



**COMADRE**

Animal Matrix Database

<http://git.io/vcpty>



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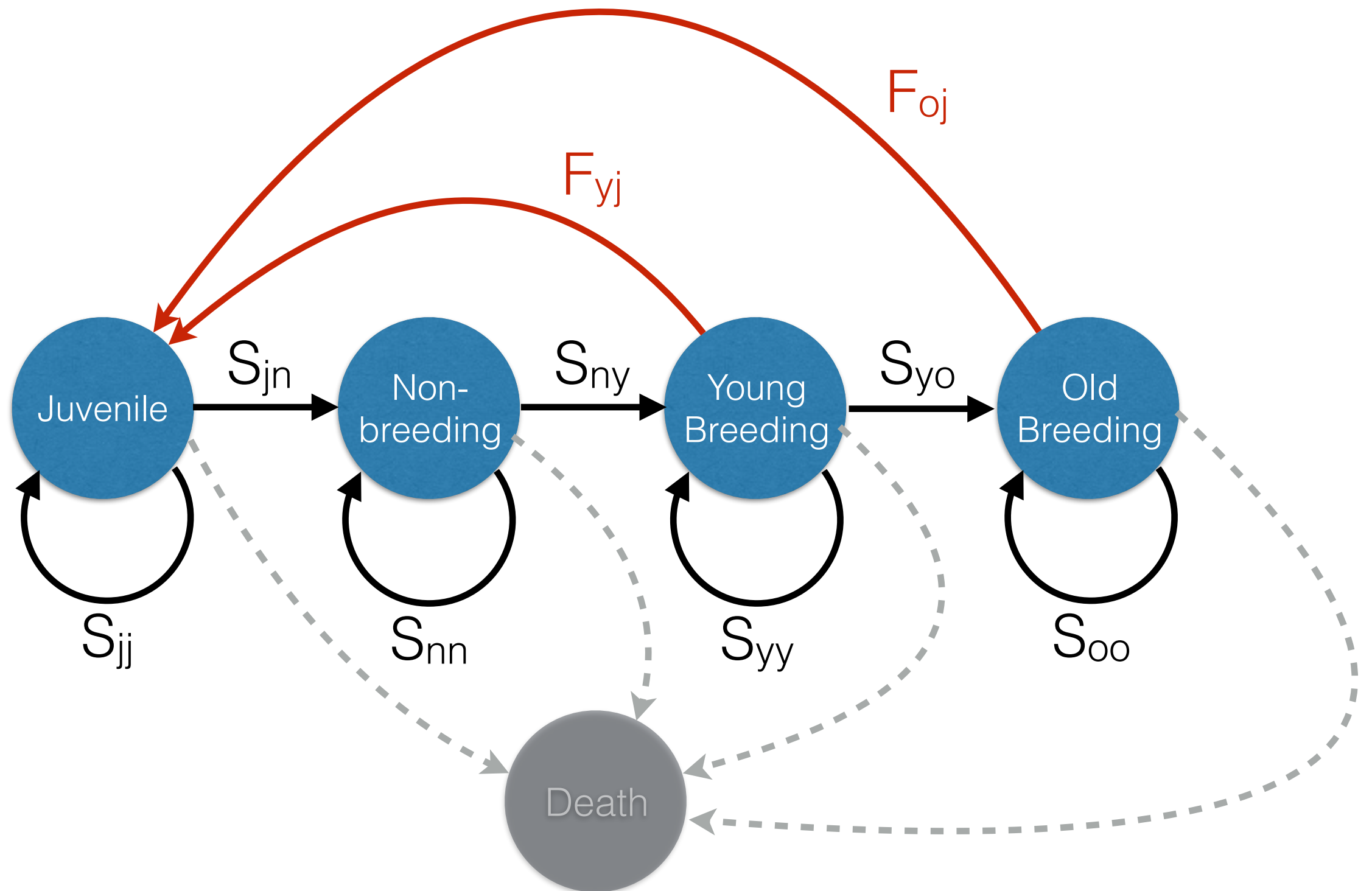
Animal Matrix Database



