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This data set includes measurements of 40 stems of *Chrysolepis sempervirens* (Kellogg) Hjelmq. (bush chinquapin), 41 stems of *Cornus sericea* L. (redosier dogwood), 50 stems of *Corylus cornuta* Marsh. ssp. *californica* (A. DC.) E. Murray, and 40 stems of *Leucothoe davisiae* Torrey (Sierra laurel), as reported in Lutz *et al.* (2014, 2017). Nomenclature follows Flora of North America (1993+).

Chrysolepis sempervirens [40 specimens, CHSE_01 through CHSE_40]

Cornus sericea [41 specimens, COSE_01 through COSE_41]

Corylus cornuta ssp. *californica* [50 specimens, COCOC_01 through COCOC_50]

Leucothoe davisiae [40 specimens, LEDA_01 through LEDA_40]

Field and calculation methods followed Van Pelt *et al.* (2016) which are summarized here. Prior to sampling, the population of shrubs was surveyed in the 25.6 ha area of the Yosemite Forest Dynamics Plot (YFDP), located in Yosemite National Park, latitude 37.766°N, 119.819°W (Lutz *et al.* 2012) to determine the diameter distribution of each species. Plants for dissection were selected outside the YFDP, but within 200 m of the plot boundaries. Whole plant measurements were made prior to harvest. Shrub diameter was measured at the base (basal diameter; dba), and if the stem was ≥ 1.37 m long, at 1.37 m above the ground (diameter at breast height; dbh). Two measurements of crown width were taken (north-south and east-west), and crown depth was measured. To account for the varying minimum diameters of stems, we measured up to six distal diameters for each stem.

Shrub stems were cut as close to the ground as possible. Foliage was removed and saved. Stems were then measured with calipers and divided into diameter classes: 0 cm to 0.5 cm; 0.5 cm to 1.0 cm; and every cm thereafter. We measured the length of each piece and tallied the total pathlength of each diameter interval. Pathlength was further delineated as “green” (i.e., having photosynthetic bark) and “brown” (i.e., non-photosynthetic bark). We measured bark thickness on each cut end, so that calculations of volume and surface area could be made separately for bark and wood.

Small wood samples spanning the full diameter range of the dissections were carefully measured for volume of both wood and bark, oven-dried at 60°C, had bark and wood separated. Knowing that bound water may not leave a wood sample until dried at >100°C (Williamson and Wiemann 2010), we dried subsamples of wood and bark at 102°C for two weeks. Leaves were dried at 60°C for two weeks.

The basal face of each stem was progressively sanded to 400 grit, and rings were counted.

The consolidated data for all specimens is included in files `shrub_allometry_table_fd_plant.csv` and `shrub_allometry_table_ShruhBiomass.csv`. Successive levels of raw data are found in the remaining files.

Metadata

File `shrub_allometry_table_fd_plant.csv`

PlantID: The combination of the plant species code (first four characters) and sequential number (last three characters)

Age_yr: Age in years

DBA_cm: basal diameter in cm

DBH_cm: diameter at breast height, 1.37 m up from the base, in cm

Height_m: plant height, in m

Crown_NS_m: the width of the plant crown along the north-south direction, in m

Crown_EW_m: the width of the plant crown along the east-west direction, in m

Crown_Depth_m: the depth of the crown from the top of the plant to the bottom of the live foliage, in m

Green_Brown_m: The height of the transition from non-photosynthetic bark to photosynthetic bark, measured from the base, in m

Distal_1_mm: the diameter of the end of one branch of the plant, in mm

Distal_2_mm: the diameter of the end of a second branch of the plant, if present, in mm

Distal_3_mm: the diameter of the end of a third branch of the plant, if present, in mm

Distal_4_mm: the diameter of the end of a fourth branch of the plant, if present, in mm

Distal_5_mm: the diameter of the end of a fifth branch of the plant, if present, in mm

Distal_6_mm: the diameter of the end of a sixth branch of the plant, if present, in mm

Collected: The date the specimen was collected and dissected in the field

File `shrub_allometry_table_ShruhBiomass.csv`

PlantID: The combination of the plant species code (first four characters) and sequential number (last three characters)

DBA_cm: basal diameter in cm

DBH_cm: diameter at breast height, 1.37 m up from the base, in cm

CAMBIUM_SA: Cambial surface area, in cm^2

GREEN_STEM_SA: The outside area of photosynthetic bark, in cm^2

FOLIAGE_mass: the total mass of foliage, in g

WOOD_mass: the total mass of wood of live stems, in g

BARK_mass: the total mass of bark of live stems, in g

DEAD_mass: the total mass of dead stems, in g

TOTAL_ABOVEGROUND_biomass: the total mass of live components, in g

File `shrub_allometry_table_fd_pathlength.csv`

PlantID: The combination of the plant species code (first four characters) and sequential number (last three characters)

Green_0_05_m: the pathlength of the stems between 0 cm and 0.5 cm in diameter that have photosynthetic bark, in m

