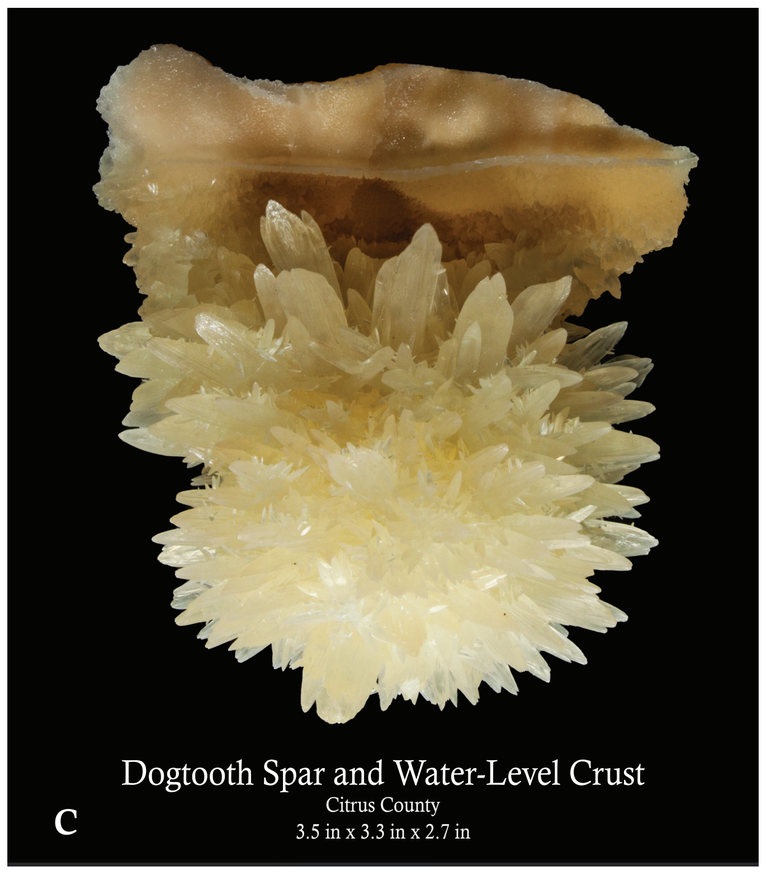
FLORIDA CALCITE



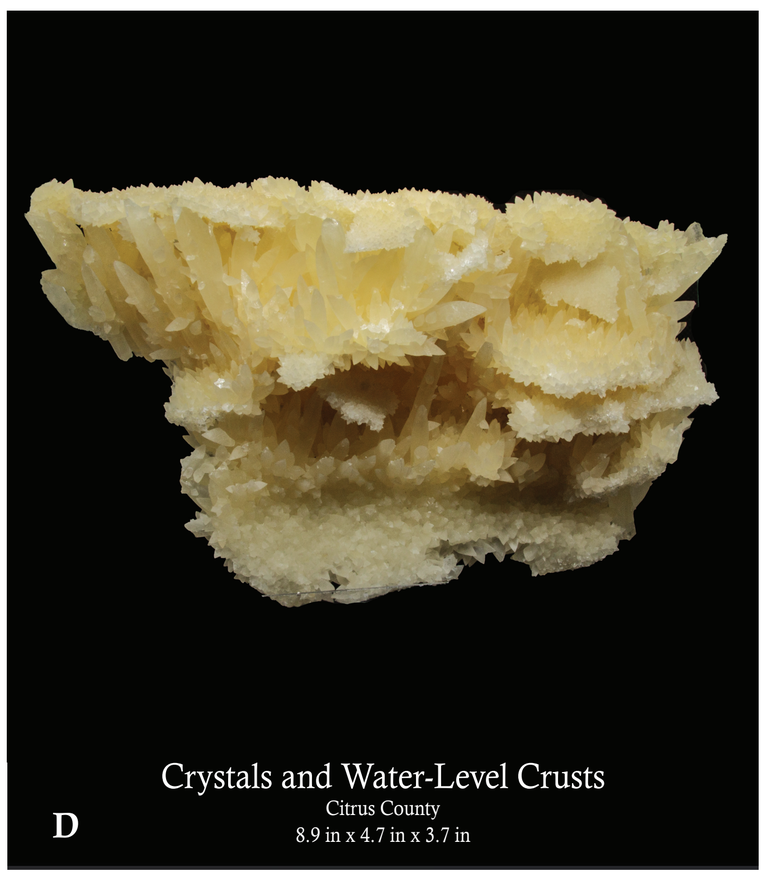
Decorated Speleothem
Citrus County
3.0 in x 2.0 in x 1.9 in
A