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Plant Matrix Database

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transition matrix

$$\mathbf{A} = \begin{bmatrix} S_{jj} & 0 & F_{yj} & F_{oj} \\ S_{jn} & S_{nn} & 0 & 0 \\ 0 & S_{ny} & S_{yy} & 0 \\ 0 & 0 & S_{yo} & S_{oo} \end{bmatrix}$$

population  
vector

$$\mathbf{n} = \begin{bmatrix} j \\ n \\ y \\ o \end{bmatrix}$$

$$\mathbf{n}_{t+1} = \mathbf{A} \mathbf{n}_t$$

$$\mathbf{n}_t = \mathbf{A}^t \mathbf{n}_0$$

transition matrix

$$\mathbf{A} = \begin{bmatrix} 0.5 & 0 & 2.9 & 1.6 \\ 0.3 & 0.4 & 0 & 0 \\ 0 & 0.6 & 0.5 & 0 \\ 0 & 0 & 0.2 & 0.3 \end{bmatrix}$$

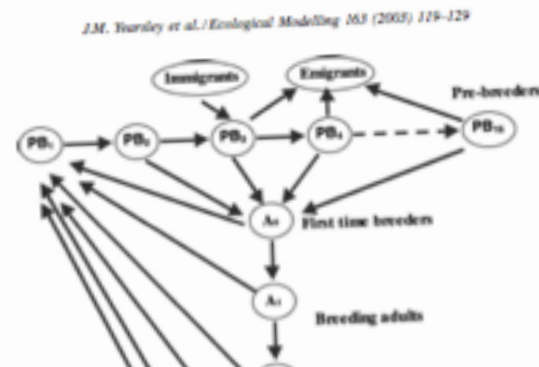
population  
vector

$$n = \begin{bmatrix} j \\ n \\ y \\ o \end{bmatrix}$$

$$n_{t+1} = \mathbf{A} n_t$$

$$n_t = \mathbf{A}^t n_0$$

Although matrices are standard mathematical objects...



Brooks, King & Morgan 2004; Schaub *et al.* 2007):

$$\begin{bmatrix} N_{f, HY} \\ N_{f, AHY} \\ N_{f, ...} \end{bmatrix}$$

1 year	1	0.417	0.49	0.513	0.435	0.562	0.58
2 years	2	0.739	0	0	0	0	0
3 years	3	0	0.624	0	0	0	0
4 years	4	0	0	0.513	0	0	0
5 years	5	0	0	0	0.732	0	0
6+ years	6	0	0	0	0	0.447	0.486

**Table 1.** Back-transformed (identity scale) parameter estimates under average conditions of population size and pond number, from Model 3. For fecundity, 'offspring per female' stands for the number of duckling of both sexes surviving up to the banding operations in July–September, per female present on the breeding ground in May. 'Presence of HY females' stands for the probability for a hatch-year female to reach the breeding grounds before the May survey immediately preceding their first birthday, conditional on survival. For recovery, these values correspond to years with a bag limit of

	Mean	SD	95% Credible interval
on count on the survey area was			
number was 27 618			
HY males	0.648	0.012	0.624; 0.669
HY females	0.447	0.023	0.401; 0.492
Recovery probability ( <i>r</i> )	0.466	0.024	0.419; 0.511
AHY males	0.036	0.002	0.031; 0.041
AHY females	0.021	0.002	0.017; 0.026
HY males	0.048	0.005	0.039; 0.058
HY females	0.036	0.002	0.031; 0.041

AHY, after hatch year; HY, hatch-year.

**Table 1**  
Notation for the model parameters, together with their estimated values (Jhanner *et al.*, 2008)

Name	Parameter	Estimate
PFB	Scaling factor for the probability of first breeding	1.000
PST	Probability prebreeders stay at colony each year after prebreeding age class 3	0.755
IMM	Ratio of immigrants to year 2 natal prebreeders entering prebreeder age class 3	1.222
BRK	Probability that a breeding bird skips a breeding season	0.314
BS	Breeding success	0.306
JR	Juvenile reappearance rate from fledging to year 1	0.583
BRS	Breeder survival	0.912
NBR5	Non-breeder survival	0.912
PBR1	Prebreeder reappearance probability from year 1–2	0.867
PBR2	Prebreeder reappearance probability from year 2–3	0.923
PBR3	Prebreeder reappearance probability from year 3 onwards	0.912

The mean of the estimated population size was approximately 150.

