

# How to start your own transplants for the garden

Last week, I began to lead you through the process of starting a few of your own transplants at home from seed and then set them out in the garden at the proper time. I ran out of space before I finished the story, so let's try to wrap it up today. As I check the calendar, it will soon be time to get the ball rolling on this enjoyable and productive project and I hope more of you will give it a try.

So you've bought the tomato, pepper, cabbage or broccoli seed of your choice, as well as a bag of soil less starting mix. You'll also need a planting tray or pan of some kind,



**kay melia**

• the gardener

perhaps like the plastic tray your petunias came in last year or any kind of plastic pan that has drainage holes in the bottom.

Fill the tray with planting mix and wet it down thoroughly. Then, with the point of a pencil, make a shallow hole in the wet mix about every half-inch. Make as many holes as you

you have planted and when.

The tomato plants should emerge in about a week. Pepper plants take longer, maybe two weeks and all pepper seeds will not sprout at once. Cabbage and broccoli seed sometimes comes up in three days.

At this point, check the plantings daily to see if they are poling their

heads through the mix yet. And now comes the most critical aspect of the entire project. Just as soon as the plants begin to emerge, PUT THE TRAY IN AN EXTREMELY WELL-LIT AREA. Don't place the tray in direct sunlight, just bright light. These tiny seedlings must have almost 12 hours of bright light daily or they'll grow into tall, spindly little plants that likely won't survive. A commercial or homemade "grow light," consisting of a couple of florescent bulbs as in a shop light make an excellent environment for those tender seedlings, perhaps rigged up in the basement. Add as

little water as possible at first, but don't let them dry out too much. No fertilizer is needed right now.

I've found that a south-facing window will give you the light you need to nurse the plants along. Turn the tray daily so the plants will grow straight.

As soon as the seedlings grow their first true set of leaves, transplant them to their own individual plastic or sphagnum moss cell and continue to give them lots of light and sufficient moisture.

I occasionally add a bit of water soluble plant food when the plants are four or five inches tall, particu-

larly if they begin to show a yellow cast. But don't over-do it.

Hey, you can do this! This is a great early-season garden project. It probably won't save you a whole lot of money, but if you are a dedicated gardener, it will fulfill your need to branch out and try other things. I also start a tray or two of Wave petunias each year, and also some snapdragons and columbine.

With today's tools to work with, you can do some different things that you may not have wanted to try a few years ago.

# Western Kansas discovery of fossil dish solves old mystery

Giant plankton-eating fishes swam the prehistoric seas for over 100 million years before they became extinct about the same time as the dinosaurs, new fossil evidence has shown.

Discoveries by Fort Hays State University alumni and associates of the Sternberg Museum of Natural History played key roles in the discovery.

An international team describes new fossils from Kansas, Europe and Asia that reveal a previously unknown dynasty of giant plankton-eating bony fishes that lived in the oceans of the Earth during the Age of Dinosaurs, between 66 million and 172 million years ago. Paleontologists from Fort Hays State University, the United Kingdom's Oxford University, Chicago's DePaul University, the University of Kansas, the University of Glasgow and the Rocky Mountain Dinosaur Research Center in Colorado report their findings in this week's Science, the peer-reviewed journal of the American Association for the

Advancement of Science.

"Giant plankton-feeders in our modern oceans — baleen whales, basking sharks and manta rays — include some of the largest living animals," said Mike Everhart, adjunct curator of paleontology at FHSU's Sternberg Museum of Natural History and an author of the report.

"The fact such creatures appeared to be missing from the fossil record for hundreds of millions of years has been an ongoing mystery among marine paleontologists," he said. "We had to conclude that there were no big filter feeders in the oceans during the Age of Dinosaurs, but our recent discoveries now reveal that a diverse group of giant fishes occupied this ecological role in these prehistoric oceans for more than 100 million years."

Several of the most important discoveries have come from Smoky Hill Chalk of western Kansas. FHSU alumni and Sternberg Museum personnel have figured in two of the most important, including the

most complete specimen, which was collected in 2009 by Everhart and which is now in the collections of the Sternberg Museum. Other remains have come from around the world, including Dorset and Kent in the United Kingdom, and Japan. Some members of this filter-feeding fish group are estimated to have been up to 30 feet long, similar in size to modern plankton-eating giants such as the basking shark.

