

**Figure S21** Receiver operating characteristic (ROC) analysis for the same datasets as in Figure S17 (from left to right, top to bottom). In the ROC analysis, the proportion of false positives and true positives is computed for each possible value of the threshold that is used to classify a locus under selection. For Selestim, the classifying variable was the KLD between the posterior distribution of the locus-specific coefficient of selection  $\delta_j$  and its centering distribution, while in the case of Bayescan it was the Bayes factor.