Detailed method performance breakdown

Step-by-step success rates in the hierarchical detection pipeline

Pipeline Step	Method Used	Success (n)	Missing (n)	Success Rate	Notes
qPCR infection detection	Melting curve analysis	185	151	55.1%	Primary method for infection presence/absence
qPCR species identification	Melting curve patterns	49	287	14.6%	Limited by time constraints
Amplicon species identification	18S/28S sequencing	134	202	39.9%	Backup method when qPCR species ID unavailable
Final species assignment	Hierarchical combination	169	167	50.3%	49 qPCR + 120 amplicon = 169 total
Complete data for modeling	Both infection status + species ID	169	167	50.3%	Used for downstream random forest validation