

TaxonomyNet: A Consistent and Efficient Model for Taxonomic Rank Identification in Wildlife Images

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Image Distribution Across Taxonomic Ranks for Training, Testing, and Validation Sets

This supplementary file comprehensively overviews the higher taxonomic ranks, including genus, family, order, class, and phylum. Table 1 outlines the specific categories within each rank, while the remaining tables detail the image count distribution across these classifications. The distribution is categorized into training, testing, and validation sets, ensuring transparency in how the data is divided and used in model development. Each table shows the number of images per category within the respective taxonomic ranks, providing insight into the dataset's structure and its allocation for model training and evaluation. The first column of each table contains numbers representing the label ID of each category within the respective rank, followed by the category name. The subsequent three columns indicate the number of images in the training set, testing set, and validation set for each category.

Table 1. Full List of Higher Taxonomic Ranks

Genus		Family		Order	Class	Phylum
Dromaius	Pogona	Casuariidae	Cheloniidae	Casuariiformes	Aves	Chordata
Macropus	Chelonia	Macropodidae	Pelodryadidae	Diprotodontia	Mammalia	Mollusca
Phascolarctos	Eretmochelys	Phascolarctidae	Myobatrachidae	Artiodactyla	Reptilia	Echinodermata
Tursiops	Litoria	Delphinidae	Carcharhinidae	Pelecaniformes	Amphibia	Arthropoda
Threskiornis	Ranoidea	Threskiornithidae	Triakidae	Passeriformes	Elasmobranchii	
Gymnorhina	Crinia	Cracticidae	Dasyatidae	Psittaciformes	Gastropoda	
Platycercus	Carcharhinus	Psittacidae	Muricidae	Charadriiformes	Echinoidea	
Cacatua	Galeorhinus	Laridae	Conidae	Anseriformes	Arachnida	
Chroicocephalus	Bathytoshia	Charadriidae	Echinometridae	Chiroptera		
Thalasseus	Dicathais	Anatidae	Elapidae	Rodentia		
Vanellus	Conus	Phalangeridae	Camelidae	Carnivora		
Anas	Heliocidaris	Pteropodidae	Dasyuridae	Squamata		
Chenonetta	Pseudonaja	Muridae	Ornithorhynchidae	Testudines		
Cygnus	Camelus	Canidae	Vombatidae	Anura		
Wallabia	Sarcophilus	Phocidae	Alcedinidae	Carcharhiniformes		
Trichosurus	Ornithorhynchus	Scincidae	Araneidae	Myliobatiformes		
Pteropus	Vombatus	Agamidae	Tachyglossidae	Neogastropoda		
Rattus	Dasyurus			Camarodonta		
Vulpes	Dacelo			Dasyuromorphia		
Canis	Trichonephila			Monotremata		
Mirounga	Tachyglossus			Coraciiformes		
Tiliqua	Pastinachus			Araneae		
Mus	Casuarius					
Ctenophorus						

Genus Rank

Table 2. Statistics of Genus Rank Images

Genus	Train Set	Test Set	Valid Set
02-Macropus	600	70	30
03-Phascolarctos	600	70	30
04-Tursiops	600	70	30
05-Threskiornis	600	70	30
06-Gymnorhina	600	70	30
07-Platycercus	600	70	30
08-Cacatua	600	70	30
09-Chroicocephalus	600	70	30
10-Thalasseus	600	70	30
11-Vanellus	600	70	30
12-Anas	600	70	30
13-Chenonetta	600	70	30
14-Cygnus	600	70	30
15-Wallabia	600	70	30
16-Trichosurus	600	70	30
17-Pteropus	600	70	30
18-Rattus	600	70	30
19-Vulpes	600	70	30
20-Canis	600	70	30
21-Mirounga	600	70	30
22-Tiliqua	600	70	30
23-Mus	600	70	30
24-Ctenophorus	600	70	30
25-Pogona	600	70	30
26-Chelonia	600	70	30
27-Eretmochelys	600	70	30
28-Litoria	1200	140	60
29-Ranoidea	600	70	30
30-Crinia	600	70	30
31-Carcharhinus	600	70	30
32-Galeorhinus	600	70	30
33-Bathytoshia	600	70	30
34-Dicathais	600	70	30
35-Conus	1200	140	60
36-Heliocidaris	600	70	30
37-Pseudonaja	600	70	30
38-Camelus	600	70	30
39-Sarcophilus	600	70	30
40-Ornithorhynchus	600	70	30
41-Vombatus	600	70	30
42-Dasyurus	600	70	30
43-Dacelo	600	70	30
44-Trichonephila	1200	140	60
45-Tachyglossus	600	70	30
46-Pastinachus	600	70	30
47-Casuarius	600	70	30

