

*Can Julie use a broken piece of limestone containing an unexpected fossil to help the police solve the mystery of who attacked her friend Josh and stole his tickets to the baseball game?*

## The Rock Hound

by

Paula E. Young



**A**s she examined her lucky piece of rose quartz, Julie glanced at the clock. “Oh! I’d better get going!”

“Julie! Julie Marie Martell! Come here!”

“Yes, Mom?” Julie peeked around the

laundry room door, and smelled the fresh spring aroma from the dryer.

“Why can’t you clean the rocks out of your pockets before putting your jeans in the hamper?” Her mother handed Julie a handful of small pebbles. “I’ve emptied your pockets since you were a toddler. You’re fourteen now! You and your father...”

Julie cringed. “Sorry, Mom. I guess I was in a hurry. Dad and I did always like picking up rocks, ever since I found my first pink rock, when I was three.” She pulled out her rose quartz and held it up for her mother to see. “Our class is going to Enchanted Rock State Natural Area today! That was Dad’s and my happy place!” Julie pulled her shiny black hair into a pony tail, and darted to the door, but paused before leaving.

Julie understood her mother fussing over the rocks. But they were Julie’s connection to her father, who had died in a freak oil well explosion when Julie was seven.

Her mom had a strange expression on her face as she said, “Well, be careful out there.”

“You know I will!” Julie gave her mother a hug. “And Mom, I miss him, too.”



“What a gorgeous spring day! And just look at that granite pluton batholith!”

“I’m not even going to ask!” Ada rolled her eyes as she giggled.

“Basically, it’s a volcano that never erupted! Have you ever seen anything more beautiful? Pink granite everywhere! And we have the park to ourselves! That’s the nice thing about weekday fieldtrips! Let’s head up the summit trail,” suggested Julie.

“You’re so weird,” said Ada, her best friend, shaking her head, but smiling. The two girls couldn’t be more opposite in interests and appearance, but had been friends since kindergarten. “What will you ever do with all of your rocks, anyway?”

“What will you ever do with those old Barbie Dolls you’ve collected?” Julie teased.

“They’ll be worth a fortune someday. Can you say that for your rocks?” Ada brushed a few strands of her short blond hair from her face, disguising her grin.

“My rocks may lead to a career in *geo-forensics!*” Julie squared her shoulders and paused for a breath.

“Geo-what?”

“Forensic science that uses geological evidence to solve crimes.”

“I’m sorry I asked! You’re such a nerd!” laughed Ada.

“And you’re a gossip! You know everything about everybody!” Julie tilted her head with her finger on her chin. “I guess that could be an asset for the politician that you want to be.” They had reached the summit trail.

“Let’s hike to the top.”

They scampered up the lichen-covered granite dome. At frequent intervals Julie paused for breath, and for Ada to catch up to Julie’s longer stride. They stopped to admire the Prickly Pears in bloom, and the last of the tiny blooms

on the Blue-eyed Grass. They sat down once they reached the top, gazing below.

“It’s like...you can see the whole world from here,” said Ada. “I didn’t know the Texas hill country was so beautiful!” Julie and Ada stretched out on the warm granite, feeling the cool spring breeze on their faces and inhaling the scent of wildflowers mixed with the herbaceous essence from the live oaks and mesquite.

“If you listen closely, you might hear some eerie enchanted sounds. That’s where this site gets its name. Of course geologists think it’s due to the rocks heating in the day and cooling at night. There is another legend that says if you spend the night up here, you become invisible! I can’t wait to try that!

“No way!”

“Well, we’d better go look at some rocks. We’re supposed to find five different examples of erosion, and be prepared to explain each one. Let’s start with the formations over there.”

They started down the other side of the dome. The students at the bottom looked like ants.

“Here’s an example of *exfoliation*—due to weathering, these sheets of granite break off like layers of an onion,” explained Julie.

“Exfol...what? Wait. What is that sound?” asked Ada, as they climbed around a large round boulder. “Is that one of the enchanted sounds? It doesn’t sound very enchanted to me!”

“No, that sounded like a very human cry. It came from the other side of this rock. Let’s go!”

“Oh my goodness!”

Someone was lying across the path, a trickle of blood rolling down his temple. He groaned, and rolled over. Julie realized she knew who it was.

“Josh!” she gasped. “What ...are you okay?!”

“I don’t know,” said Josh, a tall, handsome boy in their class. Julie had noticed him at school; he played on the JV

basketball team, but she'd had no opportunity to get acquainted.

"Here...can you sit down on this rock?" Ada hurried to his other side to help. "Ada, go get help!" exclaimed Julie. Julie grabbed tissues from her backpack, and applied gentle pressure to Josh's wound. She could see a growing knot through his blood-matted brown hair.

