

Summary Staistic for Penguins_raw dataset

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```
library(Hmisc)
library(DataExplorer)
library(palmerpenguins)
library(table1)
library(xtable)
din <- penguins_raw
summary(din)
colnames(din) <- unlist(lapply(colnames(din),function(x) gsub(" ","_",x)))
```

latex describe


```
#by(din, din$studyName, summary)
latex(describe(din), file = "", caption.placement = "top", title = "Penguins_Raw dataset")
```

17 Variables

din
344 Observations

| | | | | | | | | |
|-----------|---------|----------|--|--|--|--|--|--|
| studyName | | | | | | | | |
| n | missing | distinct | | | | | | |
| 344 | 0 | 3 | | | | | | |

| | | | |
|------------|---------|---------|---------|
| Value | PAL0708 | PAL0809 | PAL0910 |
| Frequency | 110 | 114 | 120 |
| Proportion | 0.320 | 0.331 | 0.349 |

| | | | | | | | | | | | | | |
|---------------|---------|----------|------|-------|-------|------|-------|-------|-------|-------|--------|--------|---|
| Sample_Number | | | | | | | | | | | | |  |
| n | missing | distinct | Info | Mean | Gmd | .05 | .10 | .25 | .50 | .75 | .90 | .95 | |
| 344 | 0 | 152 | 1 | 63.15 | 46.35 | 6.15 | 12.00 | 29.00 | 58.00 | 95.25 | 121.00 | 134.85 | |

lowest : 1 2 3 4 5, highest: 148 149 150 151 152

| | | | | | | | | |
|---------|---------|----------|--|--|--|--|--|--|
| Species | | | | | | | | |
| n | missing | distinct | | | | | | |
| 344 | 0 | 3 | | | | | | |

| | | | | |
|------------|-------------------------------------|--|---|--|
| Value | Adelie Penguin (Pygoscelis adeliae) | | Chinstrap penguin (Pygoscelis antarctica) | |
| Frequency | 152 | | 68 | |
| Proportion | 0.442 | | 0.198 | |
| Value | Gentoo penguin (Pygoscelis papua) | | | |
| Frequency | 124 | | | |
| Proportion | 0.360 | | | |

| | | | |
|--------|---------|----------|--------|
| Region | | | |
| n | missing | distinct | value |
| 344 | 0 | 1 | Anvers |

| | |
|------------|--------|
| Value | Anvers |
| Frequency | 344 |
| Proportion | 1 |

| | | | | | | | | |
|--------|---------|----------|--|--|--|--|--|--|
| Island | | | | | | | | |
| n | missing | distinct | | | | | | |
| 344 | 0 | 3 | | | | | | |

| | | |
|------------|--------|-----------------|
| Value | Biscoe | Dream Torgersen |
| Frequency | 168 | 124 52 |
| Proportion | 0.488 | 0.360 0.151 |

| | | | | |
|-------|---------|----------|--------------------|--|
| Stage | | | | |
| n | missing | distinct | value | |
| 344 | 0 | 1 | Adult, 1 Egg Stage | |

| | |
|------------|--------------------|
| Value | Adult, 1 Egg Stage |
| Frequency | 344 |
| Proportion | 1 |

Individual_ID

| n | missing | distinct |
|-----|---------|----------|
| 344 | 0 | 190 |

lowest : N100A1 N100A2 N10A1 N10A2 N11A1 , highest: N98A2 N99A1 N99A2 N9A1 N9A2

Clutch_Completion

| n | missing | distinct |
|-----|---------|----------|
