



# Genoa National Fish Hatchery News and Notes

## December 2021

### About Genoa NFH

Genoa NFH was established in 1932 by the Upper Mississippi River Fish and Wildlife Act. The mission of the hatchery has changed from providing sport fish for area waters to a conservation hatchery concerned with the recovery of endangered aquatic species.

To contact the hatchery call 608-689-2605 from 7:30 am to 3:30 pm.

You can also find us online at:

[fws.gov/midwest/genoa](https://fws.gov/midwest/genoa)

And on Facebook at:

[facebook.com/GenoaNFH](https://facebook.com/GenoaNFH)



### 2021 A Year in Pictures

January 2021



*Mussel production building rehabilitation project! Thanks to our staff who made this all a reality! Photos of completed mussel building interior. Photos by USFWS.*

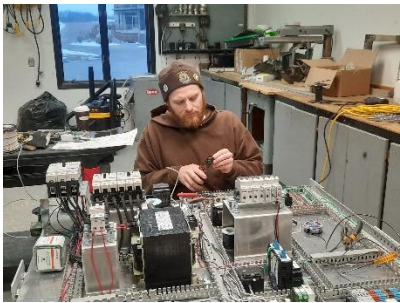


*Our Lake Trout fry have all hatched out and are busy absorbing their yolk sac before beginning to accept artificial feed. Picture of a tank filled with water and orange lake trout fry on the bottom. Photo by USFWS.*

## February 2021



Zach and Jeff work with an electrician to install the new electrical panel at the pump station. Photos: Beth Glidewell/USFWS.

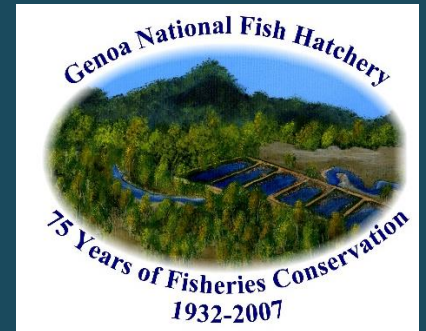


The newly redesigned control cabinet finally takes shape as Zach begins to connect wires to electrical components inside. Photos: Beth Glidewell/USFWS.



*This adult female Salamander Mussel spent the winter in Genoa this year, waiting to be used to inoculate their host animal, Mudpuppy Salamanders. The larvae will attach to the external gills of the mudpuppies and drop off when they have transformed into free living mussel juveniles. The hatchery also holds and cultures mudpuppies for use as hosts for this species of concern. Photo of Mudpuppy Salamanders in culture tank. Photo of adult Salamander Mussel in sandy substrate. Photos by USFWS.*

**Genoa National Fish Hatchery's** mission is to recover, restore, maintain and enhance fish and aquatic resources on a basin-wide and national level by producing over 35 aquatic species of varying life stages, participating in active conservation efforts with our partners, and becoming a positive force in the community by educating future generations on the benefits of conservation stewardship.



**Interpretive  
Center Hours:**

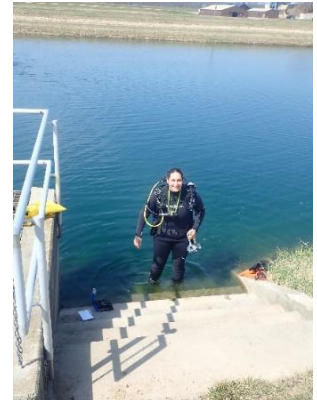
**Monday thru  
Friday  
9 am to 3 pm**

Capacity in the Interpretive Center will be limited to 25% occupancy, please call the hatchery for more information.