... their presentation is highly variable.



## Study and species-specific metadata

## Matrix-specific metadata

# Matrices





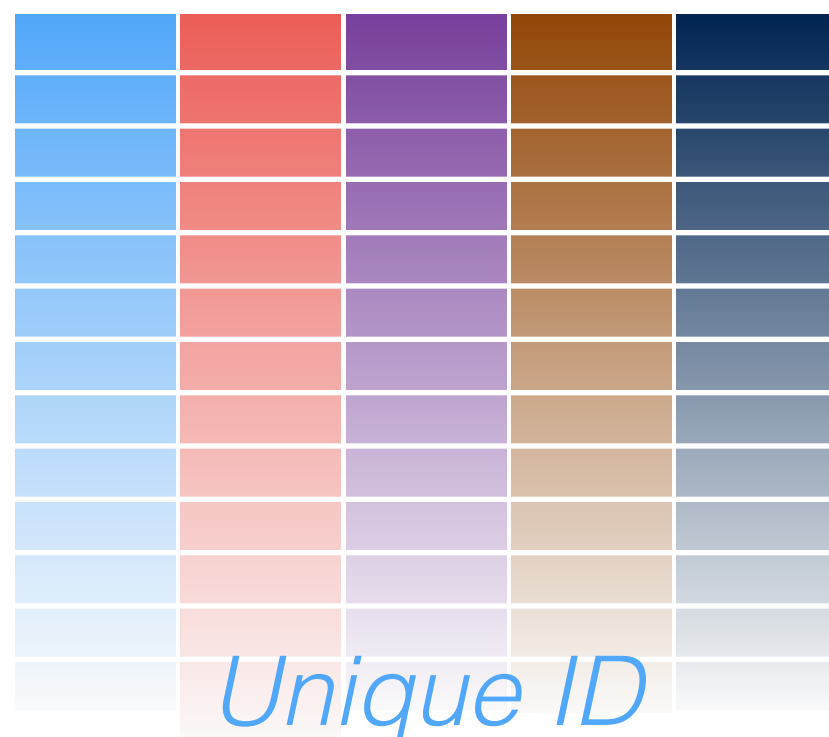
All of this information is coerced into a single R object:

`COMADRE_v.1.0.0.RData`

`COMPADRE_10_2_2015_version_3.2.1.RData`



## Study metadata



Source info.

Species

Taxonomy

Growth form

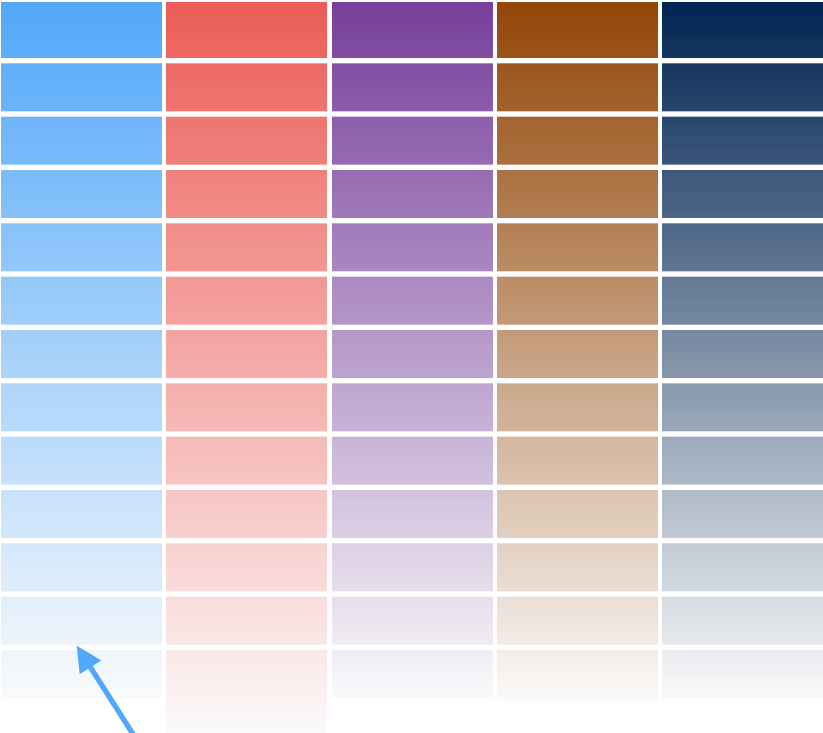
Geo-location

...

