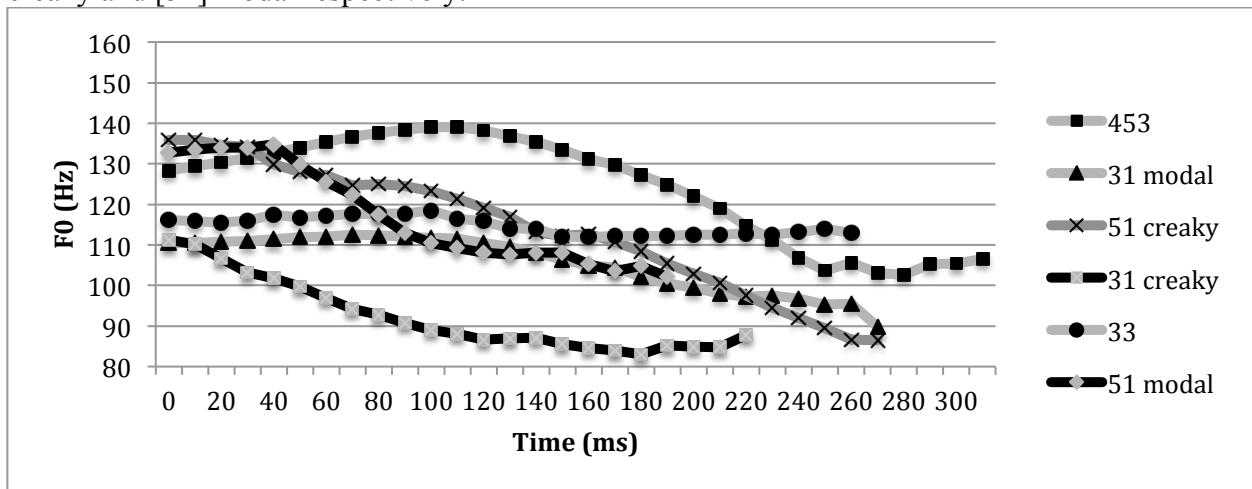


## Seeking adequacy in describing the tonal system of Du'an Zhuang : using phonetic evidence for tonal descriptions

**Introduction** This talk reports the phonetic measurements of the tonal system of Du'an Zhuang (Central Hongshuihe Zhuang, Tai-Kadai (Lewis, 2009)). Du'an Zhuang is a northern dialect of Zhuang, a minority language of China. This talk shows that its tonal system substantially differs from Wuming Zhuang, the standard Zhuang dialect, with which it is not mutually intelligible. In Wuming Zhuang, a five-way tonal contrast and a two-way register contrast suggest that there are ten phonetically distinct tones (Wei & Qin 1980). Du'an Zhuang, on the other hand, has a four-way tonal contrast, and a two-way phonation contrast rather than a register contrast.

**Measurements (F0 and phonation)** Based on F0 measurements taken from recordings of a single male native speaker of Du'an Zhuang, there are only four contrastive tones. Mean pitch tracks for tokens with short vowels and no coda are plotted below for each Du'an Zhuang tone, labeled with our proposed Chao letter descriptions for each tone. Additionally, measurements of spectral tilt (H1–A1) confirmed the presence of a phonation contrast: Lower spectral tilts indicate the presence of creaky phonation. The phonation contrast in Du'an corresponds with a tonal contrast in Wuming: Where there is a contrast in Wuming between a high fall [42] and a low fall [31], there is a phonation contrast between [31] creaky and [31] modal in Du'an. Likewise, the level tones [55] and [33] in Wuming have Du'an cognates that are falling, [51] creaky and [51] modal respectively.



**Obstruent codas** In words with obstruent codas, the full tonal contrast is neutralized to a two-way contrast in Du'an Zhuang between upper falling [53] and lower falling [31]. This tonal reduction pattern differs from Wuming Zhuang, where a three-way tonal contrast exists in syllables with obstruent codas, none of which are falling tones ([55], [35], [33]).

**Conclusion** Du'an Zhuang has a tonal system that is distinct from its dialectal cousin, Wuming Zhuang. In addition, the tonal system is significantly different from both its geographical and historical neighbors, Chinese and Thai. These differences are reflected in the Chao-letter-based tonal system we propose for Du'an Zhuang. Most importantly, Du'an Zhuang has a contrastive system of both tone and phonation, a fact that is unreported in previous literature.

**References** Wei, Qingwen, and Qin, Guosheng. 1980. *Zhuang yu jian zhi*: Zhongguo shao shu min zu yu yan jian zhi cong shu. Beijing: Min zu chu ban she : Xin hua shu dian fa xing.  
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