## March 2021



*(Left) Megan, Sara and Beth completing their diving skills checkout in a swimming pool. (Right) Beth completing her dive physical fitness test in a hatchery pond. Photo credit: USFWS.*



*These Rainbow Trout eggs made their way from White Sulphur Springs National Fish Hatchery, a federal broodstock facility in West Virginia. Then they were disinfected to prevent disease, inventoried and put down in our incubation units. From there we will grow them up for 13 months until stocking next spring, when they should be roughly 10-11 inches in length. Photos of trout eggs and incubation unit. Photo credit to Pathways Intern Jadon Motquin.*

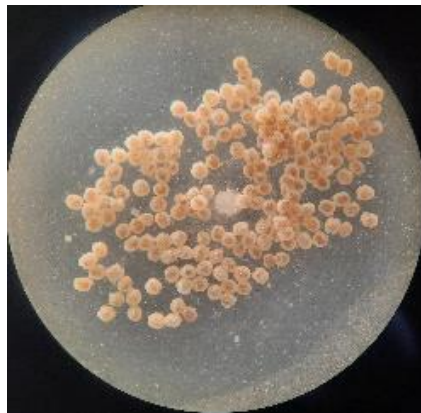


*These Logperch are ready to spawn. The female is the larger one in this species and holds roughly 400 to 2300 eggs, depending on size and age. Males are much smaller with abdomens less-pronounced in the springtime. The hatchery has a small brood population whose purpose is to produce host fish for the Endangered Snuffbox mussel (*Epioblasma triquetra*). Photos of male and female adult Logperch ready to spawn, eggs being stirred to increase contact with males milt, and female Logperch abdomen being squeezed to release ripe eggs. Photos by USFWS.*

April 2021



*White Suckers are the host for Rock Pocketbook, a listed species in Wisconsin. These mussels are widespread but rare and a challenging species to produce because White Suckers don't thrive when held in culture. Rock Pocketbook have uniquely textured shells and are a long term brooding species. Photo: About 12 green tinted aquariums with 2-3 White Suckers, a single Rock Pocketbook mussel and an up close picture of one tank with 2-3 White Suckers in a tank. Photo: USFWS.*



*Our Endangered Hine's Emerald Dragonfly eggs hatched well! Over 700 of the 1,000 eggs received had hatched by April. Photo of Hine's Emerald Dragonfly eggs and larvae. Photo Credit: Beth Glidewell/USFWS.*

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*Walleye spawning season! The hatchery raised some of these to become host fish for our freshwater mussel restoration and recovery programs, and some for tribal and state conservation agency sport fish restoration programs. Picture of eggs incubating at hatchery incubation rack, USFWS staff with net in water. Photos by USFWS.*



*April is also sturgeon spawning season! Each year thousands of fish swim up the Wolf River from their home in Lake Winnebago to spawn. Many congregate at the Shawano dam. The Wisconsin Department of Natural Resources collect information on age and life history of the returning fish, which gives them information helpful to set harvest limits for the winter sturgeon spearing season. The Genoa hatchery met DNR crews at Shawano and collected eggs to begin their sturgeon production season. The progeny from these eggs supported tribal and state conservation efforts in Wisconsin and Tennessee. Photo: A pod of adult Lake Sturgeon gathering to spawn. Photos by USFWS.*

May 2021



*Snuffbox* are a federally endangered mussel species that we propagate and rear at the hatchery. These mussels are part of the most-endangered group of mussels called *Epioblasma* and all 15 species are listed. This entire genus of mussels lie in wait to capture their host fish, rather than just encouraging them to stop by for a snack on their lure. Logperch are the functional host for *Snuffbox* because they close so strongly they'll crush the skull of other species. Logperch have a reinforced skull since they feed by using their nose to turn over stones looking for aquatic insect larvae. Photo: USFWS.



*These Fatmucket juveniles were raised in our pond system as part of an experiment to research optimum water quality parameters and feeding rates for best survival. They have overwintered 2 winters now in our mussel building and are large enough to avoid most predators and will be released to waters that have been affected by chemical spills, agricultural runoff or other factors this fall. Note the long hairlike structures known as papillae as they prevent unwanted objects from entering the mussel's apertures (siphons) which extract food from the water. Picture of juvenile mussels feeding. Photo credit: Beth Glidewell/USFWS.*

*Chelsea, Pathways student intern, feeding newly hatched juvenile Hine's Emerald Dragonfly larvae. In late April and early May, larvae hatched from eggs that had over-wintered on station. The new larvae were placed in small plastic cups and fed zooplankton three times per week. The hatchery's ponds support a diverse zooplankton community, which feeds young fish as well as the dragonfly larvae. Photo credit: Beth Glidewell/USFWS.*

