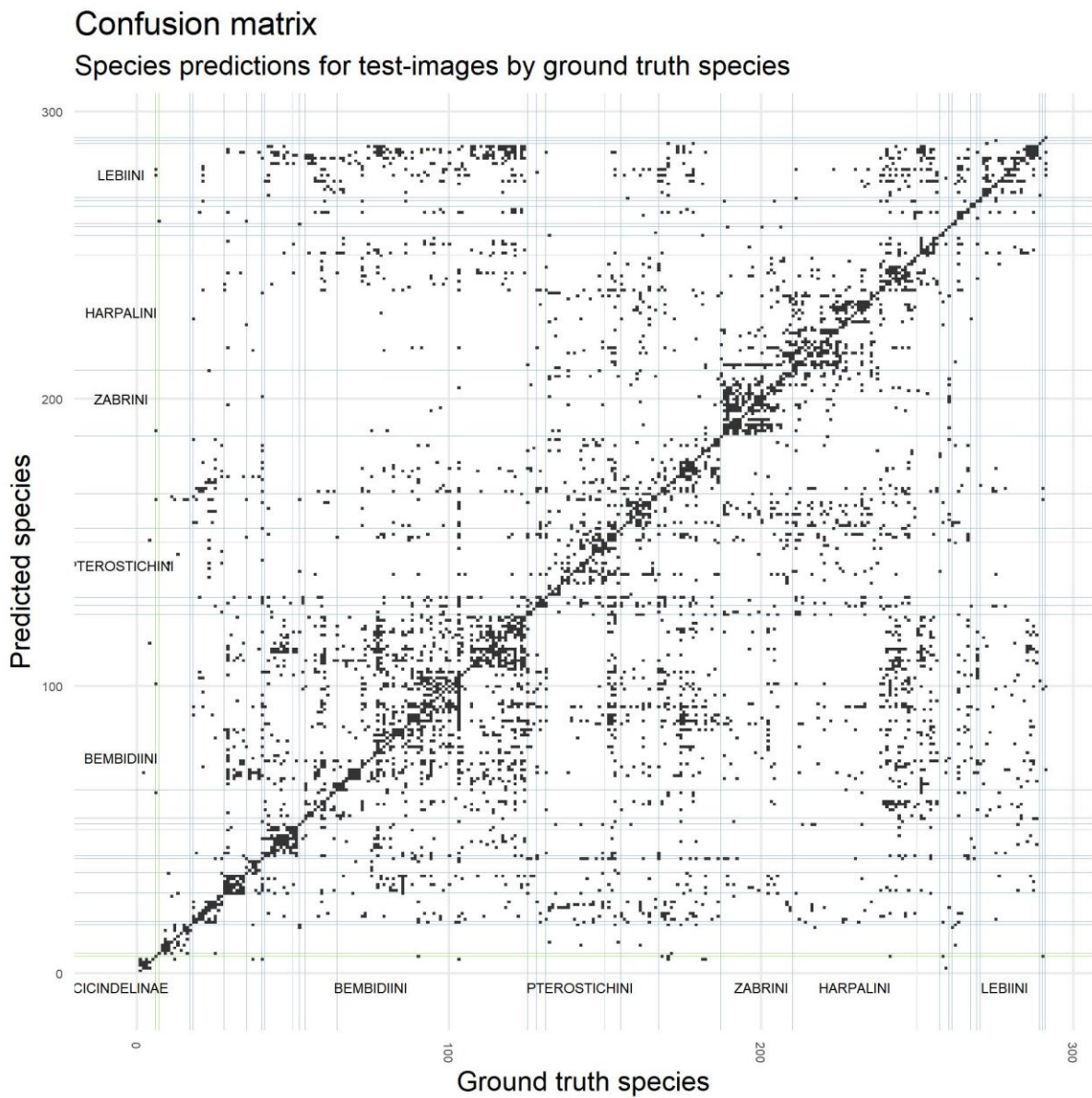


1 Supporting Information



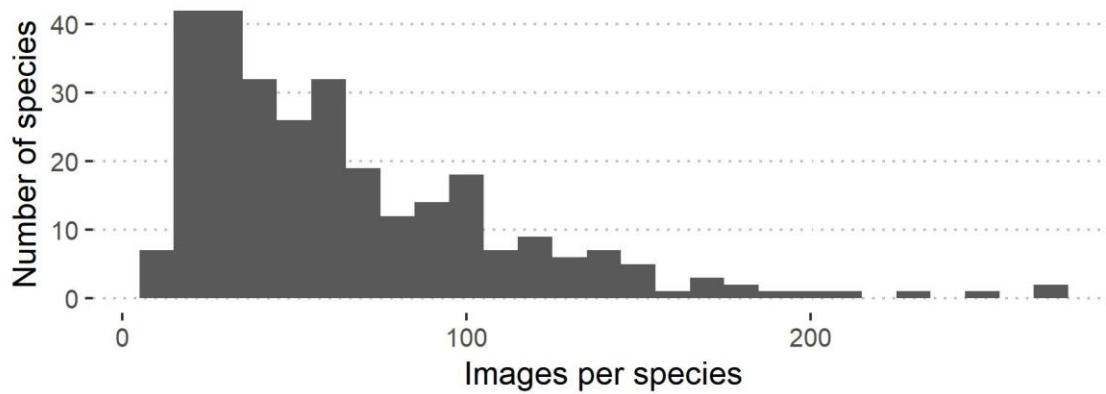
2

3 **Figure S1:** Confusion matrix for all 291 classes (species) from last layer of the convolutional neural
4 network. Squares represent the outcome of image predictions of a ground truth species. Lines
5 denote the first species in subfamilies (green) and tribes (blue).