## Matrix metadata & matrices



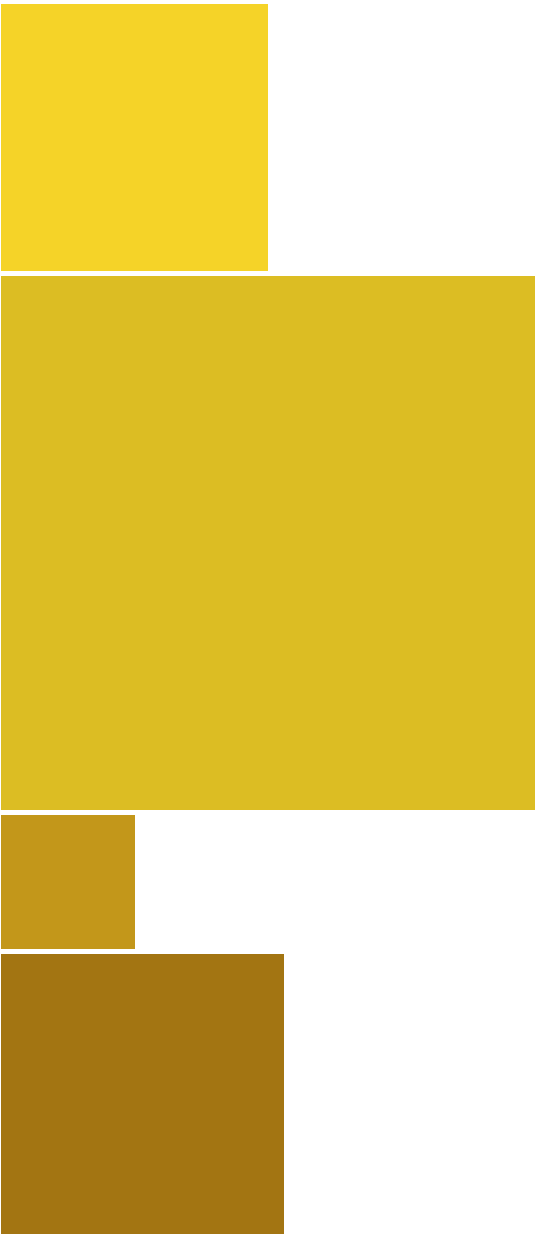
Study-specific data metadata



