

## Drehu diphthongs and some other recent findings

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## 1. Introduction

We aim to provide a comprehensive, up-to-date description of the sound structure of the Southern Oceanic language Drehu. *Qene Drehu* ‘the language of the island of Lifou’ is one of the languages of the indigenous Kanak people of New Caledonia. Early accounts describing segments [1] and phonological structure [2,3] were based on impressionistic accounts and do not include acoustic investigations. Descriptions of certain phones differ across authors, and sometimes even for the same author. More recent phonetic investigations [4,5] as well as our own observations differ from aspects of the earlier proposals.

## 2. Methods

Native speakers of Drehu performed: picture naming, reading of a word list and of a short passage, and a language game. Phonetic analyses were conducted in Praat ([www.praat.org](http://www.praat.org)). Segment boundaries were hand labelled, using scripts to drive the process. For vowels (monophthongs), the first two formants were extracted at the mid-point, using the standard settings for a female or male voice, examined, and hand corrected, if necessary. Plots were computed in R ([www.r-project.org](http://www.r-project.org)).

### 3. Results

Data collection is ongoing. We present here three selected results based on the data of four speakers. Others will follow.

### 3.1. Diphthongs: Drehu has one!

All published accounts of Drehu describe a system with seven short and seven long vowels, all monophthongs. Our results confirm the native speaker intuition of author FW that there is also a diphthong, which we tentatively transcribe as / $\widehat{ae}$ / found for three speakers in at least (and possibly only) four words: *fōe* [f $\widehat{oe}$ ] ‘woman’, *sinōe* [sin $\widehat{oe}$ ] ‘tree’, *drōsinōe* [dʒ $\widehat{oe}$ sin $\widehat{oe}$ ] ‘medicine’, and *ixōe* [ix $\widehat{oe}$ ] ‘mat’. One speaker produced the first three words with mostly / $\partial$ / and *ixōe* with [ $\widehat{ae}$ ]. This sound has the dynamic formants characteristic of a diphthong. Participants’ language game response patterns demonstrate that it is a unit. They named pictures, then repeated the last syllable, e.g. “*kuli* [kuli] – [li]” ‘dog’; “*tim* [tim] – [tim]” ‘water’. While they split VV sequences, e.g. “*Eaj* [e $\widehat{a}$ d] – [a $\widehat{d}$ ]” ‘Ouvéa’, they left diphthongs intact, e.g. “*fōe* [f $\widehat{oe}$ ] – [f $\widehat{oe}$ ]” ‘woman’.

### 3.2. The nature of the <ö> vowel

The vowel represented by the grapheme <ö> (e.g. *ö* ‘yes’) has been described by different authors as /ø/, /ʌ/ or /ɔ/. For our speakers it is not rounded, but rather is produced with a high degree of lip spreading. Despite some differences in their vowel spaces (see Fig. 1), all four speakers produced a mid or mid-high central vowel (/ɜ/ or /ɐ/), with a compact distribution.

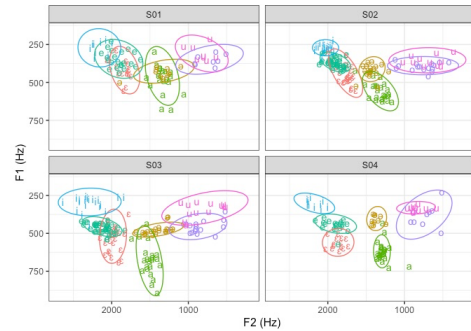


Figure 1. *The vowel space for the Drehu short vowels, by speaker.*

### 3.3. The nature of the <q> consonant

Drehu contrasts the voiced labial-velar approximant /w/ with a phoneme transcribed in published accounts as /w̥/ and written as <q> (e.g. *wene* ‘fruit’, *gene* ‘language’). Recordings distributed as part of published accounts make it clear that this corresponds to the voiceless labial-velar fricative, IPA /ɸ/, [6] *inter alia*. Three of our four speakers, however, consistently produce this consonant as [x<sup>w</sup>], with frication at the velum. To our knowledge, this allophone has not been reported for /ɸ/.

## 4. Discussion

This study will provide an updated description of the sound structure of current-day Drehu. The results add Drehu to the list of languages with sounds restricted to only a few words (see the LAPSyD database, <https://lapsyd.huma-num.fr/lapsyd/>, for other examples). The results contribute to our knowledge of phenomena described as “phonolexical allophony” (Ladd) or “quasi-phonemic contrasts” [7]. Rather than dismissing these cases as “marginal”, our models must be revised to account for them. One open question is the origin of the /æ̯e/ diphthong.

## 5. References

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