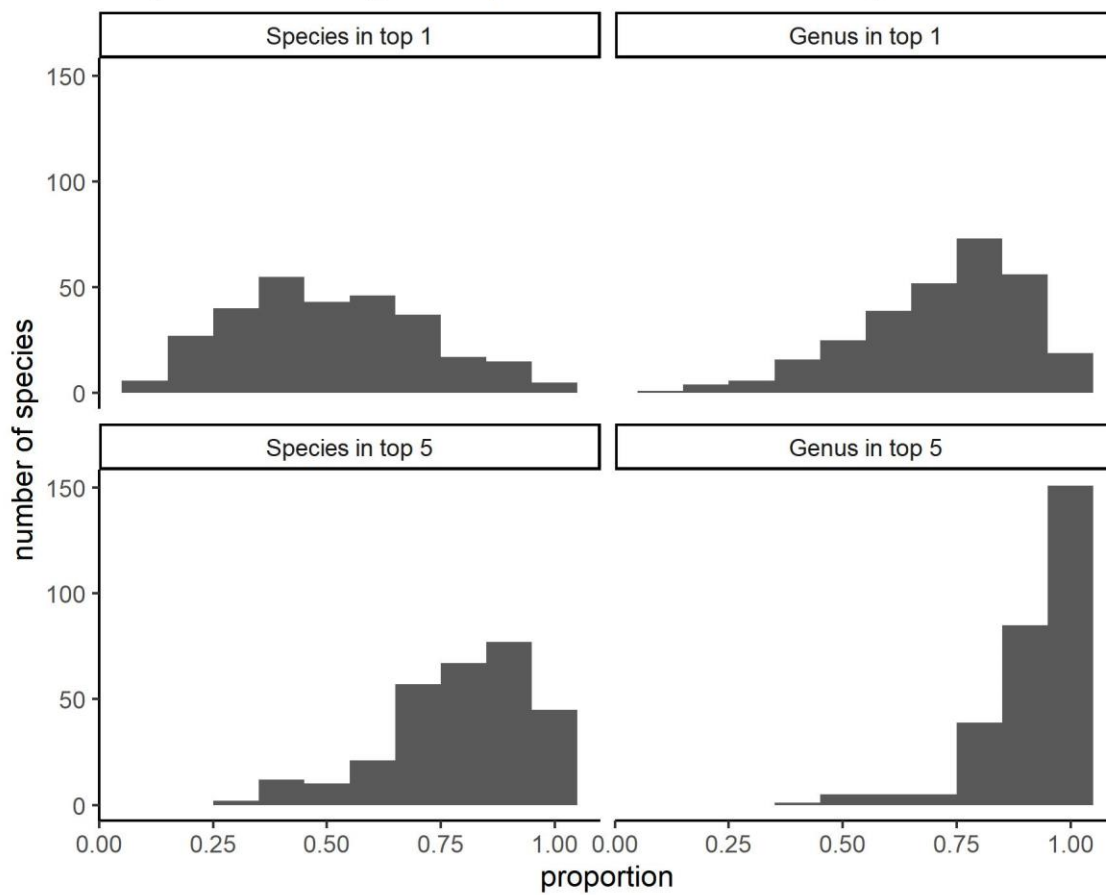
6

7

A Distribution of images per species



B Proportion of images in species classified correctly



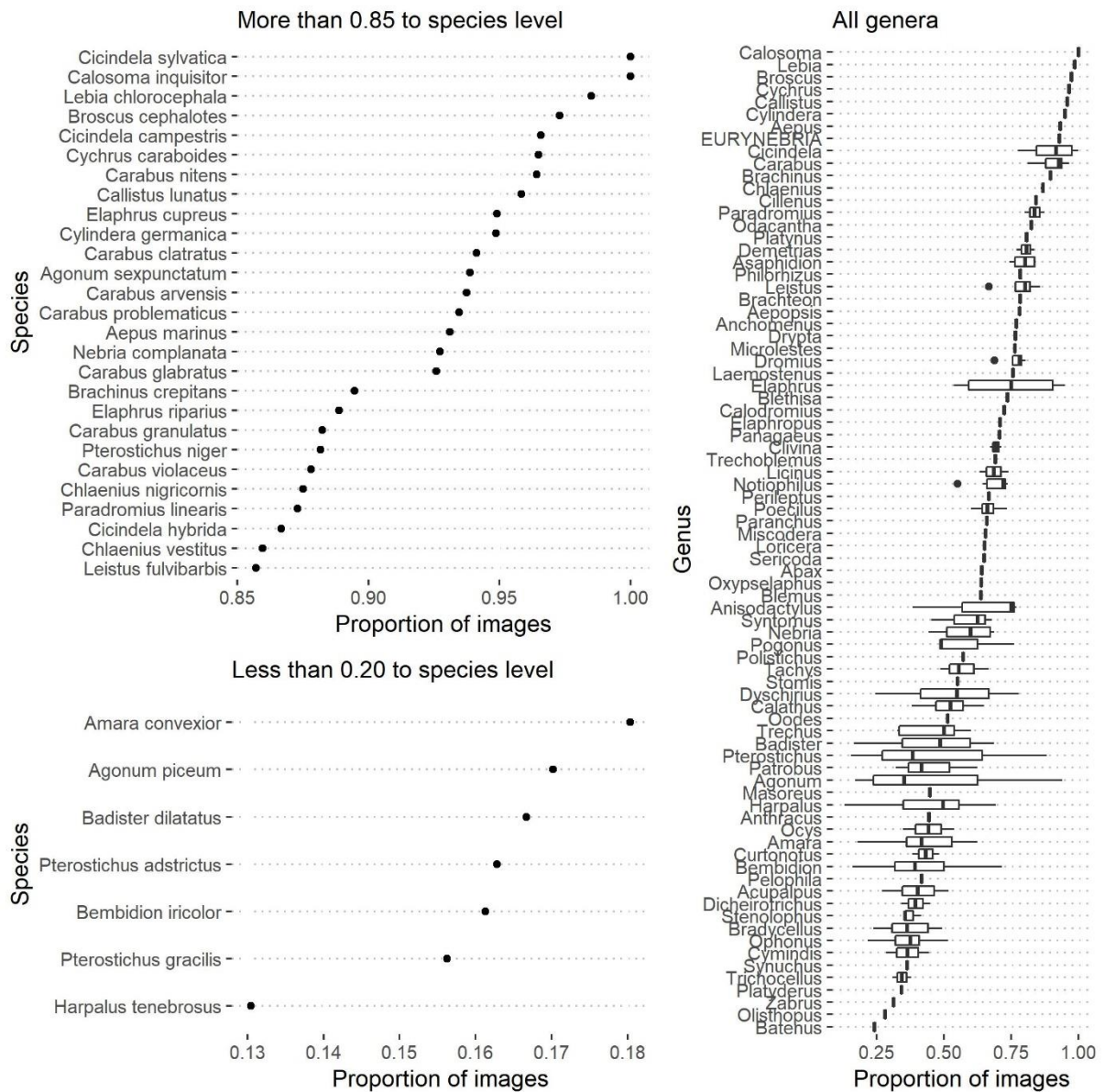
8

9 **Figure S2:** Images in test-dataset, including A: Number of Images per species. B: Proportion of
10 images classified correctly per species for four different criteria of being considered correct: top1
11 predicted species must be ground truth species, genus belonging to top1 predicted species must be
12 the same as ground truth species, species in top 5 predicted species must contain ground truth

13 species, or genera in top5 predicted species must contain the genus belonging to ground truth

14 species.