"What happened, Josh?" Julie asked. She couldn't believe this had happened on a school field trip! But, she supposed she of all people should know about tragedy—sometimes simple accidents could be serious.

"I really don't know. I was hiking down the trail, then BAM! Something or someone hit me in the head." Josh held his head, swaying woozily.

Julie felt a chill. "You mean...someone hit you on purpose?" She added quickly, "You don't think maybe you just tripped on something and fell? I mean, the path *is* really rocky." But even as she said it, she didn't really believe it. Josh was a coordinated basketball player! "Are you hurt anywhere else?"

“No, just my head, I think.” Josh conducted a personal inventory. “Hey, I think my wallet is gone!”

Julie stared back at him, wondering who on earth would mug a student on a field trip. “Was there anything in it?” asked Julie.

“No, only about five dollars. Who hits someone in the head for five bucks? Wait a minute. My tickets! I had opening game tickets for the Texas Rangers! They were great seats, too. Would someone attack me for those? I *was* showing them off on the bus.”

“The Rangers! That’s so cool, or would be, if you still had the tickets,” said Julie.

Just then their science teacher came running up with Ada. “What’s happened?”

As Josh was explaining, Julie surveyed the area. There was a rock near Josh that was gray with a patch of what looked like red blood on the corner.

“That must be what hit him,” thought Julie. She stepped closer to the rock, and noticed a small piece had broken off.

Julie stepped back as the paramedics and police came. The paramedics examined Josh’s wound.

“He might have a concussion. We’ll take him to the ER. Do you have his parents’ contact information?” asked the paramedic.

Josh was escorted away by the paramedics and teachers.

“Bag that bloody rock, and search the area for other evidence,” said an officer who seemed to be in charge. “Then we’ll interview the other students and check their bags before they get back on the bus.”

Julie sat on a boulder to watch the scene. Ada sat down next to her.

“Oh, no. I can tell by the look on your face that something is bothering you.”

“It’s the rock that hit Josh. It didn’t belong here. It was gray, like limestone. All the rest of the rocks around here are pink granite. The police don’t have much evidence. There’s no dirt for footprints. We didn’t see anyone else near here that could have seen what happened. Maybe I can help with some geo-forensics.” Julie saw that the small fragment from the rock that hit Josh had been left behind by the police. She picked it up.

“You do know more about rocks than anyone I know.” said Ada.

Back at home that night Julie removed the rock fragment from her pocket. She thought it looked like limestone, but there was one sure way to tell. She took a bottle of white vinegar from a kitchen cabinet. She used a dropper to put a few drops on the rock. “Limestone is made of calcium carbonate, and when it reacts with vinegar, you have a chemical reaction that releases carbon dioxide,” Julie quoted aloud from her father’s teaching. “Just look at those bubbles! It must be limestone!”

She then looked at the rock sample with her magnifier. She saw some small oval shaped fossils, and one cross-

section that revealed the many tiny chambers in a spiral inside. She looked in her *Fossils of Texas* book and determined that this kind of fossil was a *Fusulina*, found in limestone in McCulloch, Brown, and Coleman Counties in Texas.

*That's near Brady, Coleman, or Brownwood. She thought. So somebody carried that rock all the way from that area just to hit Josh in the head? Or did they just happen to have the rock, and used it for convenience? I think I need more information. I'll call Ada. She knows everything about everybody.*

“So, Ada, do you know of anyone on our field trip that has been to Brady, Coleman, or Brownwood lately?”

“Hmmm...Well, let me think. There was a group of boys talking about throwing rocks in the reservoir in Brady. It was Jacob, Gavin, and James. I think Gavin's grandmother lives there.”

Julie thought about the boys. Jacob, Gavin, and James were not Fredericksburg High School's model citizens. They had become friends in junior high. Not finding

success in academics or sports, they became their own little gang. Julie had even heard some rumors about drugs.

“Well, it *could* have been one of them, but we need more evidence,” said Julie.

“What do we do now?” asked Ada.

“Let’s talk to Josh. Maybe he will remember something else that will help.”

The girls called Josh, who was feeling better. They had checked him out at the ER and found no broken bones or concussion. He did remember showing the tickets to his friend Noah on the bus. He also said that Jacob, Gavin, and James had been nearby.

“I have a class with Noah first hour tomorrow,” said Julie.

“Let me know what he says,” said Ada.

The next morning, Julie found Noah and asked him about the bus ride to Enchanted Rock.

“Yeah, Jacob, Gavin, and James were in the seats behind Josh and me,” mused Noah.

“Were they carrying anything with them?” asked Julie.

“I think Gavin had a backpack. I didn’t see Jacob or James carrying anything,” said Noah. “Gavin was showing the others rocks or something he found at the reservoir.”

“Yes!” exclaimed Julie. Just then the teacher arrived, and she had to sit down.

