section 1.
Malkana	Gargett 2011	Please see the general comparative notes in section 1.
Malngin	Ise 1999	Please see the general comparative notes in section 1.
Malthanmungu	Sutton nd in Bowern 2016	Please see also the general comparative notes in section 1. Inferred from lexical data in Sutton nd.
Malyangapa	Hercus 1989	Please see also the general comparative notes in section 1. Phonemic inventory inferred from lexical data in Hercus 1989.
Mangala	Sharp 2004	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Mangarrayi	Merlan 1989	Please see the general comparative notes in section 1.
Manjiljarra	Burgman 2009	Please see the general comparative notes in section 1.
Margany	Breen 1981	Please see the general comparative notes in section 1.
Marra	Heath 1981	Please see also the general comparative notes in section 1. [o], found only in an interjection, is not included in the inventory here.
Marramaninyshi	Tryon 1974	Please see also the general comparative notes in section 1. This inventory is tentative.
Marrgu	Evans 1998	Please see the general comparative notes in section 1.
Marringarr	Nambatu&alia 2009	Please see the general comparative notes in section 1.
Marrithiyel	Green 1989	Please see the general comparative notes in section 1.
Marti Ke	Nambatu&alia 2009	Please see the general comparative notes in section 1.
Martuthunira	Dench 1990	Please see the general comparative notes in section 1.
Matngele	Zandvoort 1999	Please see the general comparative notes in section 1.
Mawng	Singer 2006	Please see the general comparative notes in section 1.
Mayali	Evans 2003	Please see the general comparative notes in section 1.
Mayi-Kulan	Breen 1981	Please see the general comparative notes in section 1.
Mayi-Kutuna	Breen 1981	Please see the general comparative notes in section 1.
Mayi-Thakurti	Breen 1981	Please see the general comparative notes in section 1.
Mayi-Yapi	Breen 1981	Please see the general comparative notes in section 1.
Mbabaram	Dixon 1991	Please see also the general comparative notes in section 1. Wordfinal schwa in Dixon 1991 represented here as phoneme. Despite suggestion of p356, no long barred-i is attested.
Mbara	Sutton 1976	Please see the general comparative notes in section 1.
Mbiywom	Hale 1976	Please see the general comparative notes in section 1.
Mengerrdji	Campbell 2006	Please see the general comparative notes in section 1.
Minang	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Minjungbal	Sharpe 2005	Please see the general comparative notes in section 1.
Minkin	Evans 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Miriwoong	Kofod 1978	Please see the general comparative notes in section 1.
Mirrniny	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Mithaka	Breen 1997	Please see also the general comparative notes in section 1. This inventory is tentative. Trill-released stops in Breen 1999 interpreted here as segment sequences.
Miyan	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Mpalitjanh	Hale 1976	Please see also the general comparative notes in section 1.  Prenasalized stops in Hale 1976 interpreted as nasal + lenis stop.
Mudburra	Nash&alia 1988	Please see the general comparative notes in section 1.
Muk-Thang	Fesl 1985	Please see also the general comparative notes in section 1. This inventory is tentative.
Muluridji	Patz 2002	Please see the general comparative notes in section 1.
Murrinh-patha	Mansfield 2014	Please see the general comparative notes in section 1.
Muruwari	Oates 1988	Please see the general comparative notes in section 1.
Nakara	Eather 1990	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Nari Nari	Hercus 1978	Please see also the general comparative notes in section 1. This inventory is tentative.
Narrungga	Eira 2010	Please see also the general comparative notes in section 1.  Prestopped sonorants in Eira 2010 interpreted here as segment sequences.
Ndjebbana	McKay 2000	Please see the general comparative notes in section 1.
Ndra'ngith	Hale 1976	Please see also the general comparative notes in section 1. Trill-released stops in Hale 1976 interpreted here as segment sequences.
Ngaanyatjarra	Glass&Hackett 1970	Please see the general comparative notes in section 1.
Ngadjunmaya	O'Grady&alia 1966	Please see also the general comparative notes in section 1. This inventory is tentative.