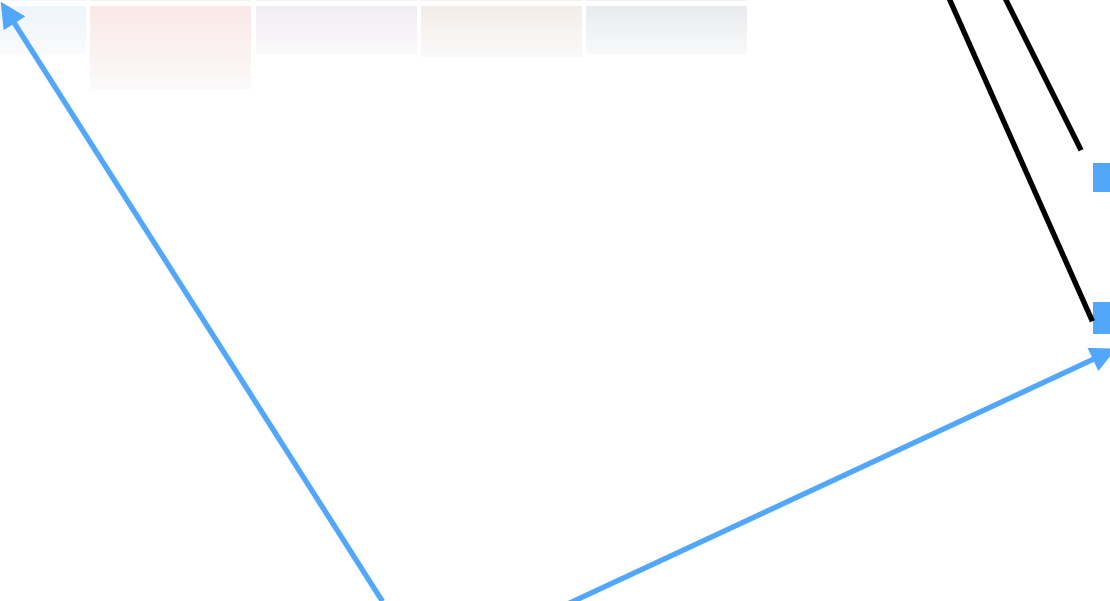
Matrix-specific metadata



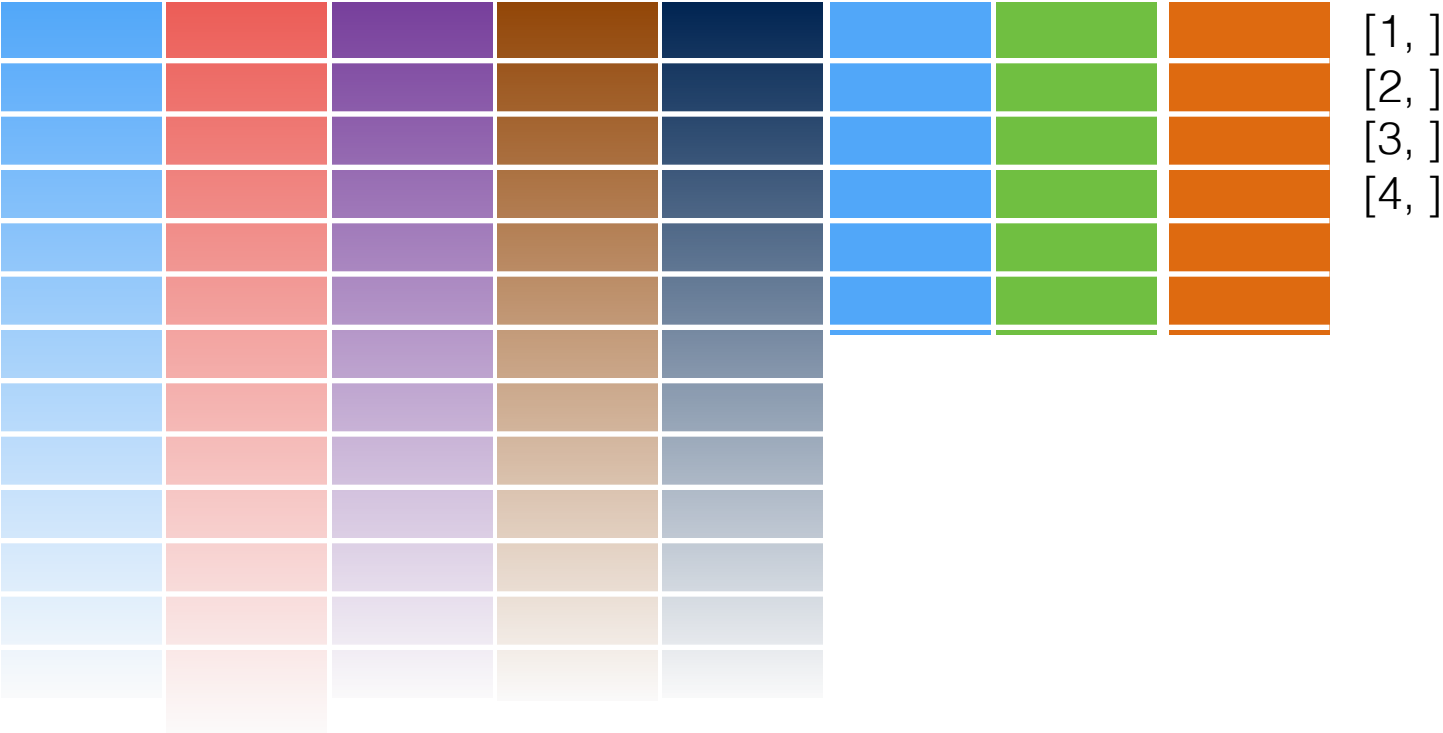