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May is Smallmouth Bass spawning time! During the spring months, Smallmouth Bass males build a nest by clearing out a gravel spot with their tails. This attracts females that are ready to lay their eggs. The male then guards the nest and eggs and resulting fry until they swim up from the gravel nests and disperse from the nest. In the following pictures, you can see staff harvest the fry from the nest gravel by using a siphon bulb and placing them in pails for transport back to fry rearing tanks. There they will be protected from predators and fed hatched artemia cysts until their rearing pond has plenty of zooplankton available for them to feed upon. Photo of smallmouth bass fry in a nest, staff reaching a siphon bulb through the water column to harvest the nest and placing the fry in a five gallon pail for transport. Photos by USFWS.

## June 2021



Exciting news from the Chippewa River! A reintroduced population of federally Endangered Higgins Eye Pearlymussels and Winged Mapleleaf Mussels were surveyed for growth and survival in June. Survival was above the expected values for each species, and the 6 to 8 year old mussels have been observed with gravid larvae and lures displayed, hoping to attract the appropriate fish host. Picture of tagged adult mussels recovered in the Chippewa River survey. Photo credit: Megan Bradley/USFWS.

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*Nick, our fish biologist, and a student intern are collecting Yellow Perch in one of our ponds. This is phase 1 culture, or first round of culture. Photo: A USFWS worker in waders with a net catching fish in a pond. The water is about knee height. Photo credit: USFWS.*

## July 2021



*Our mussel crew and partners from Iowa DNR and The FWS Rock Island Field Office participated in a mussel survey in Guttenberg Iowa. The slough surveyed was the site of a train derailment which caused damage to an existing mussel bed. Through a NRDA (Natural Resource Damage Assessment) settlement, Genoa began rearing freshwater mussels to try to help restore the mussel bed to its original condition. The survey found some good juvenile recruitment happening and also some of the stocked hatchery mussels that were thriving in the area. Included were some marked federally Endangered Higgins Eye Pearly mussels that the hatchery reared. Photo: (Left to Right) About 10 freshwater mussels the size of a nickel in an open hand, Four USFWS workers in water with scuba gear on, three tagged mussels the size of a golf ball. Photo credit: Megan Bradley/USFWS.*

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Orey and Jadon collecting Largemouth Bass. Photo: (left) A bucket filled about half way with about 100 fish, USFWS worker in the pond with waders on and a net collecting fish. Another worker is standing a foot deep in the water next to buckets. Photo credit: USFWS.



### August 2021



Hatchery mussel biologists participated in the Iowa DNR's mussel blitz. The blitz is a qualitative survey on select interior Iowa rivers that historically have had thriving mussel populations. It is also a general look at mussel population health of these rivers. (Left to Right) Photo: About five mussels in various sizes in an open hand, About seven mussels half in water next to a white net, Three USFWS workers in waist-deep water with some in scuba gear, one tagged freshwater mussel. Photos by Megan Bradley/USFWS.

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(Left to Right) Photo: One 6-8 inch Lake Sturgeon with hands holding it to be tagged, inside view of the Lake Sturgeon building with about 18 tanks with pvc pipes running from the ceiling, one volunteer holding a Lake Sturgeon in his hand, and three volunteers collecting fish out of a tank. Photo credit: Erica Rasmussen/USFWS.



Congratulations to Darla Wenger, Administrative Officer, and Jeff Lockington, Maintenance Mechanic of the Genoa hatchery crew, for 30 years of exemplary public service. It is an honor to work with you every day! Photo of hatchery workers receiving 30 year pin and certificate. Photo credit: USFWS.

