Spatial assignment of test sample

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Contents

Input

Website Identifier: 318

Isotope values of test sample

Table 1: Isotope values of test sample

13C/12C	15N/14N	18O/16O	2H/1H	34S/32S
-21.3	5.7	15.9	-43.3	7.3

Output

Model

```
##
## Call:
## train.kknn(formula = fmla, data = ivory.train, kmax = 15, distance = 2,     kernel = knl)
##
## Type of response variable: nominal
## Minimal misclassification: 0.3765867
## Best kernel: triangular
## Best k: 15
```

Classifier: **country_code**

Map of best fitted reference sample
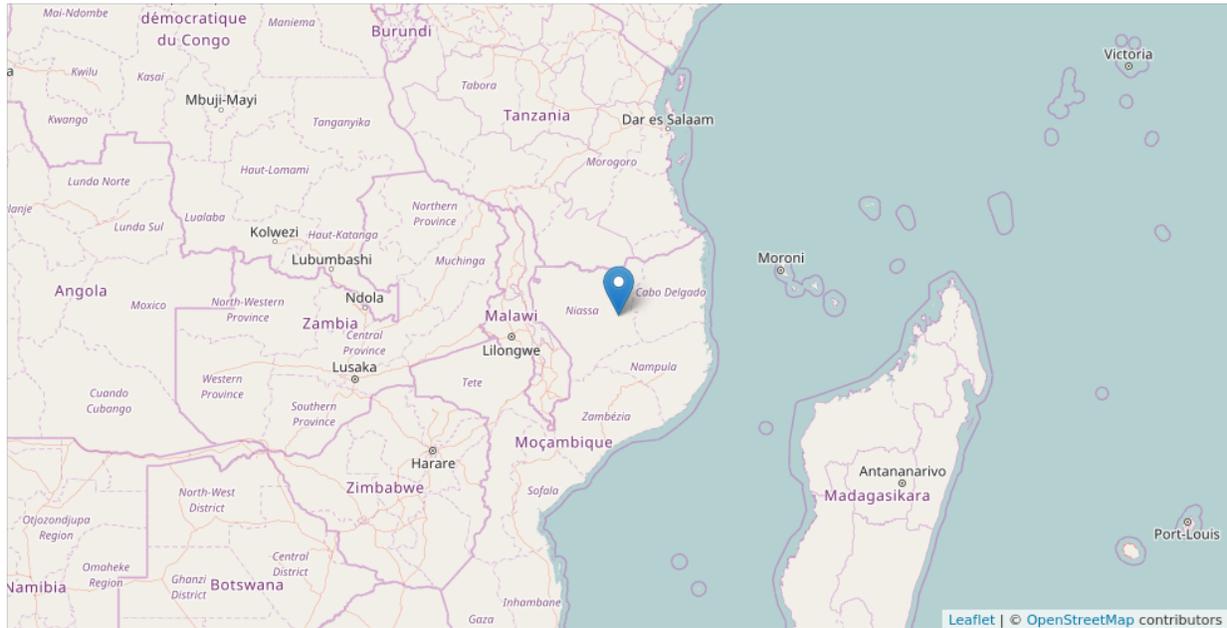
Best fitted reference sample:

- Site: Mozambique, Niassa Nature Reserve
- Country: MZ
- Region: Southern Africa
- CITES: Appendix I
- Lat: -13.3
- Lon: 37.55

