

THERE'S SO MUCH GRANITE AROUND HERE, YOU COULD EASILY MISS A UNIQUE SANDSTONE THAT STREAKS RIGHT THROUGH THE OLD RED STONE. GEOLOGISTS FIRST IDENTIFIED TAVAKAIV (TA-VA-KAI-EV) SANDSTONE IN 1893, BUT ITS TRUE IDENTITY -- AND ANCIENT AGE -- WAS DISCOVERED ONLY A FEW YEARS AGO. COLORADO COLLEGE GEOLOGIST CHRISTINE SMITH SIDDOWNY SUGGESTED THAT THE ANCESTRAL UTE NAME FOR PIKE'S PEAK BE GIVEN TO THE ROCK. YOU CAN FIND OUTCROPS OF TAVA SANDSTONE ALONG THE FRONT RANGE, NEAR COLORADO SPRINGS, LINING THE UTE PASS FAULT, AND IN OTHER SPOTS COMMON FOR BIKING, HIKING, AND CLIMBING.

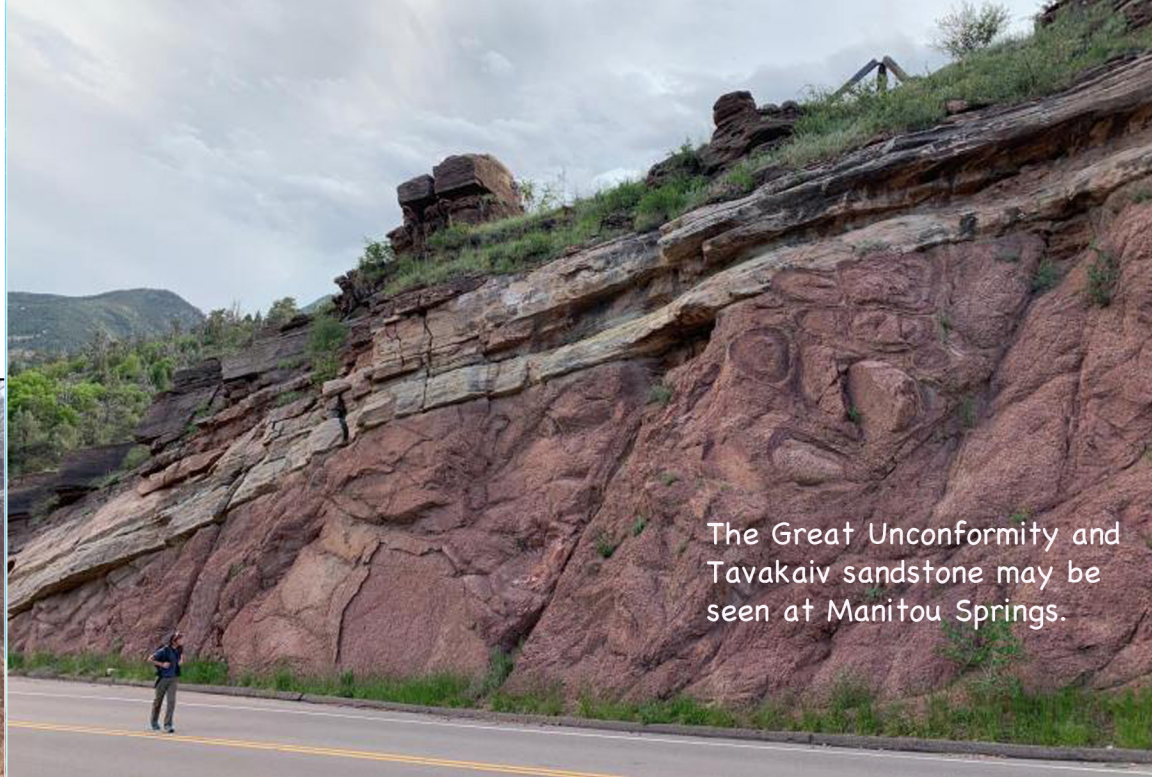


Pearl

This rock is granite, but these brown bands with hard edges are sandstone dikes.

Bessie

WHAT'S THE BIG DEAL ABOUT THE TAVA? THIS WEIRD, WAYWARD STONE FORMATION OFFERS CLUES TO PORTIONS OF EARTH'S HISTORY THOUGHT TO BE WIPED OUT BY A GIANT SNOWBALL. WHEN YOU DO COME UPON TAVA, YOU'RE LIKELY TO SEE A HOLSTEIN-COW PATTERN OF MOTTLED WHITE AND RED. THIS MAVERICK SANDSTONE BRONCO-BUCKS EARTH'S SEDIMENTARY ROCK RULES.