## September 2021



*Lake Sturgeon were hauled to New York to be stocked in the St. Lawrence River and its tributaries. Photo: Lake Sturgeon swimming in a large blue tank. USFWS workers collecting Lake Sturgeon in nets. Photo credit to Erica Rasmussen/USFWS.*



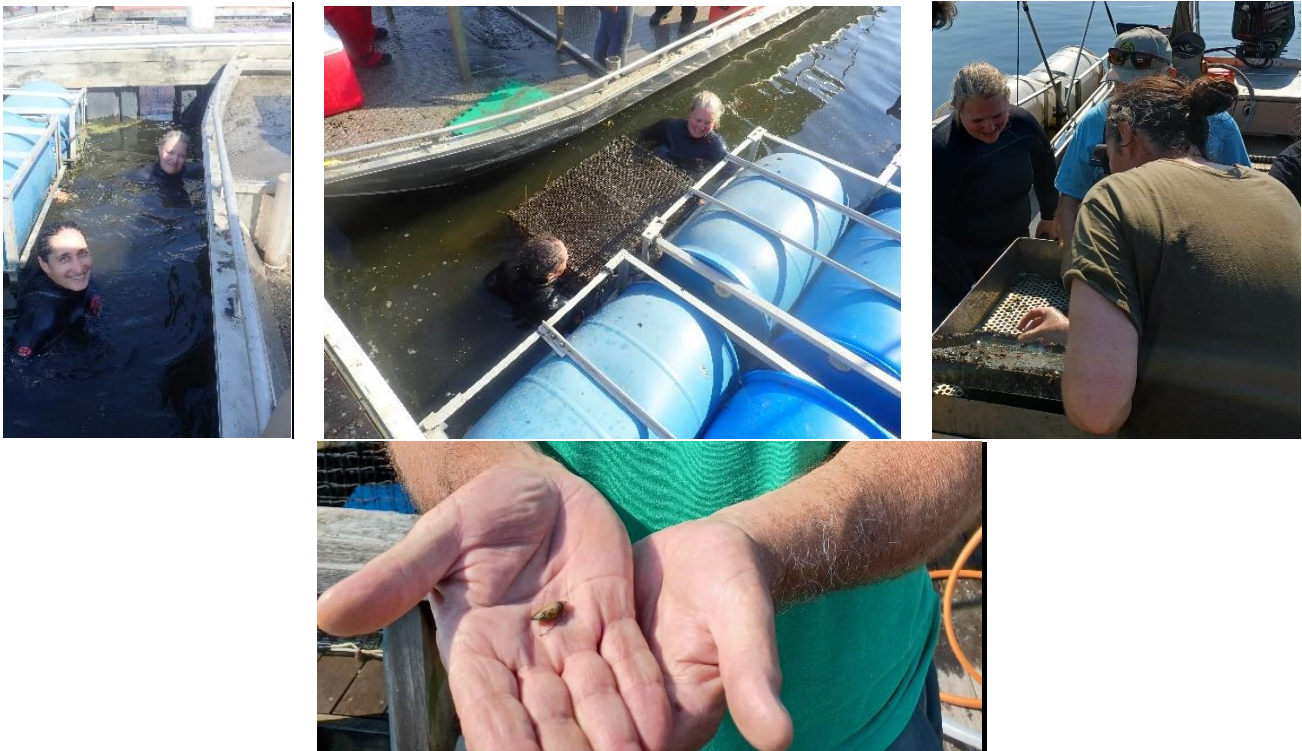
*USFWS workers transferring Fathead Minnows from our 33 acre minnow pond to our production ponds. Fathead Minnows are a vital food source for the Genoa National Fish Hatchery. In the summer, approximately 15 clover traps are set and harvested on a daily basis. In late fall the pond is drained, typically yielding 5,000-10,000 pounds of minnows! Some of these minnows are then sent to partners to assist with their rearing programs, used to bolster forage in fishery management areas, or used to feed our host fish over winter until they are ready to be used for native mussel restoration. Some are also saved as brood stock to start the pond all over again. (Left to Right) Photo: Clover trap open and fish flowing in an open tank, USFWS worker scooping up fish in the net from a tank in the boat and Clover trap with fish in it. Photo credit: Erica Rasmussen, USFWS.*

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*Wolf River, Wisconsin mussels observed and collected during a Snuffbox aggregation effort. USFWS biologists joined the WI DNR to gather Snuffbox in one area to make them easier to find in the spring for propagation. High water and low water temperatures in the spring constrain search efforts then. Gathering them together decreases the time spent at the hatchery, while still making it possible to restore the species at this site. Photo: Megan Bradley, USFWS.*