Green_05_1_m: the pathlength of the stems between 0.5 cm and 1.0 cm in diameter that have photosynthetic bark, in m

Green_1_2_m: the pathlength of the stems between 1.0 cm and 2.0 cm in diameter that have photosynthetic bark, in m

Green_2_3_m: the pathlength of the stems between 2.0 cm and 3.0 cm in diameter that have photosynthetic bark, in m

Green_3_4_m: the pathlength of the stems between 3.0 cm and 4.0 cm in diameter that have photosynthetic bark, in m

Green_4_5_m: the pathlength of the stems between 4.0 cm and 5.0 cm in diameter that have photosynthetic bark, in m

Brown_0_05_m: the pathlength of the stems between 0 cm and 0.5 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_05_1_m: the pathlength of the stems between 0.5 cm and 1.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_1_2_m: the pathlength of the stems between 1.0 cm and 2.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_2_3_m: the pathlength of the stems between 2.0 cm and 3.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_3_4_m: the pathlength of the stems between 3.0 cm and 4.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_4_5_m: the pathlength of the stems between 4.0 cm and 5.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_5_6_m: the pathlength of the stems between 5.0 cm and 6.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_6_7_m: the pathlength of the stems between 6.0 cm and 7.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_7_8_m: the pathlength of the stems between 7.0 cm and 8.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_8_9_m: the pathlength of the stems between 8.0 cm and 9.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_9_10_m: the pathlength of the stems between 9.0 cm and 10.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_10_11_m: the pathlength of the stems between 10.0 cm and 11.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_11_12_m: the pathlength of the stems between 11.0 cm and 12.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_12_13_m: the pathlength of the stems between 12.0 cm and 13.0 cm in diameter that have brown, non-photosynthetic bark, in m

Brown_13_14_m: the pathlength of the stems between 13.0 cm and 14.0 cm in diameter that have brown, non-photosynthetic bark, in m

Dead_0_05_m: the pathlength of the stems between 0 cm and 0.5 cm in diameter that are dead, in m

Dead_05_1_m: the pathlength of the stems between 0.5 cm and 1.0 cm in diameter that are dead, in m

Dead_1_2_m: the pathlength of the stems between 1.0 cm and 2.0 cm in diameter that are dead, in m

Dead_2_3_m: the pathlength of the stems between 2.0 cm and 3.0 cm in diameter that are dead, in m

Dead_3_4_m: the pathlength of the stems between 3.0 cm and 4.0 cm in diameter that are dead, in m

Dead_4_5_m: the pathlength of the stems between 4.0 cm and 5.0 cm in diameter that are dead, in m

Dead_5_6_m: the pathlength of the stems between 5.0 cm and 6.0 cm in diameter that are dead, in m

Dead_6_7_m: the pathlength of the stems between 6.0 cm and 7.0 cm in diameter that are dead, in m

Dead_7_8_m: the pathlength of the stems between 7.0 cm and 8.0 cm in diameter that are dead, in m

Dead_8_9_m: the pathlength of the stems between 8.0 cm and 9.0 cm in diameter that are dead, in m

Dead_9_10_m: the pathlength of the stems between 9.0 cm and 10.0 cm in diameter that are dead, in m

File shrub_allometry_table_fd_foliage.csv

PlantID: The combination of the plant species code (first four characters) and sequential number (last three characters)

Foliage_g: the dried mass of foliage, in g

Flower_g: the dried mass of flowers, in g

Fruit_g: the dried mass of fruit, in g

File shrub_allometry_table_Midpt_Diameter.csv

0_05: the midpoint (or average) diameter of stems up to 0.5 cm in diameter

05_1: the midpoint (or average) diameter of stems from 0.5 cm to 1.0 cm in diameter

1_2: the midpoint (or average) diameter of stems from 1.0 cm to 2.0 cm in diameter

2_3: the midpoint (or average) diameter of stems from 2.0 cm to 3.0 cm in diameter

3_4: the midpoint (or average) diameter of stems from 3.0 cm to 4.0 cm in diameter

4_5: the midpoint (or average) diameter of stems from 4.0 cm to 5.0 cm in diameter

5_6: the midpoint (or average) diameter of stems from 5.0 cm to 6.0 cm in diameter

6_7: the midpoint (or average) diameter of stems from 6.0 cm to 7.0 cm in diameter

7_8: the midpoint (or average) diameter of stems from 7.0 cm to 8.0 cm in diameter

8_9: the midpoint (or average) diameter of stems from 8.0 cm to 9.0 cm in diameter

9_10: the midpoint (or average) diameter of stems from 9.0 cm to 10.0 cm in diameter

10_11: the midpoint (or average) diameter of stems from 10.0 cm to 11.0 cm in diameter

11_12: the midpoint (or average) diameter of stems from 11.0 cm to 12.0 cm in diameter

12_13: the midpoint (or average) diameter of stems from 12.0 cm to 13.0 cm in diameter

13_14: the midpoint (or average) diameter of stems from 13.0 cm to 14.0 cm in diameter

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