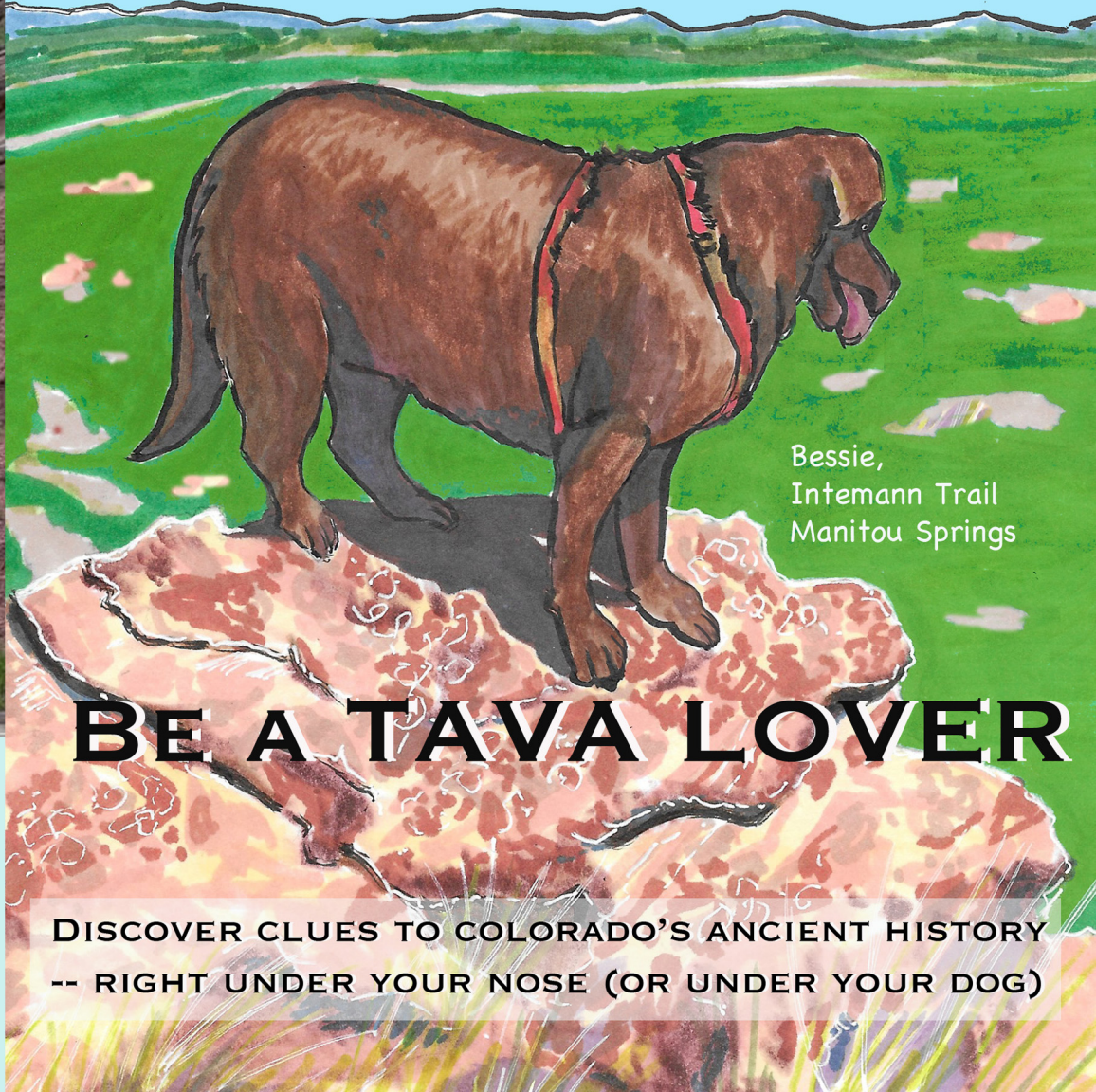


The Great Unconformity and Tavakaiv sandstone may be seen at Manitou Springs.