## October 2021



*USFWS staff and volunteers recovering mussel cages from Dubuque's Ice Harbor at the National Mississippi River Museum and Aquarium's dock. (Left to Right) Photo: Megan and Beth in water up to their heads and retrieving mussel cages, USFWS workers and volunteers collecting mussels off of cages on the boat, and two open hands holding one Higgin's Eye mussel the size of a penny. Photo credit: Erica Rasmussen/USFWS.*

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*Fatmucket from a Wisconsin River tributary being glue dotted and ready for release. These animals will be used to restore mussels to locations where mussel populations have been reduced or eliminated in the past. Photo: Fatmucket with glue dot on each of them, Beth Glidewell/USFWS and volunteers glue dotting. Photo Credit: Erica Rasmussen/USFWS.*



*These juvenile Plain Pocketbook, Black Sandshell and Lilliput Mussels spent the summer growing in a group culture tank in Genoa NFH's river-side mussel culture trailer. Now that water temperatures are cooling down for the season, the juveniles are cleaned up, counted, and housed in smaller groups in culture systems in the Mussel Building at the Hatchery. (Left to Right) Mixed freshwater mussels, (Top left, Lilliput, top and bottom right, Black Sandshell, bottom left, Plain Pocketbook). Photo credit: Beth Glidewell/USFWS.*

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*Our 33 acre minnow pond will be cleaned and emptied for the winter season. Photo: Staff emptying a net of fish in a bucket, 5 gallon bucket full of fish, Two USFWS staff with a white seine net in water with waders on. Photo credit: Erica Rasmussen/USFWS.*



*Harvesting our Walleye pond! How long does it take to drain a pond? Well, if you said 2-3 days, you are correct! The fish will be used as a primary host fish for the reproduction of Black Sandshell. Photo: A pond that is draining and a tank full of Walleyes. Photo credit: Erica Rasmussen/USFWS.*

## November 2021



*(Left) A new round of Hine's Emerald Dragonfly eggs arrived at Genoa NFH, just as the previous year's cohort (center and right) was packed up and transported to their overwintering facilities. Eggs were collected by researchers at the University of South Dakota last summer and have been divided up between several facilities for cold winter storage. (Don't put all of your Federally Endangered dragonfly eggs in one basket!). At the end of the growing season, larvae that have grown in Genoa's zooplankton rich pond water all summer were packed up into specimen cups and transported to partner facilities with larval overwintering capabilities. (Left) Looking through a dissection scope at about 21 eggs in fine clay particles. (Center) a larger larvae at the end of its first growing season. Photo credit: Beth Glidewell/USFWS. (Right) Specimen cups containing one larva per cup loaded into a cooler for transport. Photo credit: Erica Rasmussen/USFWS.*