*Maybe I can peek at Gavin’s backpack at lunch today. He might still have the rocks.*



“Ada, we’ve got to have a look at Gavin’s backpack.”

“What! If he catches us...”

“You’re going to create a diversion, and I’ll sneak a peek,” said Julie, as the girls walked to the cafeteria.

Julie spotted Gavin, and gave Ada her signal. Ada saw Noah, grabbed his arm, and whispered, “Just play along, and follow my lead.” He did.

“Don’t you ever touch me again!” She said loudly, pushing Noah away from her. “Pinching went out with the dinosaurs!”

Noah replied, “It was an accident!”

They drew a crowd, including Gavin. Julie flipped back the top of his backpack, and, sure enough, saw several rocks that appeared to be limestone inside!

She motioned to Ada, who wrapped up her diversionary shouting match with, “And I’ll be keeping my eyes on you!” before following Julie out into the hallway.

“I hope I didn’t get Noah in trouble! What next?” asked Ada.

“I think we need to talk to an adult now. I’m pretty sure it was Gavin that hurt Josh. He had a backpack with him, which may have had rocks from the reservoir near Brady in it. Those rocks could be *limestone!* His grandma lives in Brady, and he was there recently throwing rocks in the reservoir. I’ve identified the fossils in the rock, and I’ve read they can only be found in three counties near here,

McCulloch County, where Brady is, being one. I think we have our culprit!” exclaimed Julie.

“Doesn’t your mother work at the courthouse? Surely she will know who we need to talk to.”

“Yeah, I guess I should tell her. You’ll come with me, won’t you? She might not like my involvement in all of this.”

“Of course,” said Ada.



As Julie told her story, her mother listened intently, but when she wrapped it up by explaining how she had linked Gavin to the crime, her mother burst out, “You did what?! I mean, I understand testing the rock, but what if Gavin had caught you looking in his pack? Julie...you’re all I have. I *am* proud of you, and I know your father would be, too, but you do need to think of your safety!”

“Yes, Mom.” Julie looked very solemn. Ada gave her a subtle “OK” sign.

“Julie didn’t do anything dangerous, Mrs. Martell, really!” said Ada, “There were loads of witnesses, it was totally safe. We were just looking for clues.”

Julie’s mother bit her lip, looking from one girl to the other. “All right,” she said, “I agree that you have enough evidence to go to the police. I’ll call Detective Clemens and ask him to come take your statement.”



Julie presented her evidence to the detective.

When she was done, he asked, “How do you think Gavin could have gotten his backpack back onto the bus? The officers were checking everyone.”

“Maybe he went around the back of the bus while the officers were occupied,” Julie suggested. “Most of kids had lowered their windows, and there was a long line of students to interview.”

“Those boys can be very stealthy,” added Ada.

After jotting down their comments in his notebook, the detective said, smiling, “I’m impressed that you know so

much about rocks. I will need to double check your geology, but with our combined evidence, we might have enough for a search warrant. Thanks for your help.”



The news was all over school the next day that Detective Clemens had confronted Gavin about the attack and Gavin, knowing what the police would find if they carried out the warrants to search his locker, car, and house, had finally admitted to the crime and handed over the tickets. It came out that he had planned to sell the tickets and use the money to buy drugs. He also admitted to sneaking his backpack onto the bus through an open window to avoid being searched.

Thanks to Ada, everyone soon also knew the part Julie had played in solving the mystery. Julie’s friends and even kids she didn’t know stopped her in the hall to congratulate her. Julie was pleased that she had been able to help. She knew her dad would have been proud of her.

That afternoon, her mother and Detective Clemens were waiting for her when Julie arrived home. So was a

reporter from the *Fredericksburg Standard*! And so was Josh!

“Julie, the reporter is here to document the award Detective Clemens wants to present to you!” said her mother.

“What?” responded Julie.

Detective Clemens handed her an embossed certificate, saying “Julie, the City of Fredericksburg, Texas would like to present you with its very first honorary geo-forensic scientist award. Without your help we might never have solved this case. Your scientific analysis of the limestone was spot on, as well as your deductions about the thief. Well done!”

Julie was beyond excited. She rubbed the piece of rose quartz in her pocket, thinking of her father, wishing he could share this with her.

Josh edged closer to Julie while her mother, Jane, and the detective continued talking about the award. “Julie,” he said grinning. “How would you like to go to a Texas Ranger’s game? I have tickets, thanks to you!”



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**Paula Young** is a retired science teacher of 33 years who won the Presidential Award for Excellence in Science Teaching in 2005 and was National Board Certified in Chemistry. She has written a course on the NGSS for the Association for Supervision and Curriculum Development, and is an active member of NSTA and SCBWI. She lives in Missouri, but spent time in Texas visiting her grandparents, where she became a rock hound herself.

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Credit: The Rock Hound Illustration by Erin Colson.

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