

North American BioFortean Review



Do what you can, with what you have, where you are.

— Theodore Roosevelt

North American BioFortean Review

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From the Editors

Greetings — welcome to the first issue for 2002. Again, you should find a good mix of cryptozoology, out-of-place animals, strange wildlife behavior, curious hoaxes, and methodology.

NABR is once more in transition. The next issue will have some changes in editorial responsibilities and we are currently seeking individuals who would be willing to serve in capacity of field editors. If you have experience with specific cryptozoological, biological, or paleontological subjects and would consider writing regular contributions for NABR, please contact Chad Arment at Caa1snake@aol.com.

Enjoy.

Chad Arment
Brad LaGrange
Craig Heinselman

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News Notes

A Purple Marsupial

Although known to exist since the 1920s, the purple-necked rock-wallaby from Australia, has now been identified conclusively as being of a distinct species. The wallaby was first described by A.S. Le Souef in the journal Australian Zoologist in 1924, and classified as a distinct species by Le Souef. However, despite certain skeletal differences and a purple coloration on its neck and head, the wallaby was later reassigned as a subspecies of the rock wallaby (*Petrogale inornata*) by E. Troughton in 1941. The status of the purple-necked rock wallaby has since teeter-tottered back and forth from species to sub-species over the last 60 years. Even early molecular studies placed the wallaby in question within a subspecies classification, that of the black-footed rock-wallaby (*Petrogale lateralis*).

However, debate was still not settled, as the pelage of the purple wallaby and further genetic and molecular studies continued to suggest it was indeed a distinct species. To perhaps end the debate once and for all, an extensive mitochondrial DNA (mtDNA) study was performed to identify the phylogenetic placement and divergence levels of the wallabies. These new tests demonstrated an 11.4% divergence between the purple wallaby and the other five *Petrogale lateralis* taxa. This divergence is along the same level as that which separates the brush-tailed rock wallaby from the black-footed rock-wallaby. This strongly suggests therefore that the purple-necked rock-wallaby, last classified as *Petrogale lateralis purpureicollis*, is indeed representative of a new species classification, *Petrogale purpureicollis* Le Souef 1924. For that matter the purple-necked rock-wallaby is actually closer in relation to the brush-tailed rock-wallaby (*Petrogale penicillata*) than to its previous grouping with the black-footed rock-wallaby (*Petrogale lateralis*).

The mystery still stands as to how and why the purple pigmentation is presented on the wallaby during seasonal times. It is acknowledged that a gland produces the coloration, but the purpose is the mystery. Interestingly the pigmentation is even known to wash away in the rain, and also to be related to sexual dimorphism. More study is needed on the species, but at least for now the discovery from 1924 has been vindicated as being new and not just a subspecies variation.

Sources:

Benson, Simon. October 17, 2001. Purple no pigment of imagination. The Daily Telegraph.
77 Year mystery solved over the colour purple. October 12, 2001. Macquarie University Press Release.
Eldridge, M. D. B., et al. 2001. Taxonomy of rock-wallabies, *Petrogale* (Marsupialia: Macropodidae. III. Molecular data confirms the species status of the purple-necked rock-wallaby (*Petrogale purpureicollis* Le Souef). Australian Journal of Zoology Volume 49.

Choccolocco Monster?

Neal Williamson recently came clean on a hoax perpetrated in Calhoun County, Alabama, in 1969. The case, the Choccolocco Monster, described 30-odd years ago as a cow-shaped creature with a hump that was grayish or blackish, but also stringy black and white hair. At least 8 people reported seeing the creature around the town of Choccolocco during that summer of 1969, and residents either thought it was a hoax or reality at the time.

According to Williamson, who was a teenager at the time, he dressed in a sheet and held a cow skull over his head to create the monster. He would walk out into the road, and before a driver could get a good look at him, he would run back into the woods. All told, Williamson performed his game four times. It all stopped though when an unknown shooter fired bullets at Williamson one summer day in 1969. The night the monster died.

Was Williamson the source of the monster? Was there really something sneaking in the woods that summer? The answer may not be evident, but the recent revelation of a former Choccolocco Monster at least adds some credibility to the reason why everything stopped that year.

Source:

Creamer, Matthew. October 31, 2001. The Choccolocco Monster: Jokester Reveals 32-year-old Prank. [The Anniston Star](#).

Indiana Mystery Creature?

Is there a mystery creature on the loose in Indiana? On Wednesday, January 30, 2002, a 5-foot, 200-pound black haired creature was seen crouching on its rear legs at a house near the Hardin Ridge Recreation Area. The sighting was reported by Dale Moore and Penny Howell. The creature was observed moving aware once it became aware of the pair.