Ngalakgan	Baker 2008	Please see the general comparative notes in section 1.
Ngalia	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Ngaliwurru	Schultze-Berndt 2000	Please see the general comparative notes in section 1.
Ngamini	Austin 1988; Breen 1997	Please see also the general comparative notes in section 1. Trill-released stops in Austin 1988, Breen 1997 interpreted here as segment sequences.
Ngan'gityemerri	Reid 1990	Please see the general comparative notes in section 1.
Ngandi	Heath 1978	Please see the general comparative notes in section 1.
Nganyaywana	Crowley 1976	Please see the general comparative notes in section 1.
Ngardi	Jagst 1975	Please see also the general comparative notes in section 1. Prenasalized stops in Jagst 1975 interpreted here as segment sequences.
Ngardily	Green 1988 ASEDA0034	Please see the general comparative notes in section 1.
Ngarigu	Hercus 1986	Please see the general comparative notes in section 1.
Ngarinyin	Rumsey 1982	Please see the general comparative notes in section 1.
Ngarinyman	Jones 1994 cited in Meakins&alia 2013	Please see the general comparative notes in section 1.
Ngarla	Westerlund 2015	Please see the general comparative notes in section 1.
Ngarlawangka	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Ngarluma	Kohn 2001	Please see the general comparative notes in section 1.
Ngarnka	Osgarby 2014	Please see the general comparative notes in section 1.
Ngawun	Breen 1981	Please see the general comparative notes in section 1.
Ngayawang	Horgen 2004	Please see also the general comparative notes in section 1. This inventory is tentative.
Ngintait	Horgen 2004	Please see also the general comparative notes in section 1. This inventory is tentative.
Ngiyambaa	Donaldson 1980	Please see the general comparative notes in section 1.
Ngkoth	Hale 1976	Please see also the general comparative notes in section 1. Trill-released stops in Hale 1976 interpreted here as segment sequences.
Ngumbarl	McGregor 1996; Bowern 2010	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in McGregor 1996:11-12; Bowern 2010.
Ngunawal	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.
Nhanda	Blevins 2001	Please see the general comparative notes in section 1.
Nhangu	Walker&Zorc 1981	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Nhirrpi	Bowern 2000	Please see the general comparative notes in section 1.
Nhuwala	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Nimanburu	McGregor 1996; Bowern 2010	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in McGregor 1996:11-12; Bowern 2010.
Nukunu	Hercus 1992	Please see the general comparative notes in section 1.
Nulit	Fesl 1985	Please see also the general comparative notes in section 1. This inventory is tentative.
Nungali	Bolt 1971	Please see also the general comparative notes in section 1. The conflated, single rhotic of Bolt 1971 is split into two here.
Nyamal	Burgman 2007	Please see the general comparative notes in section 1.
Nyangumarta	O'Grady 1963	Please see the general comparative notes in section 1.
Nyawaygi	Dixon 1983	Please see the general comparative notes in section 1.
Nyikina	Stokes 1982	Please see the general comparative notes in section 1.
Nyiyaparli	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Nyulnyul	McGregor 1996	Please see the general comparative notes in section 1.
Ogh Awarrangg	Sommer 1969	Please see the general comparative notes in section 1.
Ogh Unyjan	Sommer 1969	Please see the general comparative notes in section 1.
Olkol	Sommer 1969	Please see the general comparative notes in section 1.
Oykangand	Sommer 1969	Please see the general comparative notes in section 1.
Pallanganmiddan g	Blake&Reid 1999	Please see the general comparative notes in section 1.
Palyku	O'Grady Laughren 1997	Please see the general comparative notes in section 1.
Panyjima	Dench 1991	Please see the general comparative notes in section 1.
Parnkalla	O'Grady 2001	Please see also the general comparative notes in section 1. This inventory is tentative. Prestopped sonorants in O'Grady 2001 interpreted here as segment sequences.
Patjtjamalh	Ford 1990	Please see the general comparative notes in section 1.