THE ICE SHEET THAT WIPED OUT THE MISSING ROCKS MAY HAVE CREATED THE TAVA. THAT'S ONE MORE REASON TO LOVE IT: TAVA SANDSTONE HAS BEEN HERE SINCE BEFORE THERE WAS A COLORADO, AND MAY SHOW WHAT OUR CONTINENT WAS LIKE IN RODINIA TIMES, LEADING TO CHANGES THAT GAVE RISE TO THE EXPLOSION OF LIFE. FOR MORE INTERNATIONAL GEOLOGY -- AND LOCAL KNOWLEDGE -- VISIT COLORADO COLLEGE GEOLOGY AT [COLORADOCOLLEGE.EDU](http://coloradocollege.edu)



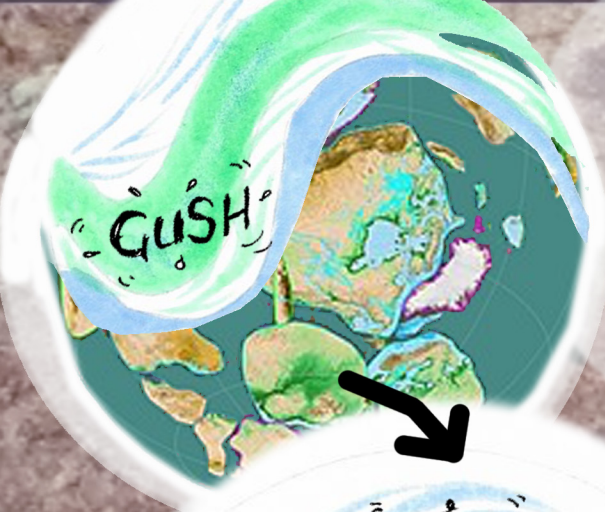
science outreach writing & art: www.karenromanoyoung.com



Bessie,
Intemann Trail
Manitou Springs

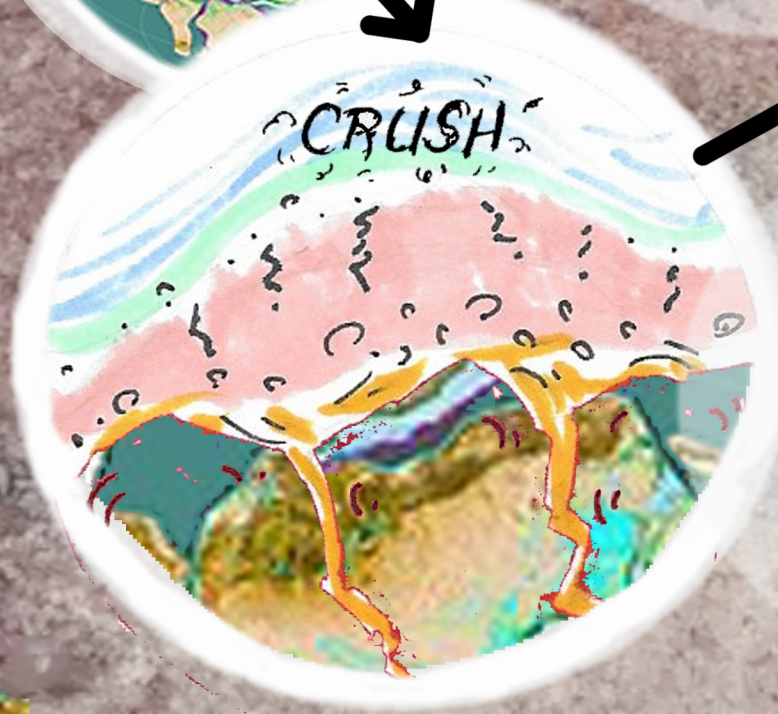
BE A TAVA LOVER

DISCOVER CLUES TO COLORADO'S ANCIENT HISTORY
-- RIGHT UNDER YOUR NOSE (OR UNDER YOUR DOG)



AS THE ICE SHEET GRINDED OVER EARTH'S SURFACE, WHAT WAS GOING ON UNDER THE ICE?

RODINIA, THE ANCIENT SUPERCONTINENT, WAS IN MOTION.