Tracks were found that are not typical of what many may assume to be a Bigfoot report. The tracks were described as 4 inches by 5 inches with four toe imprints. But, they had claw impressions up to 1 inches in some cases, otherwise they were described as resembling a mountain lions track. Even the witnesses do not tie the incident to a Bigfoot, but are unsure what they saw.

Is there an exotic animal on the loose? A bear? Or something else?

Source:

Van Dussen, Kurt. February 1, 2002. Ape? Bear? Bigfoot? Sightings pose mystery. [Herald-Times](#).

Hunt for the Ivory Billed Woodpecker

A search is now underway to look for possible remnant populations of the ivory billed woodpecker in the southern United States. Sponsored by Carl Zeiss Sports Optics, the search is centered around the Pearl River Management Area of Louisiana, the same area that a sighting was reported in 1999. Additional searches will be made in the Bogue Chitto Wildlife Refuge as well.

The search began on January 17, 2002, and is running for 30 days. The team of six searchers consists of Richard L. Knight, Martjan Lammertink, David Luneau, Peter McBride, Alison R. Styring and Alan Wormington. They were selected from a number of applications based on their qualifications. Additional people are aiding in listening device deployment and search parameters. As well as searches by groups of two, twelve remote listening devices will be used courtesy of the Cornell Laboratory of Ornithology.

Time will tell if any signs or hard evidence is collected by the researchers or the listening devices. So far, based on daily logs, they have experienced some nasty weather and some hardships, but have uncovered nothing as of yet in the way of hard evidence for the survival of these woodpeckers.

Sources:

Morse, Dan. January 16, 2002. Ruffled Feathers: Woodpecker 'Extinct' For Six Decades Inspires a Search Party. Wall Street Journal

<http://www.museum.lsu.edu/~Remsen/IBW.html>

<http://www.zeiss.de/C1256AF70046CD9F>

Smallest Amniote Vertebrate Discovered

On January 2, 1998, in a sinkhole of the Pedernales Province of the Dominican Republic, a female lizard was collected by Richard Thomas and S. Blair Hedges. This lizard appeared different than others upon examination, having a difference in size, shorter head, flatter snout, and various other morphological differences. Even more remarkable is the size of this specimen, and seven additional specimens collected in the Pedernales Province, 14.1 — 17.9 mm in length (.555 — .705 inches)!

Enough differences appear that the discoverers have now formerly described this gekkonid lizard as *Sphaerodactylus ariasae*. The name is derived from Yvonne Arias, a long time conservationist of the Dominican Republic.

The species to date is known only from the Pedernales Province, more specifically Isla Beata and the Barahona Peninsula, all that fall within the Jaragua National Park of the Dominican Republic.

Although classified now as a distinct species, more tests on a molecular and

genetic level are to be done in order to establish a more complete frame for the lizards of the area, including this new diminutive fellow.

Sources:

Hedges, S. Blair and Richard Thomas. 2001. At the Lower Size Limit in Amniote Vertebrates: A New Diminutive Lizard from the West Indies. Caribbean Journal of Science Vol. 37, No. 3-4.

From Guyana, a New Species of Lizard

November 1, 2000, Ross MacCulloch, Amy Lathrop and Carter Cox collect a male lizard on Mount Ayanganna in Guyana. The lizard showed different characteristics than known specimens, especially in the scale placements and pore alignments in the scales.

Based on morphological differences this lizard has now been classified as a distinct species, *Arthrosaura guianensis*, with the etymology of the name referring to location of discovery, Guyana. The species likewise appears to have a limited distribution, and stays on Mount Ayanganna. Other species of the genus *Arthrosaura* also share limited distributions in their own set ecosystems.

Sources:

MacCulloch, Ross D., and Amy Lathrop. 2001. A New Species of *Arthrosaura* (Sauria: Teiidae) from the Highlands of Guyana. Caribbean Journal of Science Vol. 37, No. 3-4.

Tasmanian Lake Creature?

On Friday, January 4, 2002, a curious creature was reported in Lake Dulverton in Tasmania. Only a generic description of the creature was reported, being hump-backed and in the water all day. What makes this creature even more interesting though, if not a falsehood or other problematic report, is that Lake Dulverton was dry in the 1980s, and it wasn't until the 1990s that water started to fill the lake again by way of a dam and pumped-in water. Since the lake's rejuvenation the area has been increasing in tourism, with water sports and even fishing. Wildlife has also been returning to the water, such as water fowl and planted fish.

What then was the creature seen in Lake Dulverton? A misinterpretation, hoax, tourist ploy or a genuine mystery animal that came to the water?

