

## Flight classification

----- Logistic Regression -----

Acurácia...: 83.0189  
Precision...: 63.7500  
Recall.....: 59.1667  
F1-Score....: 60.5459

	precision	recall	f1-score	support
Exomalopsis	0.40	0.25	0.31	8
Others	0.88	0.93	0.90	45
accuracy			0.83	53
macro avg	0.64	0.59	0.61	53
weighted avg	0.80	0.83	0.81	53

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	2	6	8
Others	3	42	45
All	5	48	53

----- Support Vector Machine -----

Acurácia...: 86.7925  
Precision...: 74.7917  
Recall.....: 66.5278  
F1-Score....: 69.3135

	precision	recall	f1-score	support
Exomalopsis	0.60	0.38	0.46	8
Others	0.90	0.96	0.92	45
accuracy			0.87	53
macro avg	0.75	0.67	0.69	53
weighted avg	0.85	0.87	0.85	53

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	3	5	8
Others	2	43	45
All	5	48	53

----- Random Forest -----

Acurácia...: 81.1321  
 Precision...: 55.3571  
 Recall.....: 52.9167  
 F1-Score....: 53.0142

	precision	recall	f1-score	support
Exomalopsis	0.25	0.12	0.17	8
Others	0.86	0.93	0.89	45
accuracy			0.81	53
macro avg	0.55	0.53	0.53	53
weighted avg	0.77	0.81	0.78	53

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	1	7	8
Others	3	42	45
All	4	49	53

----- Decision Tree -----

Acurácia...: 79.2453  
 Precision...: 60.9848  
 Recall.....: 62.0833  
 F1-Score....: 61.4673

	precision	recall	f1-score	support
Exomalopsis	0.33	0.38	0.35	8
Others	0.89	0.87	0.88	45
accuracy			0.79	53
macro avg	0.61	0.62	0.61	53
weighted avg	0.80	0.79	0.80	53

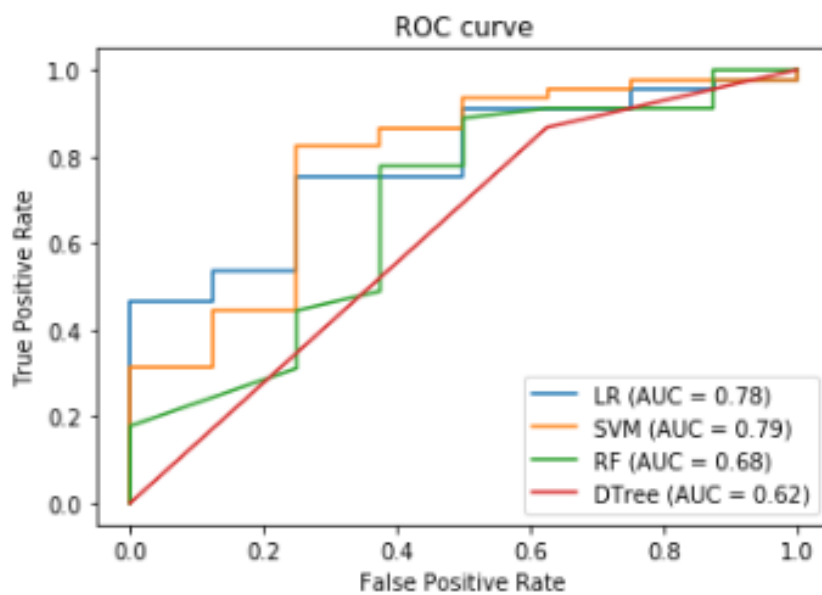
Predicted	Exomalopsis	Others	All
True			
Exomalopsis	3	5	8
Others	6	39	45
All	9	44	53

----- Ensemble -----

Acurácia...: 84.9057  
Precision...: 68.8776  
Recall.....: 60.2778  
F1-Score....: 62.4113

	precision	recall	f1-score	support
Exomalopsis	0.50	0.25	0.33	8
Others	0.88	0.96	0.91	45
accuracy			0.85	53
macro avg	0.69	0.60	0.62	53
weighted avg	0.82	0.85	0.83	53

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	2	6	8
Others	2	43	45
All	4	49	53



## Sonication classification

----- Logistic Regression -----

Acurácia...: 80.9091  
Precision...: 78.8552  
Recall.....: 79.2032  
F1-Score....: 79.0210

	precision	recall	f1-score	support
Exomalopsis	0.72	0.74	0.73	38
Others	0.86	0.85	0.85	72
accuracy			0.81	110
macro avg	0.79	0.79	0.79	110
weighted avg	0.81	0.81	0.81	110

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	28	10	38
Others	11	61	72
All	39	71	110

----- Support Vector Machine -----

Acurácia...: 84.5455  
Precision...: 82.7324  
Recall.....: 83.8450  
F1-Score....: 83.2121

	precision	recall	f1-score	support
Exomalopsis	0.76	0.82	0.78	38
Others	0.90	0.86	0.88	72
accuracy			0.85	110
macro avg	0.83	0.84	0.83	110
weighted avg	0.85	0.85	0.85	110

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	31	7	38
Others	10	62	72
All	41	69	110

----- Random Forest -----

Acurácia...: 88.1818  
Precision...: 86.6207  
Recall.....: 87.8655  
F1-Score....: 87.1622

	precision	recall	f1-score	support
Exomalopsis	0.80	0.87	0.84	38
Others	0.93	0.89	0.91	72
accuracy			0.88	110
macro avg	0.87	0.88	0.87	110
weighted avg	0.89	0.88	0.88	110

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	33	5	38
Others	8	64	72
All	41	69	110