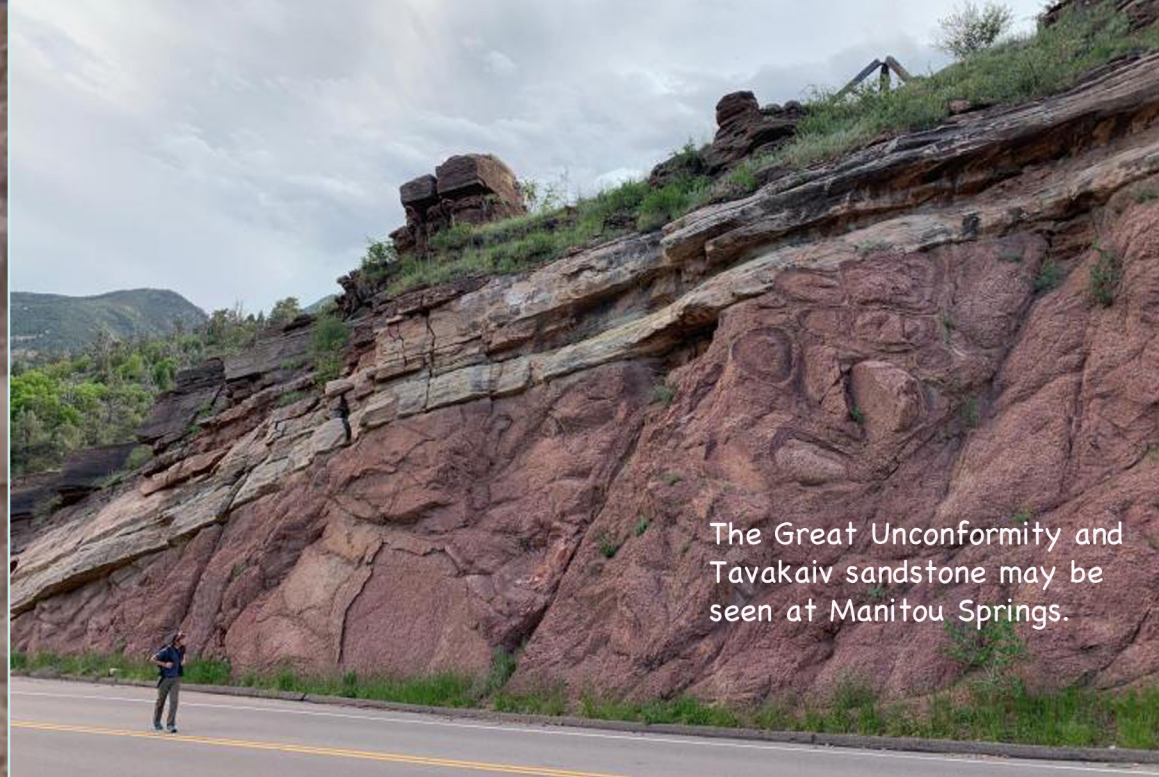


AS THE LAND SPLIT, **SNOWBALL EARTH'S** MASSIVE ICE SHEET PRESSED A HEAVY SLURRY OF SAND AND PEBBLES INTO THE GRANITE CHUNKS OF RODINIA.



Tavakiev means "big mountain touched by sun." When the sun rises over the Plains, Pike's Peak is the first mountain the light touches.

FLUIDIZED SAND, SHOT THROUGH WITH PEBBLES, ROARED INTO THE CRACKS AS GRANITE SPLIT OPEN. THE SANDSTONE SOLIDIFIED INTO SHARP, HARD DIKES AS WIDE AS 6 METERS THAT CONTRAST WITH THE WORN, CRUMBLING STONE SANDWICHING THEM IN. FIERCE, INTENSE HYDRAULIC PRESSURE MADE TAVA SANDS INJECT INTO FRACTURED GRANITE TO MAKE THESE NATURALLY-FRACKED DIKES, SCARCELY SEEN ANYWHERE ELSE.



The Great Unconformity and Tavakaiv sandstone may be seen at Manitou Springs.

THE ICE SHEET THAT WIPED OUT THE MISSING ROCKS MAY HAVE CREATED THE TAVA. THAT'S ONE MORE REASON TO LOVE IT: TAVA SANDSTONE HAS BEEN HERE SINCE BEFORE THERE WAS A COLORADO, AND MAY SHOW WHAT OUR CONTINENT WAS LIKE IN RODINIA TIMES, LEADING TO CHANGES THAT GAVE RISE TO THE EXPLOSION OF LIFE. FOR MORE INTERNATIONAL GEOLOGY -- AND LOCAL KNOWLEDGE -- VISIT COLORADO COLLEGE GEOLOGY AT [COLORADOCOLLEGE.EDU](http://coloradocollege.edu)