Source:

Warner, Georgia. January 10, 2002. Dead Lake's Monster Revival. The Mercury

A New Conifer from Vietnam

A team of scientists from the Vietnamese Institute of Terrestrial Ecology in Hanoi, the Missouri Botanical Garden in the United States, the Royal Botanic Gardens of Kew in the United Kingdom and the Komarov Botanical Institute in St. Petersburg, Russia, have announced the discovery of a new conifer in northern Vietnam. Originally found in October 1998, the researchers waited for confirmation and new samples before declaring it a new species.

The new tree is now known as *Xanthocyparis vietnamensis*, or the Golden Vietnamese Cypress. Its closest relative is in North America, the Nootka cypress. Unfortunately, the new tree is also endangered, as only a few trees are known to exist in the area of discovery near the Chinese border.

Sources:

Kirby, Alex. November 25, 2001. New Tree Found in Vietnam. BBC News.

Personal Communication. 2001. Royal Botanic Gardens in Kew, United Kingdom.

Book Review: Mystery Cats of Devon and Cornwall

Authored by Chris Moiser (Bossiney Books, Launceston, 2001)

Reviewed by Craig Heinselman

Biologist Chris Moiser presents in a short work (32 pages in total) a brief history of the enigma of exotic appearing felines in Devon and Cornwall of England. Moiser uses case studies to look at possible biological needs of these animals and to allow the reader to visualize the evidence collected that supports the existence of these animals where they should not exist, at least in present times.

Like many other small print books on the subject of mystery cats in England, such as Nigel Brierly's They Stalk by Night (Yeo Valley Productions, Newtown, 1989) and Trevor Beer's The Beast of Exmoor (Countryside Productions, Barnstaple, 1988), the book looks at the situation as a factual basis and doesn't necessarily look at other possibilities. But, in that vein Moiser does show the facts and evidence that would lead one to conclude that these felines do in fact live in the wilds of England. Despite names such as the Surrey Puma, Beast of Exmoor, Beast of Dartmoor and the Beast of Bodmin, the animals in question are presented not as ferocious beasts, but as cunning survivalists in the true nature of a feline predator.

Moiser's book may be small, but it offers the reader unfamiliar with the mystery cats of England a taste of what is there, and the reader then can follow Moiser's list of further reading if they wish to continue following the history and research of these felines.

Review: Music Inspired by Cryptozoology: Music by William Rebsamen

Reviewed by Craig Heinselman

Music is the cornerstone of the soul. It allows us to feel emotion in an auditory sense and share that emotional impact with others. We are emotional about many aspects of life, from the rarest of them such as pain and loss to the joyful ones of love and respect. For hundreds, if not thousands, of years humanity has embraced music as a tool of expression.

What William Rebsamen has presented in his music is a pristine example of this musical expression. In 13 tracts, running around 40 minutes, the listener is brought into the world of Cryptozoology, in music that is.

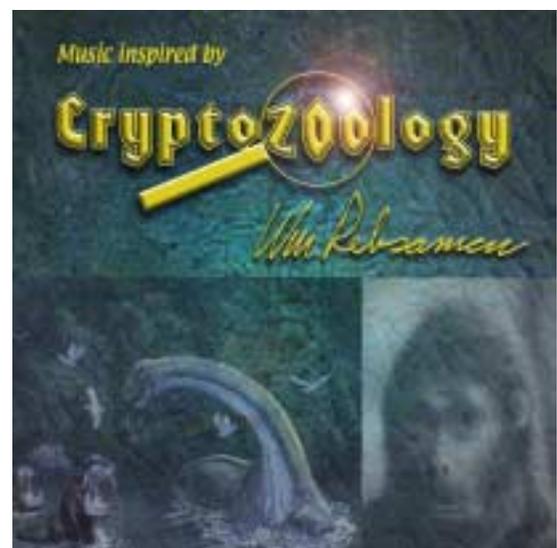
The synthesized music and varied samplings of music tones shows a deep caring for the subject matter. Deep rich sounds are produced which amass the listener in tone and music. Steady rhythms and beats as well as an ear to the subtle brings the unknown into the ear. We are brought to Africa in a piece called *Happy Little Sauropod* and into the aquatic unknown in *Into the Depths*. We are brought face to face with Bigfoot in *Watching* (which has spoken word segments by Loren Coleman) and into the heart of the dark continent in *Into the Heart of Darkness* (which has spoken segments by Bill Gibbons).

Lest one forget the underlying reason many are interested in Cryptozoology, we are related in the beautiful rendered *Beyond What We Know* performed vocally by Bill Flaspohler to Rebsamen's music. It reminds us of the search, the people that have passed and the romantic nature of this science:

“Call me the hopeless romantic. Standing here with nothing to show.
But my eyes have yet seen, and my heart wants to believe in things
beyond what we have known.”

