All data and code used in the generation of this manuscript are available for download from the Supplementary Material and the AcDC GitHub repository (https://github.com/pkiel/AcDC). These data and code files are a static release of the AcDC framework at time of publication of this manuscript. AcDC is a living database that receives frequent updates, and the most up to date data can be downloaded directly from the AcDC graphical user interface.

STATIC RELEASE DATABASE.—A SQL dump file named "AcDCdb.sql" is available for download. This file maintains the relational database structure and stores the data held within each table. Executing the code builds a local version of the database on your machine. Building the local database prior to running the local version of the graphical user interface or executing the R scripts is imperative for the successful creation of the local AcDC framework. A collection of ten text files are also released which contain all the database tables, fields, and data held within the AcDC database. These text files, however, do not maintain the relational database structure.

CROSS DATABASE INTERFACING.—Two R scripts interface with the STAGdb database ("STAGdbDocumentation.R") and the Coral Sample Registry database ("csrDocumentation.R") to download genet metadata that is incorporated into the AcDC database. The STAGdb code scrapes publicly available data and all the code is available. The Coral Sample Registry code interfaces with a private API call to the database, and the specific keys have been redacted for security concerns. Nevertheless, the functionality of the

code is present and an example of returned data objects and the inclusion of the data into the AcDC database is made available.

DATA IMPORT.—A metadata template, data submission template, and a data submission guide are also included. These three files can be downloaded from the AcDC graphical user interface as a submission package. These files help contributors organize their data for submission into the database. Additionally, a R script titled, "dataImport.R, is released that facilitates data ingest. The code is designed to work with properly completed data submission files and casts the data into a long format that is appropriate for the Observation and Measurement Ontology for Ecological Data. The code then transforms the data into its appropriate keys and appends the rows to the appropriate tables in the database.

CALCULATION OF STANDARDIZED TRAITS.—The "calculatedMeasurements.R" script queries all raw measurement data and calculates standardized performance data. The individual calculation, logic for appending data filters, and quality control checks are described in the main text of the manuscript.

GRAPHICAL USER INTERFACE.—The graphical user interface (GUI) was created with the RShiny package. The details of the GUI are described in the main text of the manuscript. The folder includes the "app.R" script and all dependencies in the www folder including images, CSS styling code, and downloadable files. All graphics were designed by the team or downloaded with a Creative Commons 1.0 Universal public domain license.
The released "app.R" script interfaces with a local host of the AcDC database. The script further contains functions to calculate the composite performance indices, filter data with

applied data filtration, and perform descriptive statistics. The code is broken into sections for

each page both in the user interface sections and the server side programming sections.

ONLINE TABLES AND FIGURES

Online Table S1. **Contributed data sources** 23 data sets have been contributed to AcDC

thus far, including data from peer-reviewed and in-house restoration monitoring. The name of

the dataset, contributor's name and ORCID, accompanying DOI of any peer-reviewed

literature, and a brief description of the data set are provided. The "shortName" column is

used to reference the color key in Online Figure S2.