Matrices



Unique ID

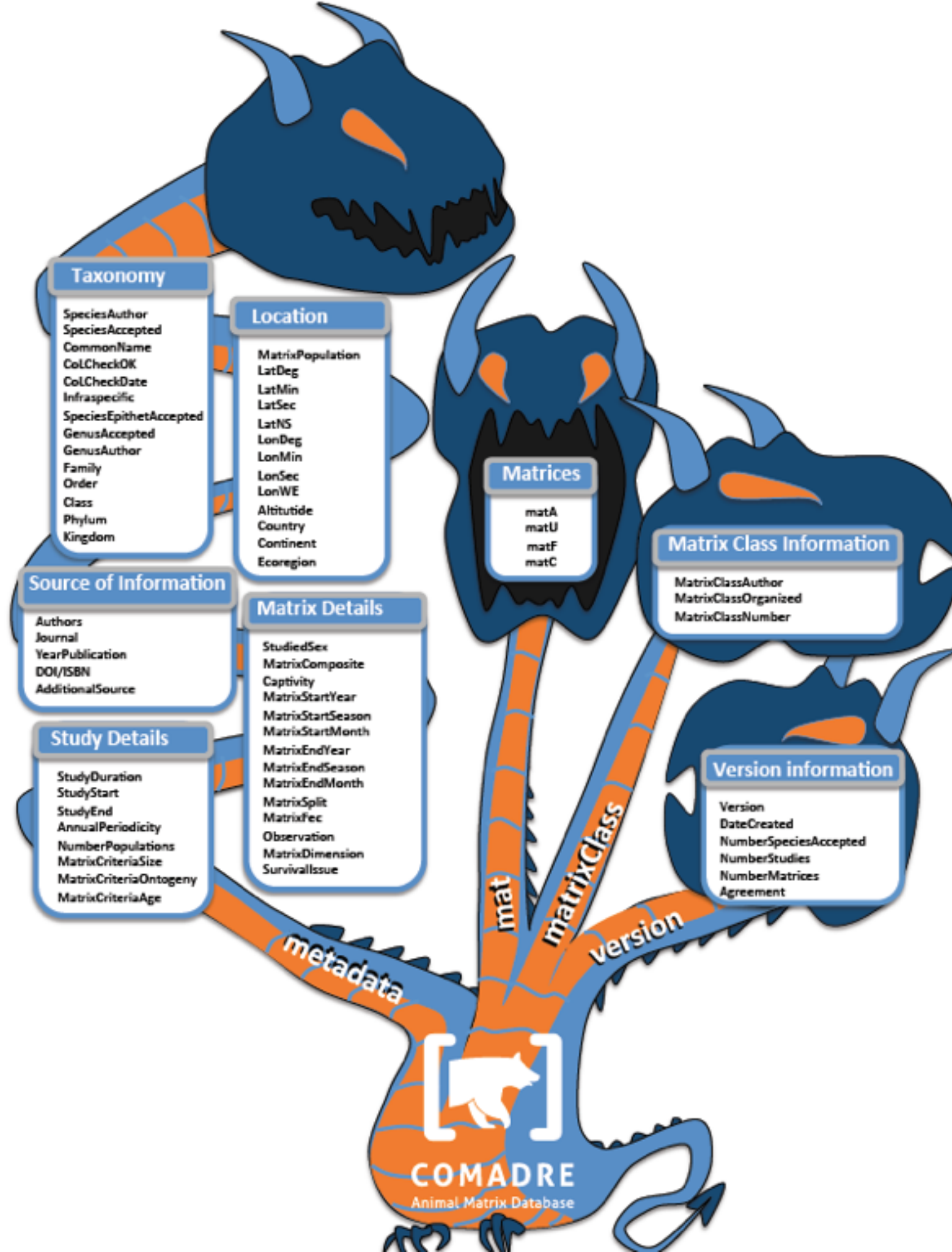


compadre\$metadata