The rich variety of sounds and segways, coupled with a reverence of the music and the art of music making brings forth a respect for not only the artist but what inspired the music, Cryptozoology. Many know William Rebsamen from his artwork; after all he has been called the Audubon of Cryptozoology, now perhaps he deserves a new distinction, the Chopin of Cryptozoology.

You can obtain a copy of this CD through William Rebsamen for \$14.00 (postpaid) in the U. S. at 2308 Crosshill Road, Ft. Smith, AR 72908 USA. Please contact Bill for international costs for outside the U. S. by writing or emailing him at cryptodude@aol.com. Visit Bill's website as well at www.rebsamenwildlife.com.



Book Review: Where Legends Roam

Authored by Lee Murphy (Defining Moments, Van Nuys, 2001)

Reviewed by Craig Heinselman

Fictional representations of Cryptozoology, Cryptids and Cryptozoologists are often plagued by contemporary horror or science fiction overtones. Lending little credence to the science of Cryptozoology, rather relying on cliches and gimmicks to satisfy the readers. Few have attempted to go beyond this level and realistically depict what Cryptozoology is about, and what makes a Cryptozoologist function.

Lee Murphy in his book *Where Legends Roam*, goes beyond the cliches, he goes beyond the stereotypes, he succeeds in generating not only a readable story but also a basis for the understanding of Cryptozoology. We are presented with a character, George Kodiak who seeks out the unknown in a rather untraditional manner than a zoologist, yet with a humanity that is present, and needs to be, in a scientific endeavor. One can relate to this character and connect to what he is doing, regardless of the views the reader has on Bigfoot or other unclassified animals. Coupled with the presence of other less friendly characters, the tale weaves around the search for Bigfoot in the Olympic National Forest.

The essence of the story is a search, a search for authenticity, and a search for the humanity within. No easy task in any writing of fiction, or non-fiction. It is the reality of facts though that lead this book along, as well as the mingling of general audience expectations. Mingled as the text progresses are anthropological ideas associated with the Sasquatch, these are myriad theories expressed by others as to what Sasquatch is, how it functions, how it remains unknown and so forth. In essence a theoretical view of the Sasquatch is presented in a novel length field guide of sorts.

Are there problems in the works. Yes, depending on your views of Bigfoot. But the essential story is well done. There is some violence and scenes of brutality that may not appeal to everyone. But these revert back to the underscore of the book and its human undertones, we are a brutal race and hence brutality is present. Other aspects such as the fanciful Arizona zoo of character Emory Pittman are a bit harder to fathom (this is a zoo that holds many endangered animals from every imaginable ecosystem, from killer whales to panda bears), but does add a quasi-fantasy sense to the story.

Despite brutality and imaginative areas, the work itself is well done and deserving of continual character development of George Kodiak and Cryptozoology in future novels. If only other authors would learn from Murphy and follow his lead we would have more understanding as a whole. Fiction represent a large part of how we recognize the world, and by not demonstrating this with facts and relying instead on fancy and gimmickry we do not succeed. So to Murphy we can say a job well done, may a reader follow Kodiak's steps and continue on his search in real life? Time will have to tell.

Book Review: Bunyips: Australia's Folklore of Fear

Authored by Robert Holden (National Library of Australia, Canberra, 2001)

Reviewed by Craig Heinselman

“Folklore and superstition, myths and legends suit the age and reflect the culture from which they derive.”

So begins the chronicle of the Bunyip in Robert Holden's ethnological, sociological and folkloric examination of these odd creatures from Australia. For the interested reader and follower of cryptozoological tomes, the book may come as a disappointment. A disappointment as the subject, the Bunyip, is treated not as a real entity of biology, rather as a piece of Australian folklore. But, one should not be so fast to disregard the book for this, as the examination of folklore and beliefs of native people is essential for good research and historical perspectives on mysteries.

The Bunyip is looked at through the Aboriginal eyes and words, as well as through early settler's narratives and wonderment of this new continent and wealth of biological diversity. The stories of unknown animals proliferate through many cultures, from the Buru in India to the Thunderbird in North America, they make up the back story, so to speak, of the timeline of unknown animals. The case of the Bunyip is no different.

Holden examines the early history of reports of odd creatures, from the *Yara-ma-ya-who* (frog-like men) to the *Doolagarls* (hairy man-like creatures), to the varied descriptions of the Bunyip as a land creature and aquatic creature. The origin of the term Bunyip is examined and perhaps the most intriguing area of the book, the cultural ramifications and representations of the Bunyip are shown.

