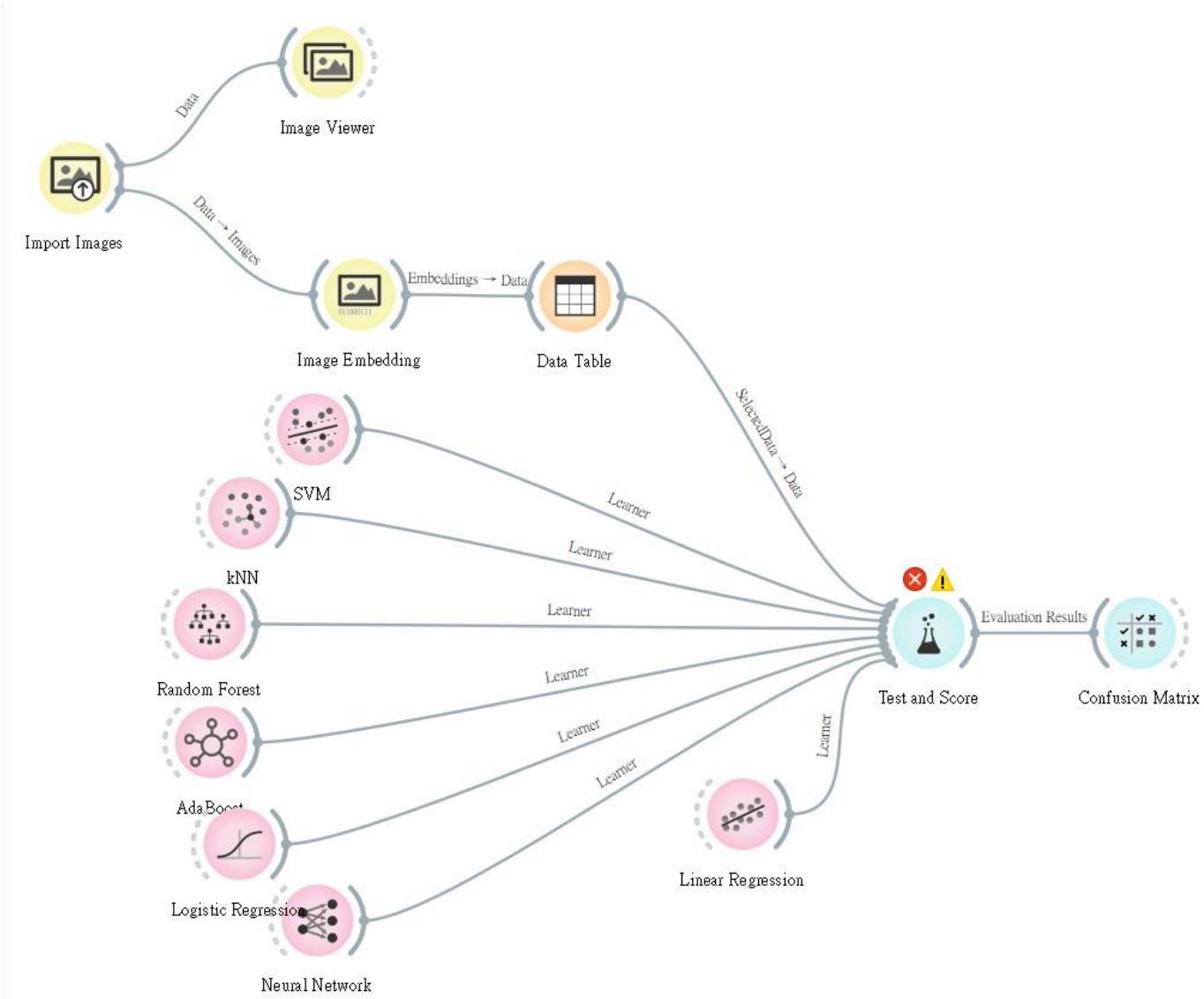


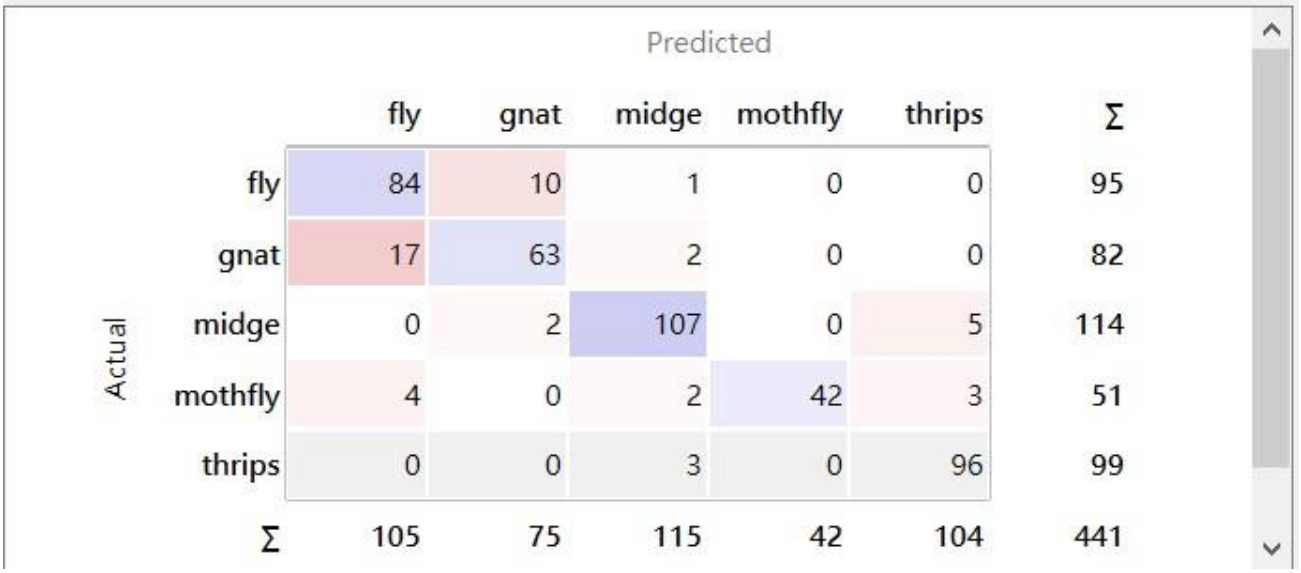
Evaluation results for target (None, show average over classes)

Model	AUC	CA	F1	Prec	Recall	MCC
SVM	0.986	0.889	0.889	0.892	0.889	0.859
kNN	0.963	0.853	0.852	0.862	0.853	0.815
Random Forest	0.945	0.766	0.765	0.767	0.766	0.703
AdaBoost	0.788	0.664	0.666	0.669	0.664	0.576
Neural Network	0.988	0.914	0.914	0.914	0.914	0.891
Logistic Regression	0.991	0.918	0.918	0.918	0.918	0.896