----- Decision Tree -----

Acurácia...: 77.2727  
Precision...: 74.9558  
Recall.....: 75.8041  
F1-Score....: 75.3120

	precision	recall	f1-score	support
Exomalopsis	0.66	0.71	0.68	38
Others	0.84	0.81	0.82	72
accuracy			0.77	110
macro avg	0.75	0.76	0.75	110
weighted avg	0.78	0.77	0.77	110

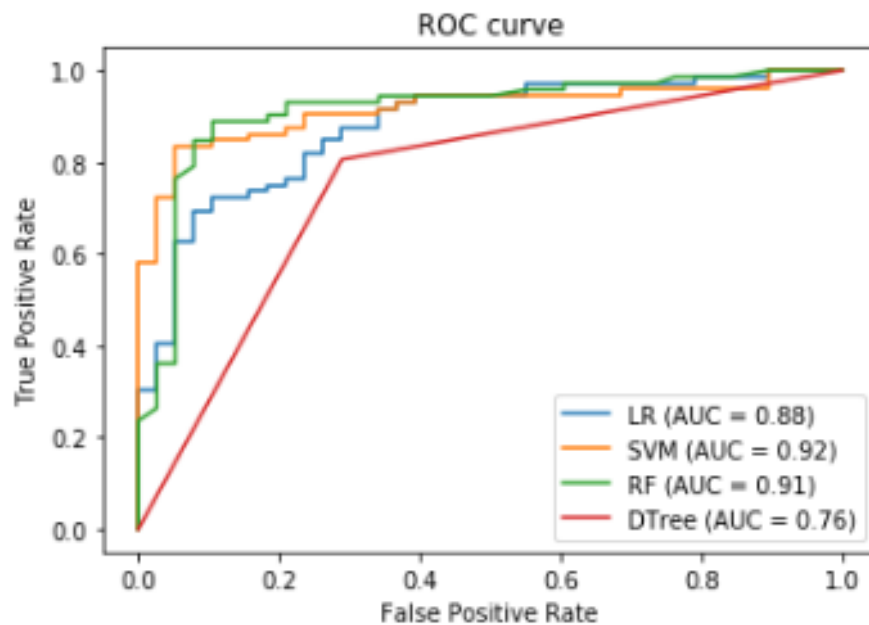
Predicted	Exomalopsis	Others	All
True			
Exomalopsis	27	11	38
Others	14	58	72
All	41	69	110

----- Ensemble -----

Acurácia...: 86.3636  
Precision...: 84.6766  
Recall.....: 85.8553  
F1-Score....: 85.1872

	precision	recall	f1-score	support
Exomalopsis	0.78	0.84	0.81	38
Others	0.91	0.88	0.89	72
accuracy			0.86	110
macro avg	0.85	0.86	0.85	110
weighted avg	0.87	0.86	0.86	110

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	32	6	38
Others	9	63	72
All	41	69	110



## Flight + Sonication classification

----- Logistic Regression -----

Acurácia...: 79.6296  
Precision...: 77.0833  
Recall.....: 75.6535  
F1-Score....: 76.2643

	precision	recall	f1-score	support
Exomalopsis	0.71	0.64	0.67	53
Others	0.83	0.87	0.85	109
accuracy			0.80	162
macro avg	0.77	0.76	0.76	162
weighted avg	0.79	0.80	0.79	162

Predicted \ True	Exomalopsis	Others	All
Exomalopsis	34	19	53
Others	14	95	109
All	48	114	162

----- Support Vector Machine -----

Acurácia...: 85.8025  
Precision...: 85.7738  
Recall.....: 81.2100  
F1-Score....: 82.8729

	precision	recall	f1-score	support
Exomalopsis	0.86	0.68	0.76	53
Others	0.86	0.94	0.90	109
accuracy			0.86	162
macro avg	0.86	0.81	0.83	162
weighted avg	0.86	0.86	0.85	162

Predicted \ True	Exomalopsis	Others	All
Exomalopsis	36	17	53
Others	6	103	109
All	42	120	162

----- Random Forest -----

Acurácia...: 79.0123  
 Precision...: 78.3352  
 Recall.....: 71.8020  
 F1-Score....: 73.4784

	precision	recall	f1-score	support
Exomalopsis	0.77	0.51	0.61	53
Others	0.80	0.93	0.86	109
accuracy			0.79	162
macro avg	0.78	0.72	0.73	162
weighted avg	0.79	0.79	0.78	162

Predicted \ True	Exomalopsis	Others	All
Exomalopsis	27	26	53
Others	8	101	109
All	35	127	162

----- Decision Tree -----

Acurácia...: 72.2222  
 Precision...: 68.1409  
 Recall.....: 66.7561  
 F1-Score....: 67.2727

	precision	recall	f1-score	support
Exomalopsis	0.59	0.51	0.55	53
Others	0.78	0.83	0.80	109
accuracy			0.72	162
macro avg	0.68	0.67	0.67	162
weighted avg	0.71	0.72	0.72	162

Predicted \ True	Exomalopsis	Others	All
Exomalopsis	27	26	53
Others	19	90	109
All	46	116	162



----- Ensemble -----

Acurácia...: 81.4815  
Precision...: 81.3405  
Recall.....: 75.0909  
F1-Score....: 76.9231

	precision	recall	f1-score	support
Exomalopsis	0.81	0.57	0.67	53
Others	0.82	0.94	0.87	109
accuracy			0.81	162
macro avg	0.81	0.75	0.77	162
weighted avg	0.81	0.81	0.80	162

Predicted	Exomalopsis	Others	All
True			
Exomalopsis	30	23	53
Others	7	102	109
All	37	125	162