15



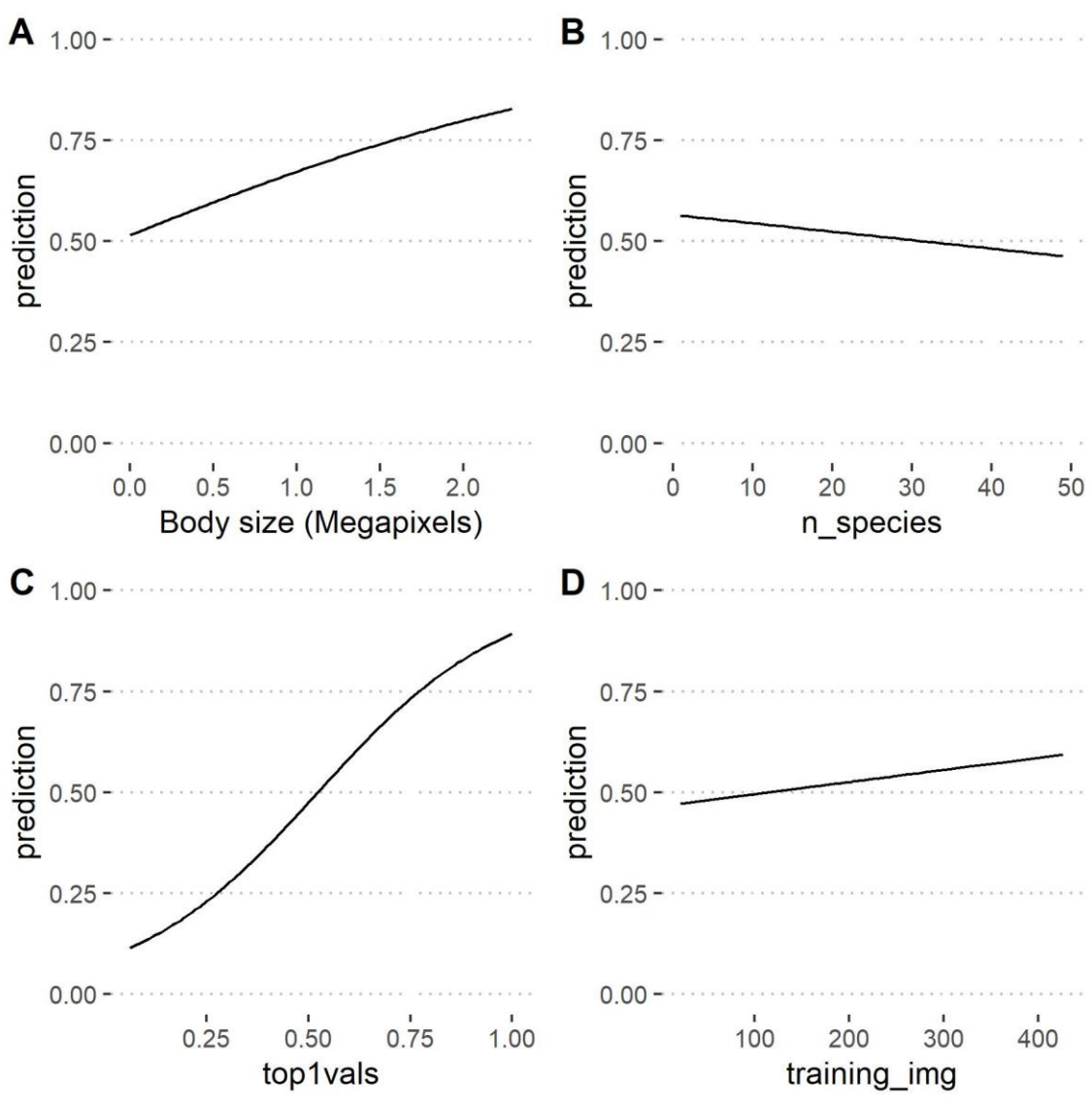
16

17 **Figure S3:** Proportion of images classified to species level. Left panel give species with more than

18 0.85 of images classified at species level or less than 0.20 classified to species level. Right panel give

19 per genera summary of proportion images classified to species level for all species inside each

20 genera.



21

22 **Figure S4:** Sensitivity analysis of model predictions, within minimum and maximum variation of each

23 variable. All but one variable is constant at mean values for Body size (megapixels) and top1val and

24 median for n_species. A: Change in predicted value for Body size, B: number of species in genus, C:

25 top 1 value in last layer from the convolutional neural network D: number of training images for a

26 species.