Payungu	Wangka Maya 2008	Please see the general comparative notes in section 1.
Piangil	Blake 2011	Please see also the general comparative notes in section 1. This inventory is tentative.
Pinjarup	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Pintupi	Huttar 1976	Please see the general comparative notes in section 1.
Pirlatapa	Breen 1997	Please see also the general comparative notes in section 1. This inventory is tentative. Trill-released stops in Breen 1997 interpreted here as segment sequences.
Pirriya	Breen 1990	Please see also the general comparative notes in section 1. Lack of /u:/ may be an accidental gap due to small dataset.
Pitjantjatjara	Glass&Hackett 1970	Please see the general comparative notes in section 1.
Pitta Pitta	Blake 1979	Please see the general comparative notes in section 1.
Punthamara	Holmer 1988	Please see also the general comparative notes in section 1. This inventory is tentative.
Purduna	Burgman 2007	Please see the general comparative notes in section 1.
Putijarra	Wangka Maya 2004	Please see the general comparative notes in section 1.
Rembarrnga	McKay 2011	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Rimanggudinhma	Godman 1993	Please see also the general comparative notes in section 1.
		Prenasalized stops in Godman 1993 interpreted as nasal + lenis
D. J	TT 1 1000	stop.
Ritharrngu	Heath 1980	Please see the general comparative notes in section 1.
Southern	Hercus 1982	Please see the general comparative notes in section 1.
Paakintyi Tableland	Verstraete 2018	Please see also the general comparative notes in section 1. This
Lamalama	versuacte 2010	inventory is tentative. Prenasalized stops in Verstraete 2018 interpreted as nasal + lenis stop.
Takalak	Sutton 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Thaayorre	Gaby 2017	Please see the general comparative notes in section 1.
Thalanyji	Wangka Maya 2008	Please see the general comparative notes in section 1.
Thanggati	Lissarrague 2007	Please see the general comparative notes in section 1.
Thangguai	Fesl 1985	Please see also the general comparative notes in section 1. This inventory is tentative.
Tharrkari	Austin1992	Please see the general comparative notes in section 1.
Thawa	Besold 2012	Please see also the general comparative notes in section 1. This inventory is tentative.
Thaynakwithi	Fletcher 2007	Please see the general comparative notes in section 1.
Thiin	Austin 2015	Please see the general comparative notes in section 1.
Thirarri	Austin 1981[2011]	Please see also the general comparative notes in section 1. Trill-released stops in Austin 1981 interpreted here as segment sequences.
Tiwi	Osborne 1974	Please see also the general comparative notes in section 1. /r/+alveolar in Osborne 1974 phonemicized here as retroflex.
Turubul	Jefferies 2011	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Jefferies 2011.
Umbugarla	Davies 1989	Please see the general comparative notes in section 1.
Umbuygamu	Verstraete 2017	Please see the general comparative notes in section 1.
Umiida	Capell&Coate 1984	Please see the general comparative notes in section 1.
Umpila	O'Grady 1990	Please see the general comparative notes in section 1.
Unggumi	Capell&Coate 1984	Please see the general comparative notes in section 1.
Uradhi	Hale 1976	Please see the general comparative notes in section 1.
Urningangg	Campbell 2006	Please see the general comparative notes in section 1.
Waalubal	Crowley 1978	Please see the general comparative notes in section 1.
Waanyi	Breen 2003	Please see the general comparative notes in section 1.
Wadikali	Hercus&Austin 2004	Please see also the general comparative notes in section 1. This
		inventory is tentative. Phonemic inventory inferred from lexical data in appendix of Hercus&Austin 1994.
Wadjabangay	Breen 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Wagaman	Patz 2002	Please see the general comparative notes in section 1.
Wagiman	Cook 1987	Please see the general comparative notes in section 1.
Wajuk	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.

Variety name	Source	Comments
Waka Waka	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative. The data in Holmer 1983 likely conflates a distinct rhotic glide and trill.