Linear Regression (error)						

Compare models by: Area under ROC curve Negligible diff.: 0.1

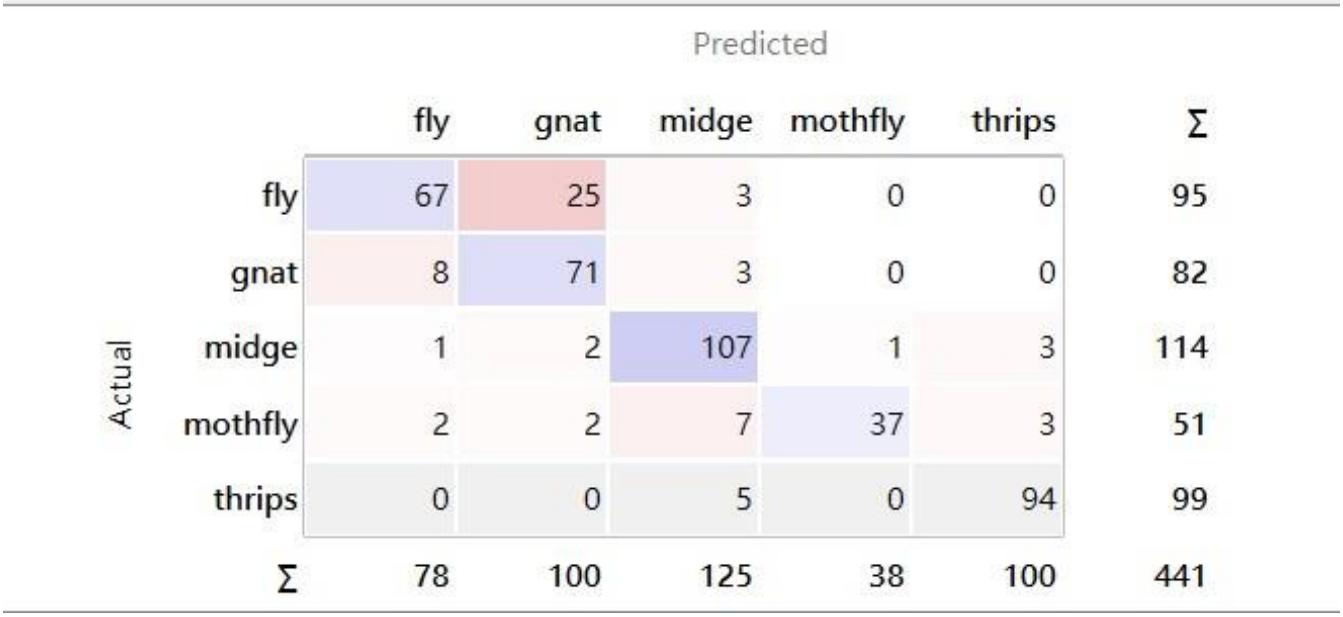
	SVM	kNN	Random Forest	AdaBoost	Neural Network	Logistic Regression
SVM		0.985	0.998	1.000	0.221	0.066
kNN	0.015		0.897	1.000	0.014	0.007
Random Forest	0.002	0.103		1.000	0.003	0.002
AdaBoost	0.000	0.000	0.000		0.000	0.000
Neural Network	0.779	0.986	0.997	1.000		0.021
Logistic Regression	0.934	0.993	0.998	1.000	0.979	