The book is not for everyone, as it is not the standard flare the many would read. In spots it is dry and uses extensive quotations from original texts, letters, narratives and reports. These can be cumbersome and laborious to read as excerpts, but as a whole one leaves the book with an understanding of the Bunyip in the folklore of Australia. Beyond that one gets the beginning stages of folkloric undertones to other Cryptozoological topics, predominantly the Yowie or Yahoo (Australia's unknown hairy, bipedal creatures).

One must follow all aspects of a mystery to be able to examine that mystery respectively and accurately. Holden does an admirable job in presenting a long overlooked aspect of Australian history in this sociological examination of fear and the unknown. Read it if you wish a varied perspective, it will definitely open a different venue of thought and perception to the mystery, and perhaps make you inquisitive enough to search out folklore and original tales of mysteries you search for.

Book Review: Mothman and Other Curious Encounters

Authored by Loren Coleman (Paraview Press, New York, 2002)

Reviewed by Craig Heinselman

Being a fan of Loren Coleman's style of writing, I awaited his newest book with a sense of wonder and expectations. The wonder was how he was going to document the phenomenon of Mothman beyond what John Keel had already dealt with in his book The Mothman Prophecies. The expectations were simply that more than just Mothman would be dealt with, but that other unusual creatures that defy easy classification, such as Momo, Thunderbirds and Lizardmen would be evaluated. With the arrival of Coleman's book the wonder and expectations were answered, and more than fulfilled.

Coleman deals naturally with Mothman, its history and legacy. But, beyond the limiting scope of Mothman, the reader is shown the other phenomena that run the border between Cryptozoology, Fortean Studies and the moniker of UFOology and the Paranormal. One is taken to the winged mysteries of the Thunderbird in North America, the odd and culturally rich history of the Chupacabra and the legacy of phantom trains, to name but a few of the topics covered.

Perhaps the real gem in the book though is the dealing with the Mothman and its legacy over the years, which in 2002 will be brought forth even more with the release of the movie *The Mothman Prophecies*. The reader is shown what John Keel did in the 1960s in Point Pleasant, West Virginia by looking at the phenomenon of Mothman culturally and anthropologically. The circumstances and related occurrences of the time put the entire situation into a cultural and evidentiary guide.

That is the hidden subtext to the book, that although these creatures do not necessarily fit into any one neat category, they all have basis in the history of the areas. They fall into mixed arenas and hence are often waylaid and overlooked by mystery historians or classified according to a particular theory. Even within the text of the book the creatures, entities, beings, or whatever you choose to call them, are not necessarily categorized, rather they are looked at for what they are and chronicled in true Fortean style.

One can choose to nit-pick certain areas of the book, and some are easier than others to do this too. But, remembering the above commentary about chronicling versus categorizing, these criticisms are really without merit. This reviewer has in the past been critical of the placement of Merbeings in the context of unknown primates, for example. Yet, even though they are dealt with in the book, they are dealt with as a manner of chronicling. Even the mention of UFOs and stereotypical paranormal events may toss a cold hand to some readers that are looking for a true Cryptozoological evaluation of the subject, yet that is

not what this tome is about, and one should not progress in reading the work believing it is strictly a Cryptozoological book, or any other type of book. The one criticism that this reviewer will make though is that the book bogs down a little when concepts of date coincidences are looked at. These areas are dry and may cause the reader to lose interest even though they are a fascinating piece of Fortean information.

The best example of classification of Coleman's book is that it is an extension of the style and content produced in his 2001 book Mysterious America: the Revised Edition (also by Paraview Press). Readers familiar with Jerome Clark's Unexplained! (2nd Edition, Visible Ink Press, Farmington Hills, 1999) will find Coleman's book of interest as it goes beyond strictly and encyclopedic look at the subject, but contains similar content as Clark's work. Perhaps the best analogy to another work though would be the more obscure work by D. Scott Rogo and Jerome Clark, Earth's Secret Inhabitants (Tempo Books, New York, 1979). The styles are different between Rogo/Clark's and Coleman's book, and the content is different, but both look at the unusual accounts of many creatures that defy classification.

The reader of Mothman and Other Curious Encounters is bound to be left with a feeling that more is out there than they may be aware of. More exists in a Fortean world than we would think, and perhaps the reader will take a look for themselves and play some "name games" and date comparisons of events. The reader is taken to the world of the unusual, and brought safely back to the comfort of home, but the essence of the unusual will linger, the wonder will not be abated.

