NATURE AROUND US

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Cottontail
Good reasons for prolific breeding

Back in 1980 when I was preparing to get married I had a card file of the wedding guests names arranged alphabetically in order to track the RSVPs, gifts in whatnot. For young folks card files are what we used back in the dark ages before computers to track all matter of things. I noticed that the cards behind the C tab were disproportional. I inquired of my future husband what's the deal this East Vineland clan are they people or rabbits?

So this begs the question are rabbits truly prolific, and why? In

the 1960s two ecologists came up with r/K selection theory. It relates to parental investment and reproductive strategies adopted by species in order to advance its kind into the future. This r/K equation gets far beyond my level of understanding when plugged into an equation that considers population dynamics such as carrying capacity, time, growth rates and the like. But at its most basic "r" species put a little effort into raising a lot of young that have a great probability of mortality. And they have the ability to reproduce rapidly. Bacteria, diatoms, insects, grasses and small mammals especially rodents fall into this category. And yes rabbits. So if someone says a family breeds like rabbits that would be a "r" strategy – except in scientific terms people are K strategists.

Conversely, K-selected species live in densities close to carrying capacity and are strong competitors with greater ability to be successful in adulthood. These are often the predators or high end of the food chain species like eagles, whales, larger mammals, and people. They invest a great

deal of effort into raising a small brood and the r strategists are normally their lunch. So think of whales as eating rapidly producing plankton and eagles as eating rodents, dolphins as eating bait fish, etc.

I'm still in Easter mode so let's stick with rabbits. And since spring is in the air let's start with just how "r" they are. A rabbit can breed 3 to 8 months old. They are sexually active eight months of the year. A doe (female rabbit) doesn't have to be in a cycle to be successful in breeding ovulation can be triggered by relations. Males will fight for mating rights and dance courtship displays.

Dana Krempels, Ph.D. U of Miami Dept. of Biology did some math on rabbits kept in captivity in terms of reproductive output. A single litter can produce 1-14 young. Gestation is about a month. And because they are induced ovulators they can be impregnated immediately after giving birth. Her deciphering looks something like this; one mom times 3 female babies times 12 months equals 36 females. She carries this math forward two years with the grand result of

1332 females. She carries this forward for seven years including male decendents and comes up with a figure of 184,59,433,860 rabbits. That's a lot of magic tricks!

Commented [MOU1]: I guess I'm suggesting leaving this out for space reasons

One pair of wild cottontail in 5 years could produce 350,000 kits. Essentially wild rabbits were born to die, or that is to say to be eaten by K strategy. And thank goodness they do or you would not have a green vegetable for the table. And a food web would collapse without all those dinners. Wild rabbits have 3-4 litters a year with 1-9 kits and only 15% survive the first year. The female generally mates right after giving birth. Thus the need to have a lot of broods.

They do have some attributes to help them survive. Long ears enable them to hear predators. Strong back legs make them especially fast 18 mph, and can pack a punch! Zigzag maneuvers help them evade aerial predators like raptors. They can jump up to 15 feet. Their eyes like many prey species are on the sides of their head and rotate 360 degrees, allowing them to see behind them.

They can navigate thickets of briars which larger predators can’t do. Cottontail holes are extensive but they rely on other species to do the excavation work like woodchucks. Often cottontail nests are on the surface of the ground under brush.

Rabbits groom themselves like cats but they can not produce fur balls. In fact they can’t vomit so they rely on diet of ruffage to push fur through their system. They are herbivores. Since like rodents they have to gnaw to keep their incisors in check, tree bark is useful in this regard.

Rabbits are recyclers eating their own feces. This gives them access to nutrients not absorbed the first time around. In fact they have a particular feces called cecotropes that is extra nutritious. Evidently, someone told my dogs about this little trick for they seem to think rabbit poop is a delicacy. I know.

In New Jersey we have eastern cottontail rabbits, hares, and jack rabbits. In southern NJ we are only likely to see cottontails. Descendants of hares and jack rabbits were introduced into NJ in

the mid-nineteen hundreds and exist in small numbers in Hunterdon and Warren Counties (NJ Fish and Wildlife. The cottontails range is throughout the United States east of the Rocky Mountains and in parts of Central America, northern Columbia and Venezuela. In N. America there are about 18 species of rabbits and hare. Since were just coming off of Easter, I will offer the cutest of the bunnies is the marsh rabbit a south eastern species with small ears and brown fur.

So next year when you see those silly rabbit head hair bands think of their great contributions to the food chain.