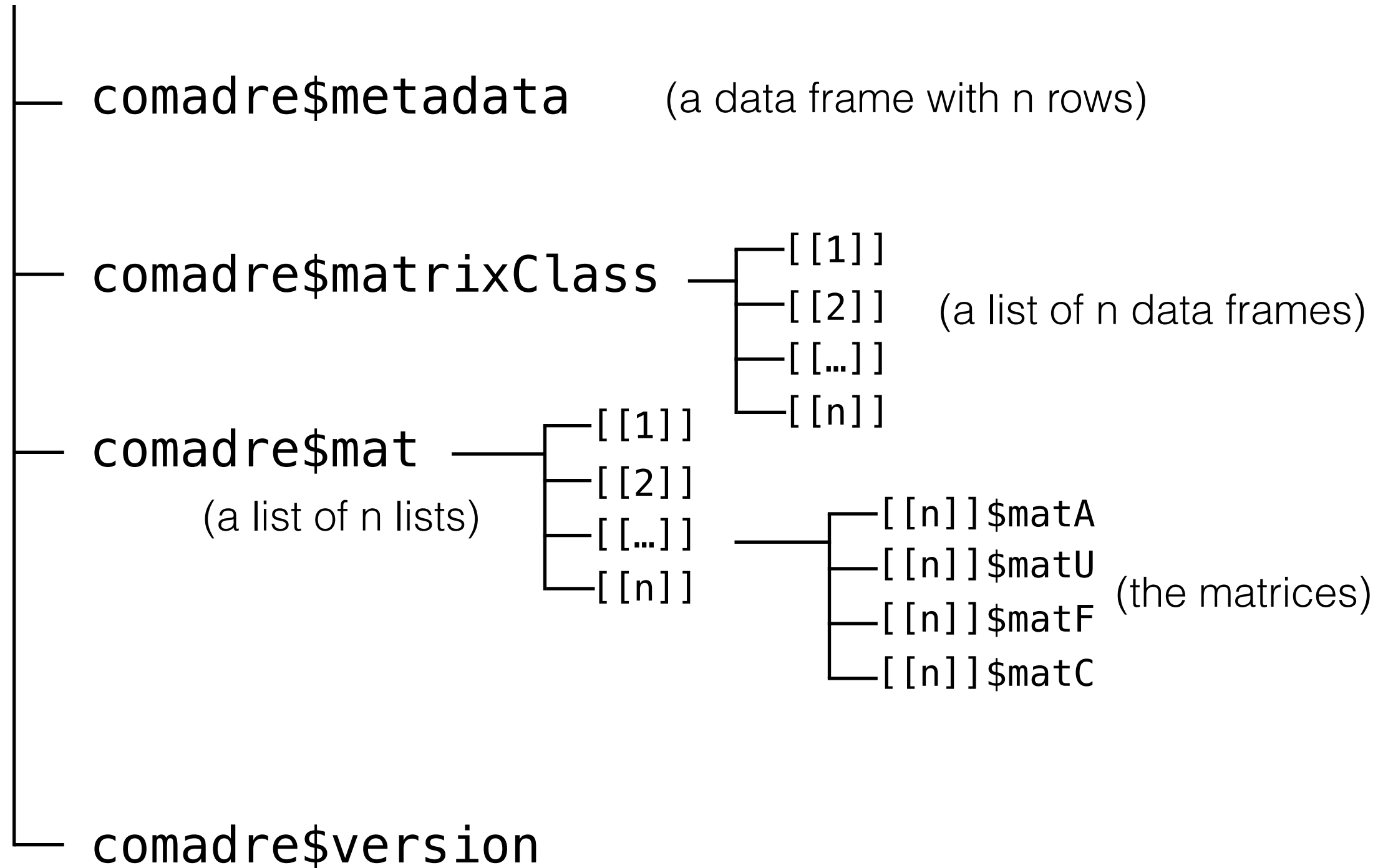
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