Family Rank

Table 3. Statistics of Family Rank Images

Family	Train Set	Test Set	Valid Set
01-Casuariidae	1200	140	60
02-Macropodidae	1200	140	60
03-Phascolarctidae	600	70	30
04-Delphinidae	600	70	30
05-Threskiornithidae	600	70	30
06-Cracticidae	600	70	30
07-Psittacidae	1200	140	60
08-Laridae	1200	140	60
09-Charadriidae	600	70	30
10-Anatidae	1800	210	90
11-Phalangeridae	600	70	30
12-Pteropodidae	600	70	30
13-Muridae	1200	140	60
14-Canidae	1200	140	60
15-Phocidae	600	70	30
16-Scincidae	600	70	30
17-Agamidae	1200	140	60
18-Cheloniidae	1200	140	60
19-Pelodryadidae	1800	210	90
20-Myobatrachidae	600	70	30
21-Carcharhinidae	600	70	30
22-Triakidae	600	70	30
23-Dasyatidae	1200	140	60
24-Muricidae	600	70	30
25-Conidae	1200	140	60
26-Echinometridae	600	70	30
27-Elapidae	600	70	30
28-Camelidae	600	70	30
29-Dasyuridae	1200	140	60
30-Ornithorhynchidae	600	70	30
31-Vombatidae	600	70	30
32-Alcedinidae	600	70	30
33-Araneidae	1200	140	60
34-Tachyglossidae	600	70	30

Order Rank

Table 4. Statistics of Order Rank Images

Order	Train Set	Test Set	Valid Set
01-Casuariiformes	1200	140	60
02-Diprotodontia	3000	350	150
03-Artiodactyla	1200	140	60
04-Pelecaniformes	600	70	30
05-Passeriformes	600	70	30
06-Psittaciformes	1200	140	60

Table 4. (Continued) Statistics of Order Rank Images

Order	Train Set	Test Set	Valid Set
07-Charadriiformes	1800	210	90
08-Anseriformes	1800	210	90
09-Chiroptera	600	70	30
10-Rodentia	1200	140	60
11-Carnivora	1800	210	90
12-Squamata	2400	280	120
13-Testudines	1200	140	60
14-Anura	2400	280	120
15-Carcharhiniformes	1200	140	60
16-Myliobatiformes	1200	140	60
17-Neogastropoda	1800	210	90
18-Camarodonta	600	70	30
19-Dasyuromorphia	1200	140	60
20-Monotremata	1200	140	60
21-Coraciiformes	600	70	30
22-Araneae	1200	140	60

Class Rank

Table 5. Statistics of Class Rank Images

Class	Train Set	Test Set	Valid Set
01-Aves	7800	910	390
02-Mammalia	10200	1190	510
03-Reptilia	3600	420	180
04-Amphibia	2400	280	120
05-Elasmobranchii	2400	280	120
06-Gastropoda	1800	210	90
07-Echinoidea	600	70	30
08-Arachnida	1200	140	60

Phylum Rank

Table 6. Statistics of Phylum Rank Images

Phylum	Train Set	Test Set	Valid Set
01-Chordata	26400	3080	1320
02-Mollusca	1800	210	90
03-Echinodermata	600	70	30
04-Arthropoda	1200	140	60