svm



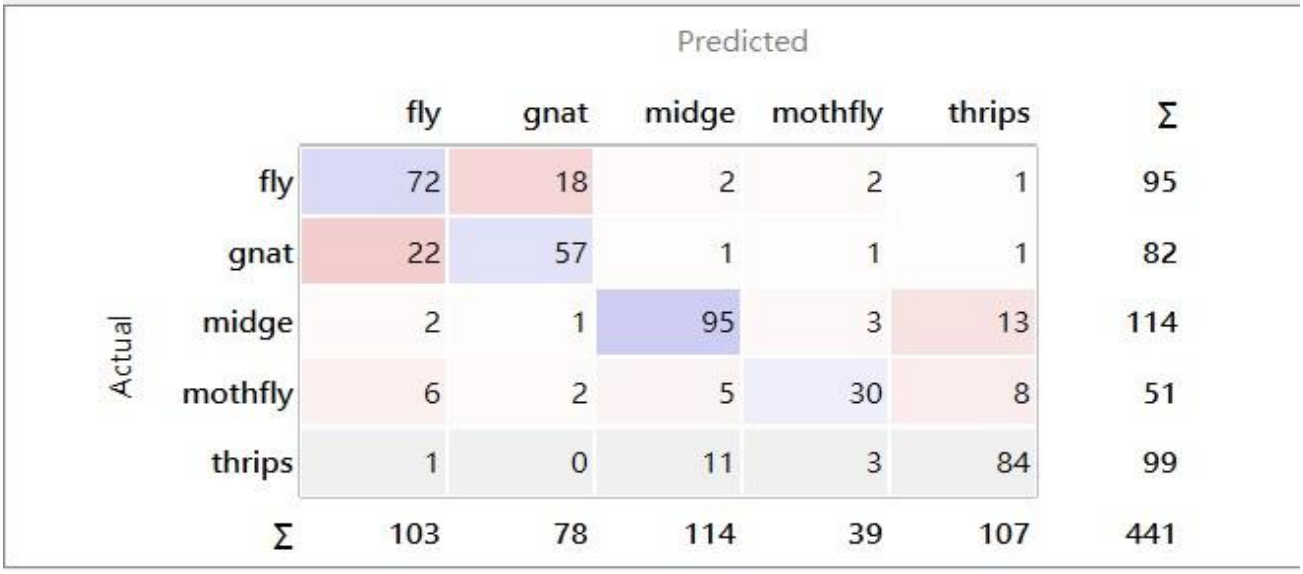
Actual \ Predicted	fly	gnat	midge	mothfly	thrips	Σ
fly	84	10	1	0	0	95
gnat	17	63	2	0	0	82
midge	0	2	107	0	5	114
mothfly	4	0	2	42	3	51
thrips	0	0	3	0	96	99
Σ	105	75	115	42	104	441