| 344 | 0 | 2 |

| Value | No | Yes |
|------------|-------|-------|
| Frequency | 36 | 308 |
| Proportion | 0.105 | 0.895 |

Date_Egg



| n | missing | distinct | Info | Mean | Gmd | .05 | .10 |
|------------|------------|------------|------------|------------|-----|------------|------------|
| 344 | 0 | 50 | 0.999 | 2008-11-27 | 328 | 2007-11-12 | 2007-11-16 |
| .25 | .50 | .75 | .90 | .95 | | | |
| 2007-11-28 | 2008-11-09 | 2009-11-16 | 2009-11-22 | 2009-11-26 | | | |

lowest : 2007-11-09 2007-11-10 2007-11-11 2007-11-12 2007-11-13
highest: 2009-11-22 2009-11-23 2009-11-25 2009-11-27 2009-12-01

Culmen_Length_(mm)



| n | missing | distinct | Info | Mean | Gmd | .05 | .10 | .25 | .50 | .75 | .90 | .95 |
|-----|---------|----------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 342 | 2 | 164 | 1 | 43.92 | 6.274 | 35.70 | 36.60 | 39.23 | 44.45 | 48.50 | 50.80 | 51.99 |

lowest : 32.1 33.1 33.5 34 34.1, highest: 55.1 55.8 55.9 58 59.6

Culmen_Depth_(mm)



| n | missing | distinct | Info | Mean | Gmd | .05 | .10 | .25 | .50 | .75 | .90 | .95 |
|-----|---------|----------|------|-------|-------|------|------|------|------|------|------|------|
| 342 | 2 | 80 | 1 | 17.15 | 2.267 | 13.9 | 14.3 | 15.6 | 17.3 | 18.7 | 19.5 | 20.0 |

lowest : 13.1 13.2 13.3 13.4 13.5, highest: 20.7 20.8 21.1 21.2 21.5

Flipper_Length_(mm)



| n | missing | distinct | Info | Mean | Gmd | .05 | .10 | .25 | .50 | .75 | .90 | .95 |
|-----|---------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 342 | 2 | 55 | 0.999 | 200.9 | 16.03 | 181.0 | 185.0 | 190.0 | 197.0 | 213.0 | 220.9 | 225.0 |

lowest : 172 174 176 178 179, highest: 226 228 229 230 231

Body_Mass_(g)



| n | missing | distinct | Info | Mean | Gmd | .05 | .10 | .25 | .50 | .75 | .90 | .95 |
|-----|---------|----------|------|------|-------|------|------|------|------|------|------|------|
| 342 | 2 | 94 | 1 | 4202 | 911.8 | 3150 | 3300 | 3550 | 4050 | 4750 | 5400 | 5650 |

lowest : 2700 2850 2900 2925 2975, highest: 5850 5950 6000 6050 6300

Sex

n missing distinct
333 11 2

Value FEMALE MALE
Frequency 165 168
Proportion 0.495 0.505

$\Delta_{15}N_{(o/oo)}$:

n missing distinct Info Mean Gmd .05 .10 .25 .50 .75 .90 .95
330 14 330 1 8.733 0.6323 7.897 8.047 8.300 8.652 9.172 9.491 9.689

lowest : 7.6322 7.63452 7.63884 7.68528 7.6887 , highest: 9.93727 9.98044 10.0202 10.0237 10.0254

$\Delta_{13}C_{(o/oo)}$:

n missing distinct Info Mean Gmd .05 .10 .25 .50 .75 .90 .95
331 13 331 1 -25.69 0.9093 -26.79 -26.69 -26.32 -25.83 -25.06 -24.53 -24.36

lowest : -27.0185 -26.9547 -26.8964 -26.8648 -26.8635 , highest: -24.1657 -24.1026 -23.9031 -23.8902 -23.7877

Comments

n missing distinct
54 290 10

lowest : Adult not sampled.
highest: No blood sample obtained.

Adult not sampled. Nest never observed with full
No delta15N data received from lab.

table1