Walangama	Black 1980	Please see also the general comparative notes in section 1. This inventory is tentative.
Walmajarri	Hudson 1978	Please see the general comparative notes in section 1.
Wambaya	Nordlinger 1998	Please see the general comparative notes in section 1.
Wangan	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Wangkajunga	Jones 2011	Please see the general comparative notes in section 1.
Wangkangurru	Hercus 1994	Please see the general comparative notes in section 1.
Wangkayutyuru	Blake 1979	Please see the general comparative notes in section 1.
Wangkumara	McDonald&Wurm 1979	Please see also the general comparative notes in section 1. Two adjacent identical short /a/ vowels in McDonald & Wurm 1979 interpreted here as one long vowel.
Wanyjirra	Senge 2015	Please see the general comparative notes in section 1.
Wardaman	Merlan 1994	Please see the general comparative notes in section 1.
Wardandi	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Warlmanpa	Nash 1981	Please see the general comparative notes in section 1.
Warlpiri	Nash 1986	Please see the general comparative notes in section 1.
Warluwarra	Breen 1970	Please see the general comparative notes in section 1.
Warndarrang	Heath 1980	Please see the general comparative notes in section 1.
Warnman	O'Grady&alia 1966	Please see the general comparative notes in section 1.
Warray	Harvey 1986	Please see the general comparative notes in section 1.
Warrgamay	Dixon 1981	Please see the general comparative notes in section 1.
Warriyangga	Austin 2015	Please see the general comparative notes in section 1.
Warrnambool	Blake 2003	Please see also the general comparative notes in section 1. This inventory is tentative. /a:/ is not mentioned in the phonology chapter of Blake 2003 but is in the lexicon.
Warrwa	McGregor 1994	Please see the general comparative notes in section 1.
Warumungu	Simpson 2000	Please see the general comparative notes in section 1.
Warungu	Tsunoda 2011	Please see the general comparative notes in section 1.
Wathawurrung	Blake 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Wathi Wathi	Blake 2011	Please see also the general comparative notes in section 1. This inventory is tentative.
Watjarri	Mackman 2012	Please see the general comparative notes in section 1.
Wayilwan	Donaldson 1980	Please see the general comparative notes in section 1.
Wemba Wemba	Hercus 1986	Please see the general comparative notes in section 1.
West Djadjawurung	Blake 2011	Please see also the general comparative notes in section 1. This inventory is tentative.
Western Anmatyerre	Green 2010	Please see the general comparative notes in section 1.
Western Arrernte	Breen 2001	Please see also the general comparative notes in section 1.  Prestopped nasals and prepalatalized segments in Breen 2001 interpreted here as segment sequences.
Western Wakaya	Breen 1974[1985]	Please see the general comparative notes in section 1.

Variety name	Source	Comments
Wiilman	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Wik Mungkan	Sayers 1976	Please see the general comparative notes in section 1.
Wik-Ngathan	Sutton 1978	Please see the general comparative notes in section 1.
Wiradjuri	Wafer&Lisserague 2008:696	Please see the general comparative notes in section 1.
Wirangu	Hercus 1999	Please see also the general comparative notes in section 1. Two adjacent identical short /a/ vowels in Hercus 1992 interpreted here as one long vowel.
Wiri	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Wiriyaraay	Giacon 2014	Please see the general comparative notes in section 1.
Woiwurrung	Blake 1991	Please see also the general comparative notes in section 1. This inventory is tentative.
Worrorra	Clendon 2014	Please see the general comparative notes in section 1.
Wotjobaluk	Hercus 1986	Please see the general comparative notes in section 1.
Wubuy	Heath 1984	Please see also the general comparative notes in section 1. The morphophonemic w1, w2 of Heath 1984 are represented here as their phonemic realizations /w,b,k/.
Wudjari	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Wulguru	Donohue 2007	Please see the general comparative notes in section 1.
Wuli Wuli	Holmer 1983	Please see also the general comparative notes in section 1. This inventory is tentative. The data in Holmer 1983 likely conflates a distinct rhotic glide and trill.