Assignment of test sample to nearest neighbours
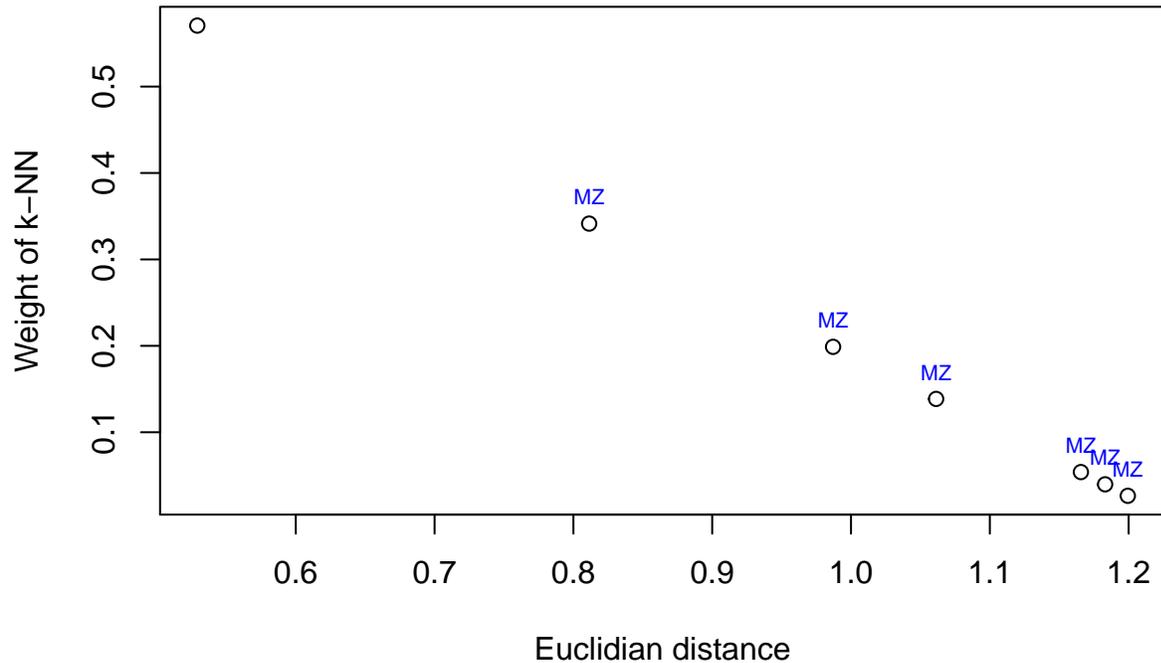
Best fitted reference entries

Table 2: Details of best fitted reference entry (row 1) and other fitted entries within best classifier

lon	lat	location	13C/12C	15N/14N	18O/16O	2H/1H	34S/32S
37.55	-13.30	Mozambique, Niassa Nature Reserve	-20.8	5.7	15.0	-43.6	6.9
39.00	-11.18	Mozambique, Rovuma river area	-20.8	7.0	15.4	-40.0	7.5
37.30	-12.00	Mozambique, Luwure (block L7) area	-22.5	6.7	16.5	-41.6	8.9
37.84	-12.30	Mozambique, Block L7 - Lugenda south ban	-22.0	7.5	15.5	-41.6	8.4
38.42	-11.55	Mozambique, Lugenda north bank - Chipopu	-22.5	6.9	15.7	-35.8	8.4
36.86	-11.90	Mozambique, Chipuputa area (block L5)	-21.7	7.0	15.9	-39.0	10.3
38.91	-11.26	Mozambique, Chipupa / Rovuma	-21.1	7.4	16.1	-44.6	4.5

Country of prediction: MZ

Testing robustness of assignment: Wilcoxon signed rank test

If p-value > 0.05, the test concludes that the isotope signature of the test sample is similar to the respective nearest neighbour reference sample.

P-values for the k nearest neighbours in Wilcoxon Test

"0.093216, 0.076919, 0.062953, 0.000765, 0.000141, 0.000068, 0.000041"

Goodness of fit of test sample:

- good fit: if p > 0.05 for at least two tested nearest neighbour reference samples;
- moderate fit: if p > 0.05 for at least one tested nearest neighbour reference samples;
- uncertain: if p > 0.05 for none of the tested nearest neighbour reference samples.

Assumption: At least two nearest reference samples are available.

Overall goodness of fit of test sample: "**good fit**"