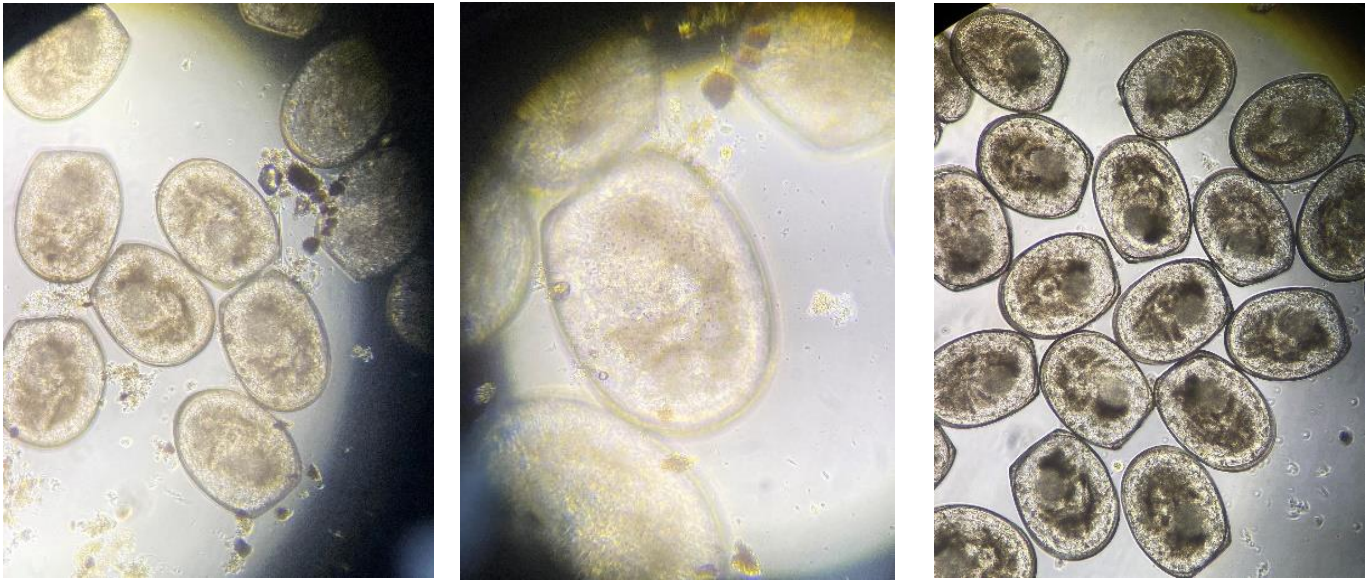


*Lake Trout eggs are starting to hatch. They will feed on their yolk sac for about a month.  
Photo: (left) Several Lake Trout eyed eggs, and (right) about 25 fry with yolk sac attached.  
Photo credit: Erica Rasmussen/USFWS.*



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(Picture 1 &2) A part of any conservation effort is the exploration of new technology. Hatchery biologists collaborated with biologists at the La Crosse Fish Health lab to use media to transform Washboard glochidia instead of their host fish. Photo: Liquid cell culture media in a well plate. Photo credit: Megan Bradley/USFWS. (Picture 3) The Washboard are continuing to develop in cell culture media in the lab (in vitro mussel culture). If you look closely and compare to left photo some mussels' adductor (closing) muscles are beginning to split. That's a good sign that they're getting closer to being independent juveniles. Photo: Liquid cell culture media in a well plate. Photo credit: Megan Bradley/USFWS.



Fat mucket packaged for transport to Iowa for stocking. Photo: USFWS worker next to a cooler and bucket and Fat mucket mussels in a cooler with water. Photo credit: Megan Bradley/USFWS.



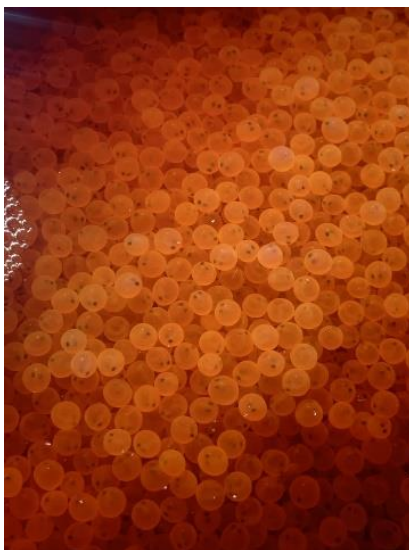
## December 2021



*Congratulations to Doug on 20 years here at Genoa National Fish Hatchery! Thank you for all of your hard work! We also enjoyed eating the edible paper of mussels and fish that our two mussel biologist created and colored to celebrate this major milestone. Thank you Megan and Beth! (Left to Right) Photo: One mussel and a Lake Sturgeon on edible paper, Chocolate cake with a white edible paper with Congratulations Doug 20 years on it and 2 fish, more mussels and fish decorated on edible paper. Photo credit: Megan Bradley/USFWS.*



*Winter Family Fun Day at the Great River Road Interpretive Center! Photo: (Left to right) Mussel display, ducks on display with people sitting in chairs, four kids each holding a Lake Sturgeon and front desk with prizes on table and posters. Photo credit: Erica Rasmussen/USFWS.*



*Coaster Brook Trout eggs arrived! Iron River National Fish Hatchery transferred 50,000 fertilized eggs. They were then disinfected in an iodine solution upon arrival to prevent the transfer of pathogens and diseases. Photo: Up close picture of the eggs in iodine, and eggs in a tube with water in a tank. Photo credit: Jadon Motquin/USFWS.*