knn



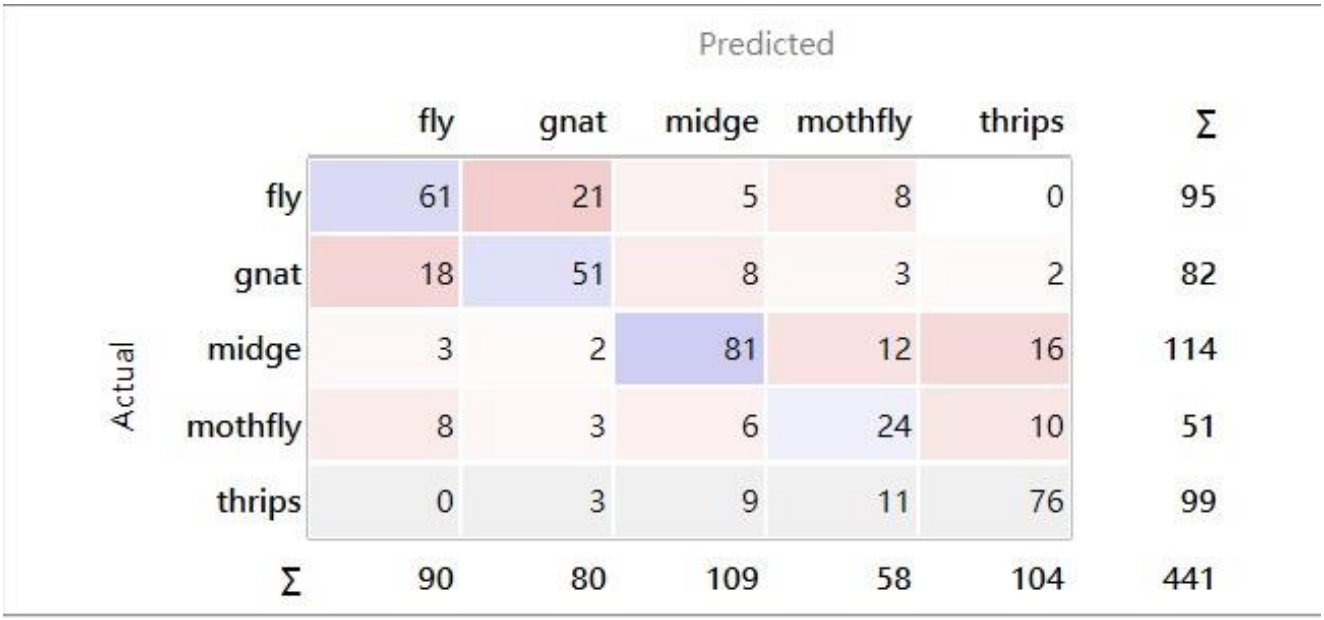
Actual \ Predicted	fly	gnat	midge	mothfly	thrips	Σ
fly	67	25	3	0	0	95
gnat	8	71	3	0	0	82
midge	1	2	107	1	3	114
mothfly	2	2	7	37	3	51
thrips	0	0	5	0	94	99
Σ	78	100	125	38	100	441

Randon Forest



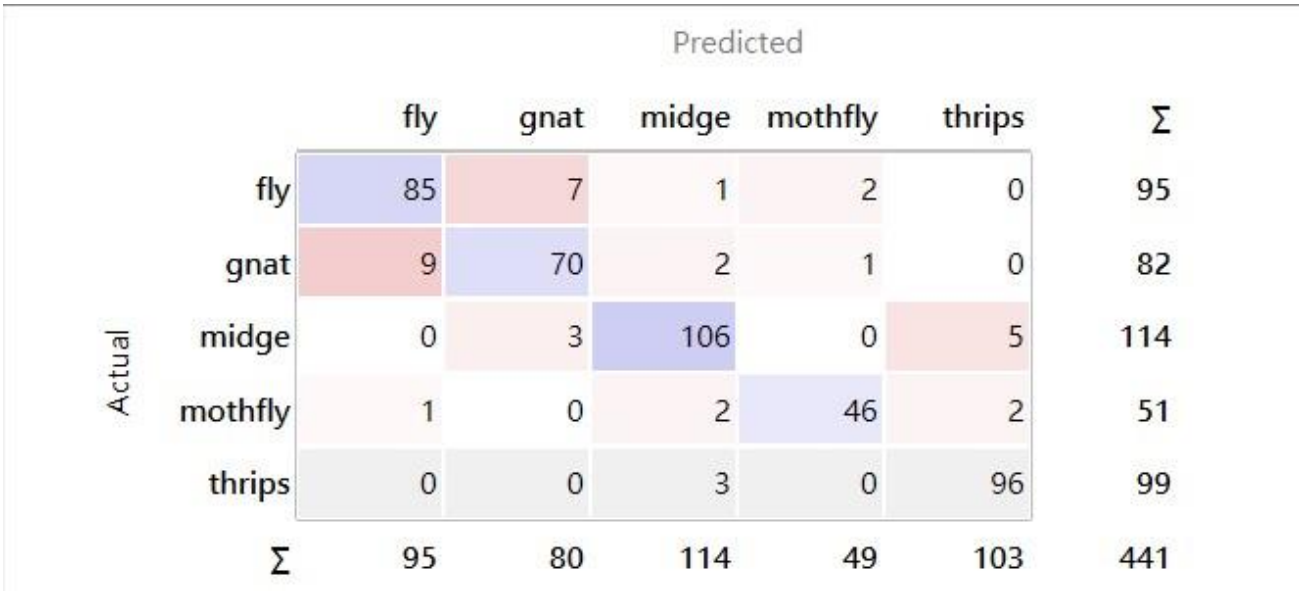
Actual \ Predicted	fly	gnat	midge	mothfly	thrips	Σ
fly	72	18	2	2	1	95
gnat	22	57	1	1	1	82
midge	2	1	95	3	13	114
mothfly	6	2	5	30	8	51
thrips	1	0	11	3	84	99
Σ	103	78	114	39	107	441