Coleman, himself, sums up the work as:

"Indeed, I find myself still considering possible cryptozoological answers for Mothman, while at the same time appreciating what Keel did. Some of my friends who read this book will think I have gone to the "dark side" by merely allowing myself to think about Mothman, let alone researching Keel and his radical ideas. You see, I am a Fortean, and in a very strange way, Point Pleasant all makes sense to me. Mothman's time has come. Mothman lives. The events wrapped in the riddle called Mothman has focused so many mysteries in one place. We are not able to ignore it, any longer, even if we don't have all the answers yet."

So come along and experience Mothman, Bigfoot, Batsquatch, Owlman, Lizardmen, Momo, the Honey Island Swamp Monster, Thunderbirds, Hell Hounds, Banshees and the other kin of Mothman, essential "Loren's Paradigm." The journey is worth the cost — you won't soon forget it.

A Lake Monster in New Hampshire?

Craig Heinselman

Monsters in the Granite State

New Hampshire, the Granite State, is not known for its proliferation of unknown animals, particularly those of an aquatic nature. Historically the state has had reports of mystery felines, a few Bigfoot cases, the rare “sea-monster” sighting and antiquated accounts of Thunderbird-style avian creatures, but what of lake dwelling creatures?

Recently Philip L. Rife wrote in the book America’s Loch Ness Monsters the following (page 9):

“New Hampshire is not without its own legends of lake monsters. One involves Dublin Lake (near Keene). According to the story, a skindiver who’d set out to explore the lake’s underwater caverns in the early 1980s emerged badly shaken and mumbling something about “monsters.” A similar story is associated with nearby Spofford Lake. Around the same time as the alleged incident in Dublin Lake, another skindiver was reportedly searching the bottom of Spofford Lake when he decided to rest on a log. Lo and behold, the “log” suddenly comes to life and reveals itself to be a 20-foot-long, gray snake-or-eel-like creature that quickly swims off.”

The source for this account is listed as an Internet Posting. No site is listed, however the source is actually from the site of a quasi-Bigfoot group called the Granite State Bigfoot Society which is no longer online (the old URL was <http://members.tripod.com/~johnhorrigan/GSBS.html>). These “monster” cases from Dublin and Spofford Lakes were mere rumors, as were the Bigfoot cases. Upon examination and interviews on the site and around the areas of the cases, they turn out to be completely unsubstantiated, as did many of the Bigfoot cases posted at the site.

Despite mention of New Hampshire in the text, Rife omits a documented case of an unknown aquatic “thing” in a lake of New Hampshire. For that fact most books that show a listing of “lake monsters” per state simply list the name of this lake in question (John Kirk’s In the Domain of the Lake Monsters, page 297, for example), while any actual treatment of the story is few and far between. The lake in question is Moore Lake, and the reason it is overlooked is simple, there was ONE case of something in the lake from the 1960s! Nothing

since, nothing before, only that ONE case. But, as an interesting example of a little known event, it is worth chronicling.

The lake has been dealt with before, in brief, within Betty Sanders Garner's book Monster! Monster! A Survey of the North American Monster Scene as well as an article by Richard Wolkomir entitled "The Glowing Thing in Moore Lake" (Fate, November 1968). An article in a local paper, Littleton Courier, and yes even a fictional story The Moore Dam Monster by R.S. Cartwright and Samuel H. Milligan (an H.P. Lovecraft mythos story from 1984 that has no real connection to the events at Moore Lake). Yet, despite these few little tinges of information, most people have never heard of the glowing creature, New Hampshire's own "Lake Monster"!

The Event

On May 20, 1968, three people, Cindy and Richard Hansen and Michael Stinchfield, reported to Littleton Police Officer Victor Miller an event that occurred early that morning. Around one in the morning the witnesses were fishing along the banks of the Moore Lake (actually a reservoir). Around two o'clock Michael Stinchfield sighted a reddish glow in the water, at a distance of roughly one-quarter of a mile, and also noted that the night became still and quiet. Little by little the glow came closer to the three people, until it was no more than 30 feet away.

The source of the glow was described as being from an object sitting low in the water. It was a whitish colored mound that sat around two feet in length and a foot or so was visible above the water. A larger something was vaguely visible behind this whitish mass. Stinchfield recalled it appeared somewhat like an alligator's head that was in the water up to its eyes, but the glowing red made things difficult to see. The "thing" remained where it was until Richard Hansen through out his fishing lure and began to reel it in. At that moment the "thing" began to come forward at a high speed towards the dock Hansen was on. Without hesitating he turned and joined his wife, Cindy, and Stinchfield as they ran towards the car. After that they drove to police department, but did report seeing a red glow surrounding the dock area.