Wunambal	Carr 2000	Please see the general comparative notes in section 1.
Wunumara	Breen 1981	Please see the general comparative notes in section 1.
Wurrugu	Evans 1998	Please see the general comparative notes in section 1.
Yabula-Yabula	Bowe&Morey 1999	Please see also the general comparative notes in section 1. This inventory is tentative.
Yadhaykenu	Crowley 1983	Please see the general comparative notes in section 1.
Yagara	Jefferies 2011	Please see also the general comparative notes in section 1. This inventory is tentative. Inventory inferred from information in Jefferies 2011.
Yalarnnga	Breen&Blake 2007	Please see the general comparative notes in section 1.
Yambina	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Yanda	Breen 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Yandjibara	Breen 1973	Please see the general comparative notes in section 1.
Yandruwandha	Breen 2004	Please see also the general comparative notes in section 1. Trill-released stops and prestopped laterals in Breen 2004 interpreted here as segment sequences.
Yangga	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Yangkaralda	Cook 2017	Please see the general comparative notes in section 1.
Yangman	Merlan 1994	Please see the general comparative notes in section 1.
Yankunytjatjara	Goddard 1985	Please see the general comparative notes in section 1.
· · ·	Kirton&Charlie	Please see also the general comparative notes in section 1. Two

Variety name	Source	Comments
		interpreted here as one long vowel; prenasalized stops interpreted as segment sequences.
Yaraldi	McDonald 2002	Please see the general comparative notes in section 1.
Yardliyawarra	Hercus&Austin 2004	Please see also the general comparative notes in section 1. This inventory is tentative. Phonemic inventory inferred from lexical data in appendix of Hercus&Austin 1994.
Yari-Yari	Horgen 2004; Blake&alia 2011:25	Please see also the general comparative notes in section 1. This inventory is tentative.
Yarluyandi	Hercus nd	Please see the general comparative notes in section 1.
Yawarrawarrka	Breen 2004	Please see also the general comparative notes in section 1. Trill-released stops and prestopped laterals in Breen 2004 interpreted here as segment sequences.
Yawijibaya	Capell&Coate 1984	Please see the general comparative notes in section 1.
Yawuru	Hosokawa 1991	Please see the general comparative notes in section 1.
Yaygir	Crowley 1979	Please see the general comparative notes in section 1.
Yetimarala	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Yidiny	Dixon 1977	Please see the general comparative notes in section 1.
Yilba	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.
Yindjibarndi	Wordick 1982	Please see also the general comparative notes in section 1. Note that [o:] of Wordick 1982:37 is variant of /uwa/.
Yingkarta	Dench 1998	Please see the general comparative notes in section 1.
Yinhawangka	Wangka Maya 2008	Please see the general comparative notes in section 1.
Yiningay	Breen 1990	Please see also the general comparative notes in section 1. This inventory is tentative.
Yintyingka	Verstraete&Rigbsy 2015	Please see the general comparative notes in section 1.
Yinwum	Hale 1976	Please see also the general comparative notes in section 1. Prenasalized stops in Hale 1976 interpreted as nasal + lenis stop.
Yir Yoront	Alpher 1991	Please see the general comparative notes in section 1.
Yitha Yitha	Horgen 2004	Please see also the general comparative notes in section 1. This inventory is tentative.
Yorta Yorta	Hercus 1986	Please see also the general comparative notes in section 1. This inventory is tentative.
Yugambal	Wafer&Lisserague 2008:767	Please see also the general comparative notes in section 1. This inventory is tentative.
Yulparija	Burridge 1996	Please see the general comparative notes in section 1.
Yuwaalaraay	Williams 1980	Please see the general comparative notes in section 1.
Yuwaliyaay	Williams 1980	Please see the general comparative notes in section 1.
Yuwat	Douglas 1976	Please see also the general comparative notes in section 1. This inventory is tentative.
Yuwi	Terrill 1998	Please see also the general comparative notes in section 1. This inventory is tentative.