AdaBoost



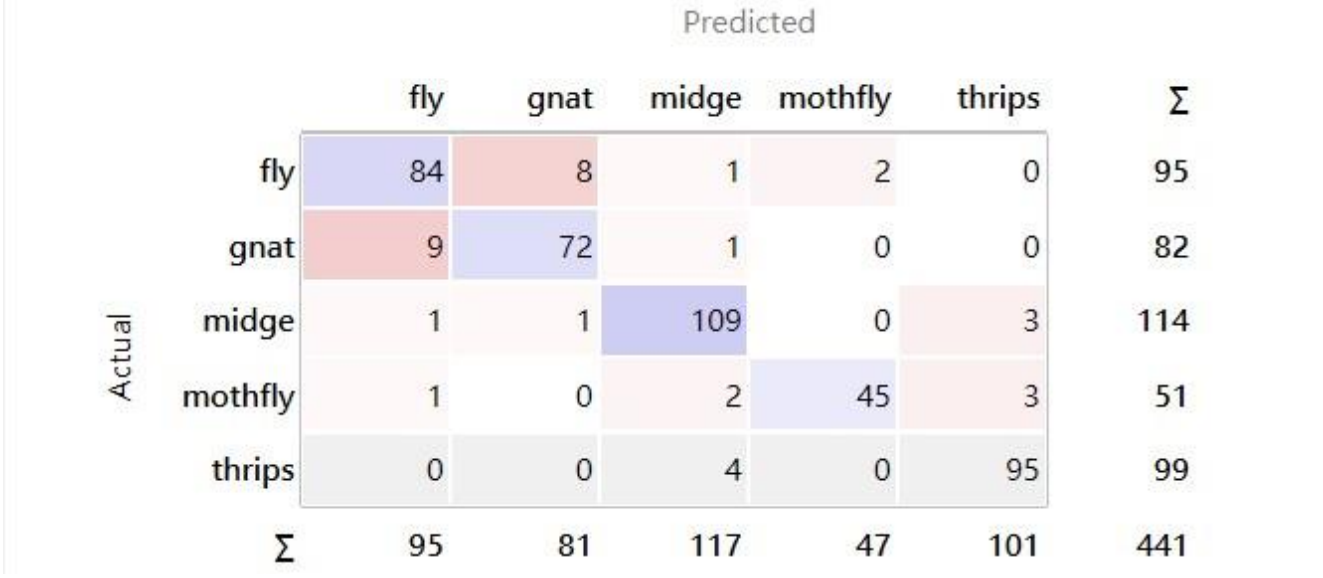
Actual \ Predicted	fly	gnat	midge	mothfly	thrips	Σ
fly	61	21	5	8	0	95
gnat	18	51	8	3	2	82
midge	3	2	81	12	16	114
mothfly	8	3	6	24	10	51
thrips	0	3	9	11	76	99
Σ	90	80	109	58	104	441

Neural Network



Actual \ Predicted	fly	gnat	midge	mothfly	thrips	Σ
fly	85	7	1	2	0	95
gnat	9	70	2	1	0	82
midge	0	3	106	0	5	114
mothfly	1	0	2	46	2	51
thrips	0	0	3	0	96	99
Σ	95	80	114	49	103	441

Logistic Regression



Actual \ Predicted	fly	gnat	midge	mothfly	thrips	Σ
fly	84	8	1	2	0	95
gnat	9	72	1	0	0	82
midge	1	1	109	0	3	114
mothfly	1	0	2	45	3	51
thrips	0	0	4	0	95	99
Σ	95	81	117	47	101	441

Why linear regression can't use for classification?

1. 要分類的資料不一定有線性關係
2. 極端值可能會導致結果大幅度改變
3. Liner regression 大部分情況用於預測結果