Officer Victor Miller returned that night with the witnesses, but the glow had disappeared. All that was left was the silence. In the daylight police found fish, horned pout, around the dock area. They were dead and only the exterior remained (spines and head and tail). Later a John Smith reported that he had seen a reddish glow as well during the night and Roger Caswell reported as well on the silence of the night. It was even reported that workers on the Moore Dam had seen reddish glowing things in the lake during the same time frame. Yet, despite all this,

nobody could adequately explain what the Hansens and Stinchfield had witnessed that May morning.

The Lake

Moore Lake is actually an artificial reservoir and is known by a number of different names like Moore Reservoir, Samuel C. Moore Lake and Samuel C. Moore Reservoir. The lake is fronted by a 178 foot dam, the Moore Dam (or Samuel C. Moore Dam) that was built starting in 1953 and began producing hydroelectric power in 1957. The concrete dam yielded a water reservoir of 3490 acres, making it the fourth largest lake in New Hampshire. Construction took three years with around 500 men working on it at a time and cost \$41 million dollars. The dam and power station were built by the New England Power Association (part of the New England Electric System) and named after the company's general manager of 18 years, who died as construction began. His name, Samuel C. Moore, hence the nomenclature for the lake, dam and power station. The hydroelectric plant is still running to this day and generates power for regional towns both in New Hampshire and Vermont, as the reservoir lies on the border of both states.

The dam created the lake by blocking part of the flow of the Connecticut River, a river system that begins in Canada and empties into the Atlantic Ocean from Connecticut near Old Lyme and Old Saybrook. Moore Lake (44° 20' N, 71° 51' W) is stocked regularly with fish and boasts a wide variety of species such as brook, brown, and rainbow trout as well as large and smallmouth bass, pickerel, horned pout, northern pike and rock bass. Indeed over 6000 brown trout and over 5000 rainbow trout were stocked in the lake by New Hampshire and Vermont authorities in 2001 alone. With depths of over 100 feet and nearly 11 miles of length and 1 mile of breadth, the lake is a popular area for seasonal activities (and a good income source for the town of Littleton, New Hampshire), but has very few residents along its shores.

What Was the “Thing”?

What did the Hansens and Stinchfield see? It has been theorized by the locals at the time that perhaps they had seen a large turtle, large fish or a gathering of loons. Richard Wolkomir in his article in Fate speculates that:

“Something could have swum up from the ocean before the dam was completed and then been trapped in the lake when the dam was closed.”

Yet, since 1968 there have been no reports and prior to 1968 there were no reports. If a creature swam up the Connecticut River and became trapped in the forming reservoir, one would be led to believe that between 1957 and 1968 something would have been reported. Granted cases of a red glow were reported around the time of the incident of May 20th, but that is all.

We are left with an enigma. Either the witnesses did see something, or they made up the story. The police officers reported that the three people were extremely shaken and that Michael Stinchfield and Robert Hansen were both woodsmen, and not accustomed to over exaggeration or hysterics. So could they have seen some sort of unknown animal in the lake? Or is there another explanation?

A Maybe Explanation?

The area of the sighting was described as glowing red. Other areas of the country have reports of glowing lights as well, will o' wisps, spook lights and other regional names. Could these explain then the glow appearance of the lake? Even luminous bacteria or fungi perhaps? These examples are brought up, as they could plausibly explain the instance of Moore Lake's glowing "thing."

If a known aquatic creature, like a turtle, had touched upon luminous material, could it not then glow? Turtles would swim in the water, and would at times be motionless and have their shell above the water. If attracted to a food source, they could move quickly in the water as well. These all sound similar to what was reported, and if such an animal was glowing, it could aid in non-recognition of a known species of animal. Snapping turtles, for example, do grow quite large in areas and the author has seen some of at least 3 feet in diameter in New Hampshire.

This process of luminescence is not all that rare, and does occur in many species. Protozoa, sponges, annelids, crustaceans, insects and plants (to name but a few types) have members that emit luminescent coloration. The effect of the luminescence is a chemical one. Bacteria and fungi can produce it as long as oxygen is provided, while others may require actual stimulation to an organ. Even varied colors are emitted, from blue, yellow and green to even red.

A potential explanation then is that a luminescent bacteria or fungus became attached to the shell of a turtle. The turtle in normal behavior would appear different under a red glow that could potentially misrepresent what it was.

Conclusion

As no reoccurrence of the instance has been uncovered to date, it is suggestive that it was an isolated occurrence and one that is not related to other unknown aquatic creatures like Champ of Lake Champlain (around 50 miles from Moore Lake) or Memphre of Lake Memphrèmagog (less than 100 miles from Moore Lake). In all likelihood the “thing” was a misrepresentation of a known species, potentially shrouded in an unnatural light created by luminescence of a bacteria or fungal nature as has been reported before on other animals (such as birds).

