

Spatial assignment of test sample

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Input

Website Identifier: Blind 1_KE

Isotope values of test sample

Table 1: Isotope values of test sample

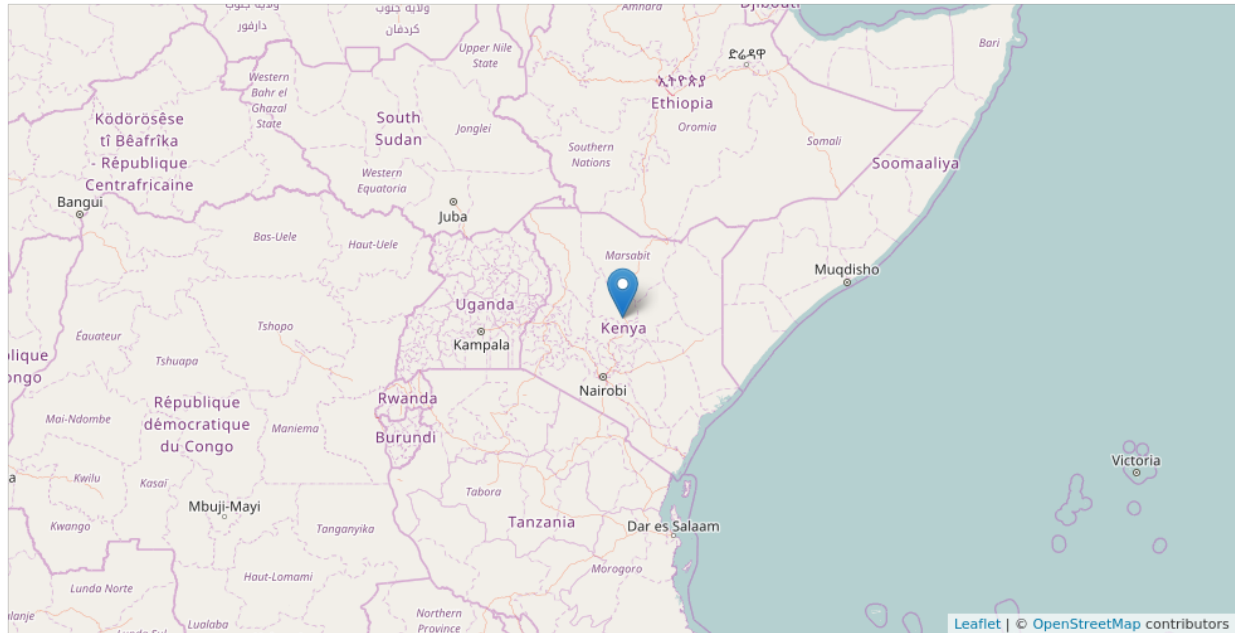
13C/12C	15N/14N	18O/16O	2H/1H	34S/32S
-20.2	10.6	14.5	-35.2	9.5

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
```

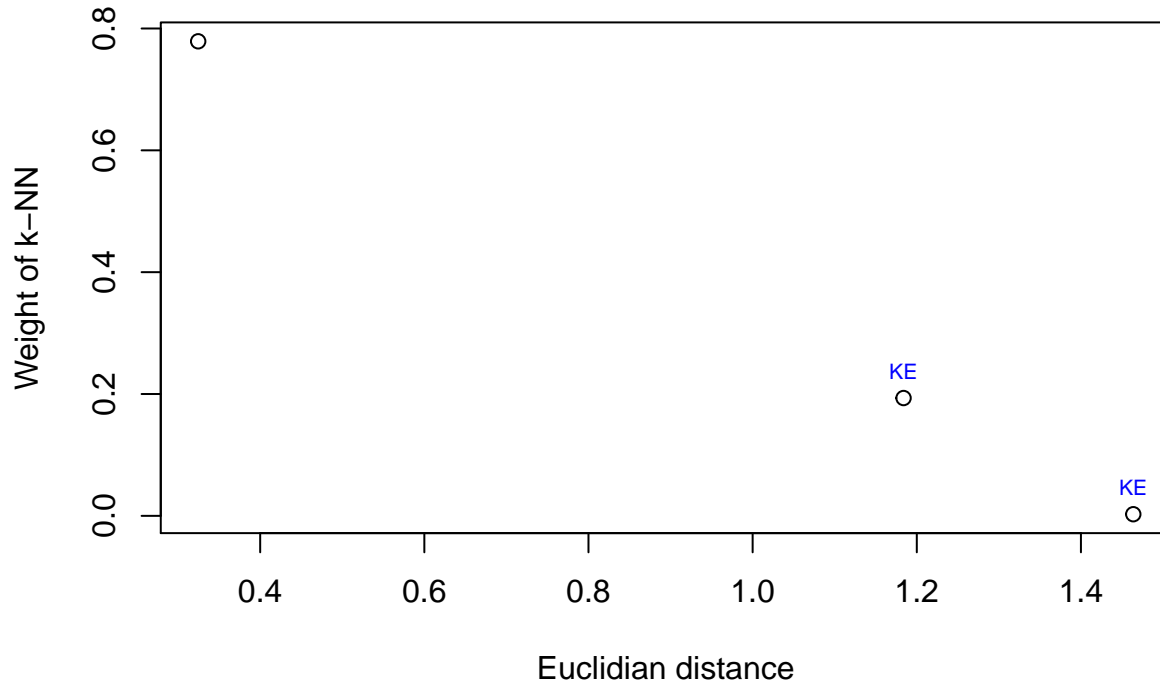
Map of best fitted reference sample



Best fitted reference sample:

- Site: Kenya
- Country: KE
- Region: East Africa
- CITES: Appendix I
- Lat: 0.73
- Lon: 37.49

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
37.49	0.73	Kenya	-20.4	10.2	14.8	-33.4	9.3
37.88	-2.90	Kenya, Elefant wurde bei Iltital (zwischen	-19.4	12.0	15.3	-42.8	10.4
36.70	0.35	Kenya, Laikipia Plateau, nordwestlich von	-18.2	11.5	16.0	-37.1	11.3

Country of prediction: **KE**

Testing robustness of assignment: Wilcoxon signed rank test

If $p\text{-value} > 0.05$, 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

“0.38, 0.22, 0.19”

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**”