```
table1(~.-Date_Egg-Individual_ID-Sample_Number|studyName, data=din)
```

| | PAL0708 | PAL0809 | PAL0910 | Overall |
|--|------------|------------|------------|-------------|
| | (N=110) | (N=114) | (N=120) | (N=344) |
| Species | | | | |
| Adelie Penguin (<i>Pygoscelis adeliae</i>) | 50 (45.5%) | 50 (43.9%) | 52 (43.3%) | 152 (44.2%) |
| Chinstrap penguin (<i>Pygoscelis antarctica</i>) | 26 (23.6%) | 18 (15.8%) | 24 (20.0%) | 68 (19.8%) |
| Gentoo penguin (<i>Pygoscelis papua</i>) | 34 (30.9%) | 46 (40.4%) | 44 (36.7%) | 124 (36.0%) |

| | PAL0708 | PAL0809 | PAL0910 | Overall |
|---------------------|-------------------|-------------------|-------------------|-------------------|
| Region | | | | |
| Anvers | 110 (100%) | 114 (100%) | 120 (100%) | 344 (100%) |
| Island | | | | |
| Biscoe | 44 (40.0%) | 64 (56.1%) | 60 (50.0%) | 168 (48.8%) |
| Dream | 46 (41.8%) | 34 (29.8%) | 44 (36.7%) | 124 (36.0%) |
| Torgersen | 20 (18.2%) | 16 (14.0%) | 16 (13.3%) | 52 (15.1%) |
| Stage | | | | |
| Adult, 1 Egg Stage | 110 (100%) | 114 (100%) | 120 (100%) | 344 (100%) |
| Clutch_Completion | | | | |
| No | 16 (14.5%) | 10 (8.8%) | 10 (8.3%) | 36 (10.5%) |
| Yes | 94 (85.5%) | 104 (91.2%) | 110 (91.7%) | 308 (89.5%) |
| Culmen_Length_(mm) | | | | |
| Mean (SD) | 43.7 (5.39) | 43.5 (5.34) | 44.5 (5.64) | 43.9 (5.46) |
| Median [Min, Max] | 44.1 [34.1, 59.6] | 43.9 [33.1, 54.3] | 44.9 [32.1, 55.9] | 44.5 [32.1, 59.6] |
| Missing | 1 (0.9%) | 0 (0%) | 1 (0.8%) | 2 (0.6%) |
| Culmen_Depth_(mm) | | | | |
| Mean (SD) | 17.4 (2.15) | 16.9 (1.98) | 17.1 (1.79) | 17.2 (1.97) |
| Median [Min, Max] | 17.9 [13.1, 21.5] | 17.0 [13.3, 21.1] | 17.1 [13.7, 20.7] | 17.3 [13.1, 21.5] |
| Missing | 1 (0.9%) | 0 (0%) | 1 (0.8%) | 2 (0.6%) |
| Flipper_Length_(mm) | | | | |
| Mean (SD) | 197 (13.9) | 203 (13.9) | 203 (13.7) | 201 (14.1) |
| Median [Min, Max] | 195 [172, 230] | 200 [178, 231] | 199 [176, 230] | 197 [172, 231] |
| Missing | 1 (0.9%) | 0 (0%) | 1 (0.8%) | 2 (0.6%) |
| Body_Mass_(g) | | | | |
| Mean (SD) | 4120 (793) | 4270 (789) | 4210 (823) | 4200 (802) |
| Median [Min, Max] | 3900 [2900, 6300] | 4200 [2700, 6000] | 4000 [2900, 6000] | 4050 [2700, 6300] |
| Missing | 1 (0.9%) | 0 (0%) | 1 (0.8%) | 2 (0.6%) |
| Sex | | | | |
| FEMALE | 51 (46.4%) | 56 (49.1%) | 58 (48.3%) | 165 (48.0%) |

| | PAL0708 | PAL0809 | PAL0910 | Overall |
|--|----------------------|----------------------|----------------------|----------------------|
| MALE | 52 (47.3%) | 57 (50.0%) | 59 (49.2%) | 168 (48.8%) |
| Missing | 7 (6.4%) | 1 (0.9%) | 3 (2.5%) | 11 (3.2%) |
| Delta_15_N_(o/oo) | | | | |
| Mean (SD) | 8.70 (0.634) | 8.64 (0.464) | 8.85 (0.539) | 8.73 (0.552) |
| Median [Min, Max] | 8.73 [7.63, 10.0] | 8.56 [7.70, 10.0] | 8.87 [7.89, 9.98] | 8.65 [7.63, 10.0] |
| Missing | 12 (10.9%) | 0 (0%) | 2 (1.7%) | 14 (4.1%) |
| Delta_13_C_(o/oo) | | | | |
| Mean (SD) | -25.1 (0.400) | -26.2 (0.765) | -25.7 (0.719) | -25.7 (0.794) |
| Median [Min, Max] | -25.1 [-25.7, -24.1] | -26.5 [-27.0, -23.9] | -26.0 [-26.8, -23.8] | -25.8 [-27.0, -23.8] |
| Missing | 12 (10.9%) | 0 (0%) | 1 (0.8%) | 13 (3.8%) |
| Comments | | | | |
| Adult not sampled. | 1 (0.9%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Nest never observed with full clutch. | 15 (13.6%) | 10 (8.8%) | 9 (7.5%) | 34 (9.9%) |
| Nest never observed with full clutch. Not enough blood for isotopes. | 1 (0.9%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| No blood sample obtained for sexing. | 2 (1.8%) | 0 (0%) | 0 (0%) | 2 (0.6%) |
| No blood sample obtained. | 2 (1.8%) | 0 (0%) | 0 (0%) | 2 (0.6%) |
| Not enough blood for isotopes. | 7 (6.4%) | 0 (0%) | 0 (0%) | 7 (2.0%) |
| Sexing primers did not amplify. | 1 (0.9%) | 1 (0.9%) | 2 (1.7%) | 4 (1.2%) |
| Sexing primers did not amplify. | 1 (0.9%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Not enough blood for isotopes. | | | | |
| Adult not sampled. Nest never observed with full clutch. | 0 (0%) | 0 (0%) | 1 (0.8%) | 1 (0.3%) |
| No delta15N data received from lab. | 0 (0%) | 0 (0%) | 1 (0.8%) | 1 (0.3%) |
| Missing | 80 (72.7%) | 103 (90.4%) | 107 (89.2%) | 290 (84.3%) |

DataExplorer plot_missing

```
DataExplorer::plot_missing(din)
```