"One of the reasons these big fishes were overlooked or misidentified lies in their anatomy," said Dr. Matt Friedman, a lecturer in palaeobiology at Oxford. "Over their evolutionary history, these fishes reduced the amount of bone in their skeletons, probably to save weight, with the consequence most of their hard parts were easily scattered after death. As it turns out, the only parts you routinely find in the fossil record are their well-developed fore fins."

With few clues to go on, early paleontologists concluded these isolated fins were from something

like a modern-day swordfish. This changed recently when the bones of the skull were discovered preserved along with the fins in a specimen from the University of Kansas.

"Instead of finding a head with a long sword-like snout and jaws lined with predatory fangs," said Friedman, "they found something completely different: long, toothless jaws supporting a gaping mouth, and long, rod-like bones that contributed to the huge gill arches needed to filter out enormous quantities of tiny plankton." The team named this KU fish Bonnerichthys gladius, honoring the western Kansas Bonner family who collected the fossil in 1971. It was discovered by Chuck Bonner, who graduated FHSU with bachelor's (1972) and master's (1974) degrees in art. Bonner operates the Keystone Gallery on U.S. 83 south of Oakley and north of Scott City where he has a collection of fossil fish from the surrounding area.

Remains of similar giant plankton-eating fishes were known from

much older rocks in England and Europe, but they were thought to be a short-lived and unsuccessful evolutionary experiment. "I started examining museum collections and found more examples that had been overlooked or misidentified," said Friedman. Revisiting previously collected fossils netted the team evidence these fishes thrived for millions of years and colonized many parts of the globe.

Another, even more complete specimen was discovered in 2008 by Dr. Kenshu Shimada, an associate professor in the Environmental Science Program and the Department of Biological Sciences at DePaul University, Chicago, while on a field trip with Everhart. Shimada earned bachelor's (1993) and master's (1994) degrees in geology from FHSU and is a research associate at the Sternberg Museum. Everhart returned to collect the specimen in 2009, and although it is still being prepared, it appears to be most of a complete fish, from the front of the skull to the end of the tail.

"We now have the best specimen in the world at the Sternberg," said Everhart.

"The odds of the discovery were extremely low given less than 20 specimens of this species, mostly fragments, have been found in the last 150 years of extensive fossil-collecting history in that region," said Shimada. The specimen added new data to the publication and will be described in detail in a follow-up study.

Everhart, founder of the Web site "Oceans of Kansas," said the ancestors of large modern filter-feeders such as baleen whales and whale sharks only appeared after the extinction of Bonnerichthys and its relatives, suggesting today's filter-feeders evolved to fill the ecological vacancy left by the extinction of these plankton-eating contemporaries of the dinosaurs.

For more information, contact Everhart at (316) 788-1354 or by e-mail at meverhar@fhsu.edu.

## matters of record

The following real estate transactions have been reported by the Sherman County register of deeds:

Ronnie J. Reed and Debbie S. Reed to MAS LLC, Lot 7 and N20' of Lot 8 in Block 38, Second Addition to the City of Goodland.

Humrich Sisters LLC conveys and warrants to Randy A. Payne and Mary B. Payne, all of Lots 11 and 12, in Block 40 in the First Addition to the City of Goodland.

Danny L. Mangus and Charlene K. Mangus convey and warrant to Schulte Bros. Farms, LLC, the

NW/4 of Sec.12, T8S, R42W.

Richard E. Short and Sarah F. Short quit claim to Short & Son, Inc. a tract of land in SW/4 of Sec.19, T8S, R39W.

Gail B. Schroeder quit claims to Reita S. Dean, the W90' of Lot 17 and all of Lots 18 and 19, in Block 5 in the Third Addition to the City of Goodland.

Norma L. Emig-McCoy and Roger Neal McCoy to Patricia K. Carney, all of Lots 11, 12 and 13 in Block 26 in the Third Addition to the City of Goodland.

Dennis D. Owens and Patsy L. Owens, trustees of The Owens Family Trust, dated May 7, 2008, to Russell Owens and Candi Owens, a tract of land in SW/4 of Sec.5, T9S, R37W.

Cody McDaniel and Tancy McDaniel to James L. Mosbarger and Darla S. Mosbarger, a tract of land in SW/4 and SE/4 of Sec.19, T7S, R37W LESS the following tract in SW/4 and SE/4 of Sec.19, T7S,

R37W; a tract of land in NW corner of Sec.30, T7S, R37W LESS a tract in NW/4 and NE/4 of Sec.30, T7S, R37W; a tract of land in NE/4 of Sec.30, T7S, R37W LESS a tract in NE/4 of Sec.30, T7S, R37W.

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