Dogtooth Spar
Jackson County
3.1 in x 2.2 in x 1.1 in
B



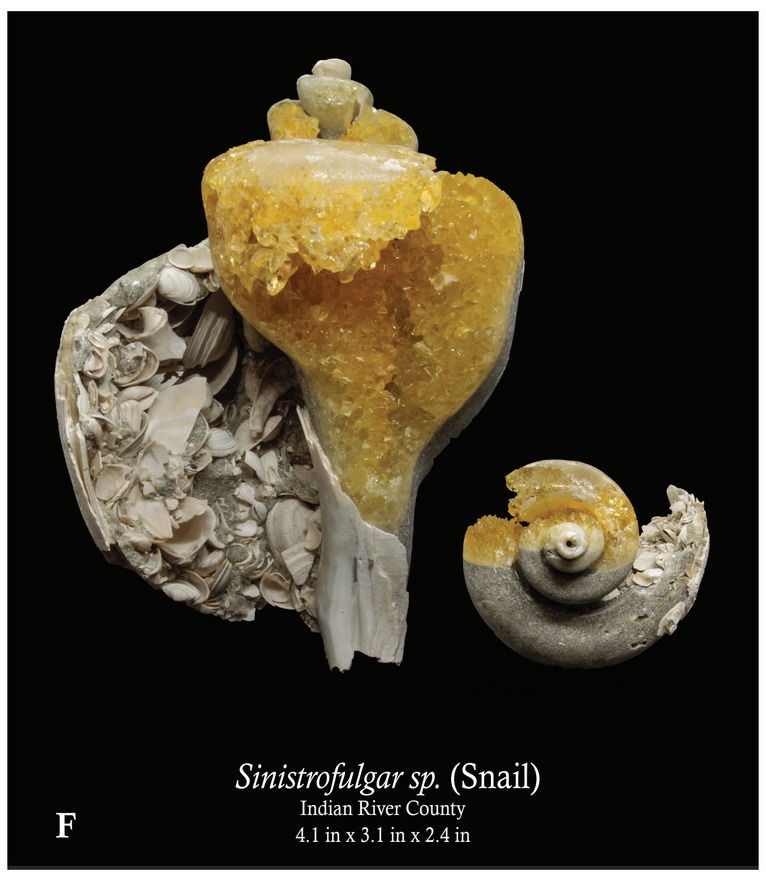
Dogtooth Spar and Water-Level Crust
Citrus County
3.5 in x 3.3 in x 2.7 in
C



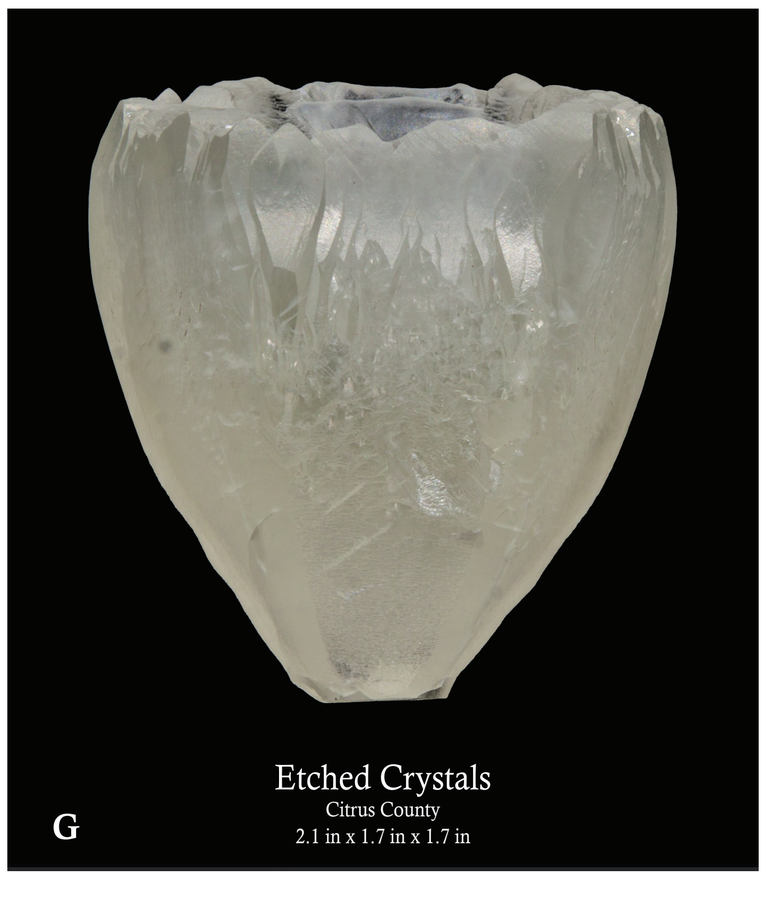
Crystals and Water-Level Crusts
Citrus County
8.9 in x 4.7 in x 3.7 in
D