Please see attached excel spreadsheet for Online Table S1.
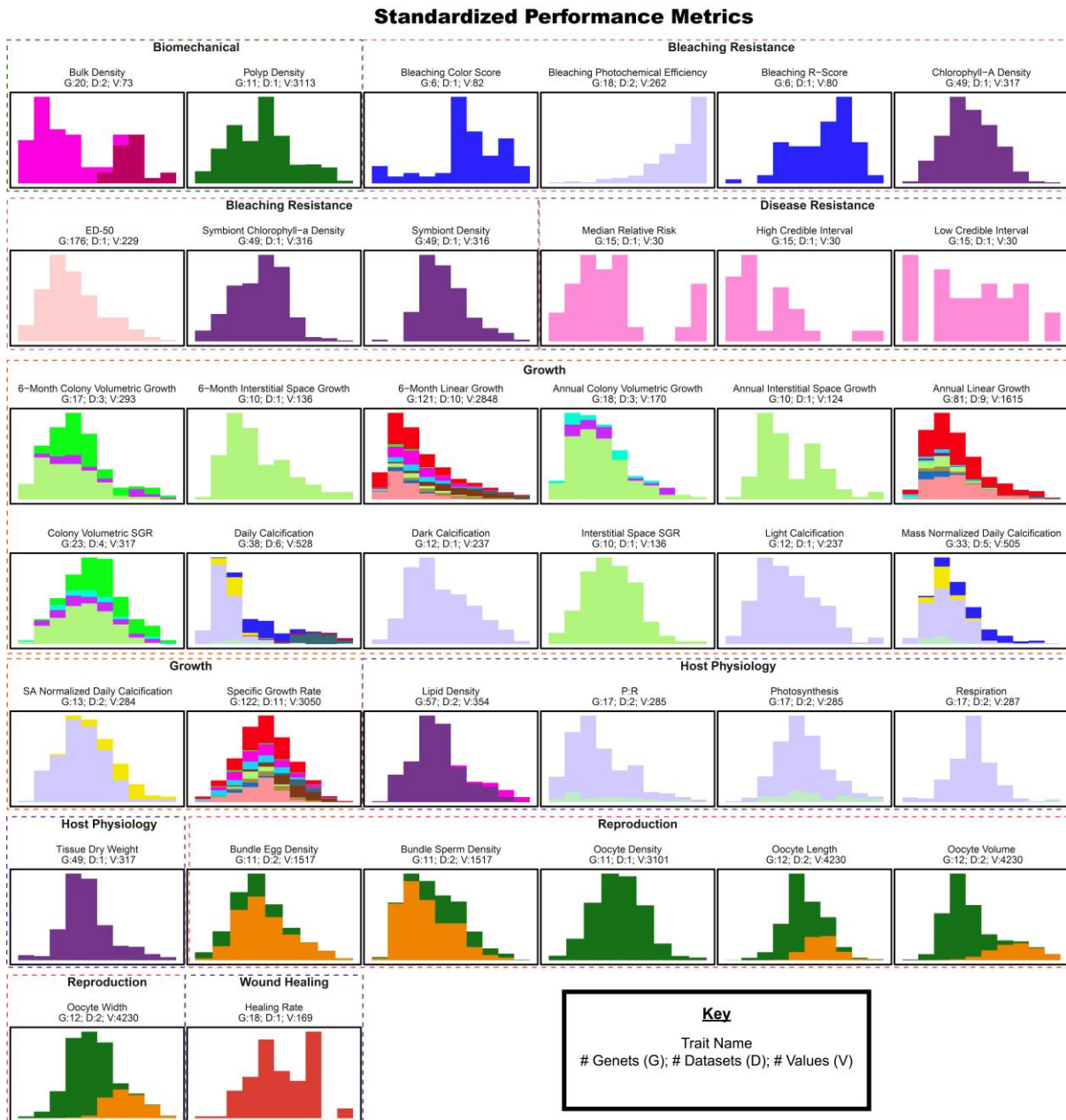
Online Figure S1. **Standardized Performance Metrics Histogram** Standardized performance metrics are currently available from an aggregation of 23 datasets. Traits are organized into alphabetically ordered trait families, and the uniquely colored nesting boxes group together the corresponding traits in a trait family. Histogram bar colors depict unique datasets, whereby a histogram with multiple colors indicates a trait that is well represented by numerous datasets, and the color key is presented in Online Figure S2. Numbers below the trait name represent the number of genets (G), datasets (D), and individual values (V) available for the respective trait.

color key	shortName	author
	Drury2017a_growth-mortality	Crawford Drury
	Enochs OA Keys	Ian Enochs
	Lirman2014	Diego Lirman
	D'Alessandro2020Growth	Martine D'Alessandro
	DeMerlis2022	Allyson DeMerlis
	Unsworth2021	Joe Unsworth
	TNC_ARRAdb	Caitlin Lustic
	Kaufman2021	Madeline Kaufman
	KuffnerPlasticity2017	Ilsa Kuffner
	Million2021CRCP	Wyatt C Million
	MullerGenotypePerformance2016	Erinn Muller
	Paradis2019	Bennett T.Paradis
	Hankins2021	Cheryl Hankins
	LohrPatterson2017	Kathryn E. Lohr
	Lohr2020	Kathryn E. Lohr
	O'Donnell2017	Kelli O'Donnell
	O'Donnell2018	Kelli O'Donnell
	KHaider2019	Chris Langdon
	CunningCBASS2020	Ross Cunning
	MaxwellFWCGorgonian	Kerry Maxwell
	HKochFecundity2020	Hannah Koch
	muller2018Data	Erinn Muller
	HKochFecundity2021	Hannah Koch

Online Figure S2. **Dataset Color Key** The color key denotes the corresponding color the data is represented as in Figure 3 and Supplementary Figure 1. The "shortName" identifier is used to reference the dataset's metadata in Online Table S1.