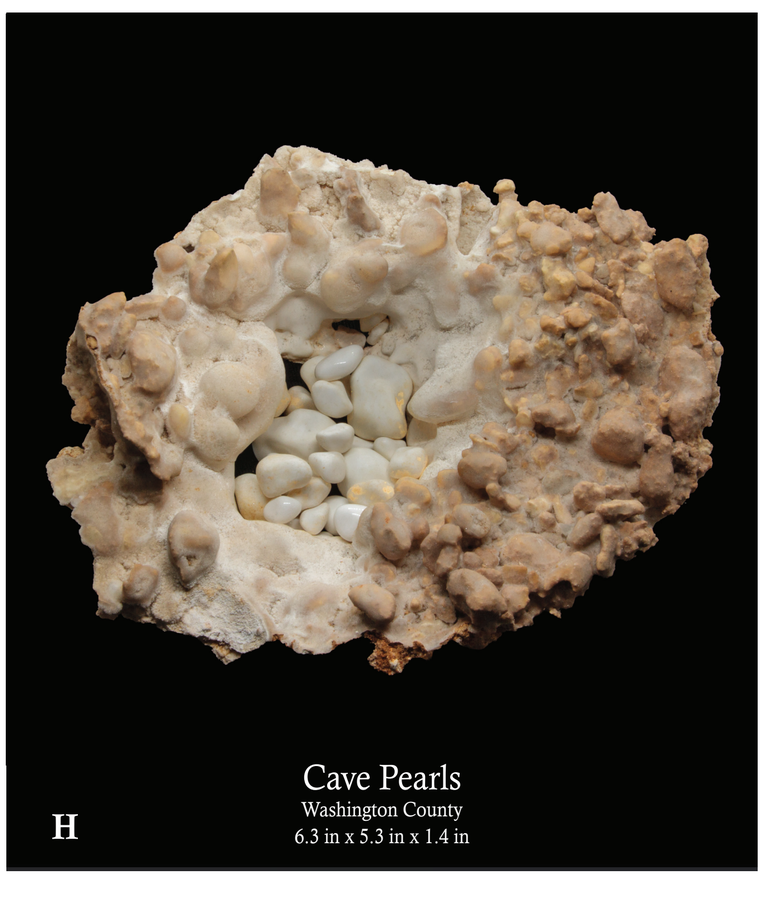
Mercenaria permagna (Clam)
Okeechobee County
3.8 in x 2.9 in x 1.3 in
E



Sinistrofulgar sp. (Snail)
Indian River County
4.1 in x 3.1 in x 2.4 in
F



Etched Crystals
Citrus County
2.1 in x 1.7 in x 1.7 in
G



Cave Pearls
Washington County
6.3 in x 5.3 in x 1.4 in
H



Helictite
Washington County
5.7 in x 3.9 in x 2.6 in
I

Chemical Formula: $CaCO_3$

Crystal System: Trigonal

Color: Varies with impurities, often clear, white, yellow, or honey-colored

Hardness: 3, slightly harder than a fingernail

Luster: Vitreous

Other: Birefringent, dissolves in weak acid, perfect cleavage into rhombs, white streak color

Calcite ($CaCO_3$) is the main mineral forming the rock limestone. Rainwater is naturally slightly acidic and limestone dissolves as acidic water passes through pore space in the rock. Groundwater becomes saturated with dissolved ions from limestone, and, under the right conditions, these ions precipitate from groundwater to form calcite crystals. Speleothems are composed of very fine calcite crystals and form as groundwater moves through air-filled caves and cavities. If water levels rise to submerge the speleothems, calcite can be deposited as an overgrowth (A). Larger calcite crystals form below water level in caves and cavities (B, C, D), including in open areas inside fossils (E, F). The longer the crystals are covered by ion-saturated water, the larger the crystals may grow. If water levels drop, exposing the crystals to water dripping from the ceiling, the crystals may dissolve creating hollow crystal clusters or etched crystals (G). Water-level crusts form due to evaporation at the water surface, creating a thin calcite crystal layer (C). These often break and sink to the bottom of the water-filled cavity (D). Florida's calcite crystals vary in color from clear (G) to honey-colored (B). Color variation occurs when other ions, such as iron, are incorporated into the calcite crystals. Water dripping from the ceiling into a shallow pool may create cave pearls (H). These form when calcite precipitates on a nucleus and the splashing water moves the grains, allowing for calcite deposition around the grains. Helictites (I) are unusual speleothems that form as water drips in a preferential direction, possibly due to capillary action or the presence of wind.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
GEOLOGICAL SURVEY

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