The mystery of 1968 may never be solved. But, it does make a nice footnote in the folklore of New Hampshire and one that should be remembered as a curiosity on the border between Cryptozoology and Fortean studies, being of neither yet characteristic of both.

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Early Notes on the Indian “Kol-Bhalu”

Chad Arment

The following are some notes gleaned from the Journal of the Bombay Natural History Society on a canine puzzle that caught the interest of early natural history enthusiasts living in India. This is a good case showing how correspondence with other investigators is often necessary to get a wider picture on a subject, as well as how even when a good explanation is proposed, there are always irregularities left to be explored.

No. VIII.—The Kol-Bhalu. (Journ. BNHS, Vol. VIII.)

I have spelt the above name as it is pronounced, and as I have before seen it spelt, but I am not at all sure that it is correct. I have never succeeded in finding out what the name is derived from, and am ignorant as to what language it is. I have heard it in Guzerat, the Konkan, and Kanara, and pronounced, as far as I could judge, exactly the same in all three Provinces.

The Kol-Bhalu is, I think, generally described by natives in the Bombay Presidency as a jackal, either old and toothless, mad, or in attendance on a tiger or some other large animal. I have also heard it positively assorted by some villagers that it is an old and toothless jackal which has developed horns. The idea that the animal is an old and toothless jackal has, in my experience, the widest credence, and on examination of two Kol-Bhalus which I killed at different periods, whilst in the very act of uttering their peculiar weird-like cry, may perhaps be worth recording as bearing out this theory. Both were female jackals and bore the appearance of being extremely old, with short and almost hairless tails. The elder of the two had only a little short hair in patches on her body, and but one tooth in her head, a canine in the lower jaw worn down level with the gum. The other had more hair, but it was very short and of a dirty appearance, and in her mouth were five or six teeth much broken and worn. I found nothing to indicate that either of them was mad, nor did I kill them in places where there would be any likelihood of finding any other animal more formidable than an hyæna.

It seems possible that the peculiar cry which earns for the jackal the name of *Kol-Bhalu* may be caused by the absence of teeth, and to this cause I have frequently heard it attributed by villagers. I have never observed the *Kol-Bhalu's* cry and the ordinary jackal's cry uttered by the same animal.

On one occasion, in the evening whilst returning to my camp, I saw a jackal at a short distance off, and having dogs with me I set them after him, but to my astonishment the jackal made no great efforts to escape, but ran into a small bush a few yards away, and as soon as the dogs came up, the Kol-Bhalu cry was uttered; the dogs stopped and after sniffing round the bush for a short time came back to me. I never saw these dogs behave in this manner before; they had always been very keen in attacking jackals and had killed many. I can form no reason why this jackal which, from the cry uttered, must be called a Kol-Bhalu, was left in peace. Being pressed for time, I was unable to go up to the bush and make investigations.

F. A. Hill, Bombay. *30th September, 1893.*

No. IV.—The Kol-Bhalu. (Journ. BNHS, Vol. XI.)

Last Sunday evening at about 7-40. as I was returning from a walk with two brother-officers, we heard a Jackal calling out about a quarter of a mile away on the other side of a small river. This Jack was not making use of the ordinary call, so well-known to all, but a most unearthly cry, which, no doubt, is familiar to many members of the Society, and which, I believe, has given rise to the Jackal using it being dubbed a "Balu" by natives. I have often heard this cry, but have never been able to identify the particular animal from which it emanated, though I believe it to be a Jackal. It being sufficiently light to see, we three went in the direction of the sound. One of my companions, A—, had a small rifle with him, which he put in my hands for a shot should we see the animal. Arriving at the near bank of the river, we saw, on the opposite side, close down to the water's edge, a Jackal; the light was bad, but so far as I could tell, he was a good specimen; he did not notice us, but repeated his weird cry, once or twice, with his head down; so as there was no doubt from whence the sound came, I fired at him, and though I missed, must have gone close, for he bolted up the steep bank. We then heard a lot of puffing and blowing beneath us, and on looking down we saw an animal swimming towards the place where the Jackal had just been standing. We at first thought it was another Jack. On closer inspection it turned out to be a bull-dog belonging to B— of my regiment. Almost simultaneously we saw another of B—'s dogs, a large greyhound, in the water near the opposite bank, and not ten yards off where the Jack had been standing when fired at. Approximately, within a minute of my firing, the Jackal reappeared and ran down the bank towards the water, and at the same time a second Jack put in an appearance but kept in the offing. A— had a shot at the first Jack, but as it was dark, did no damage, though it effectually drove the Jack away. The two dogs then went up the river for about twenty yards along the further bank. Presently we heard a row and saw a scuffle going on, which

turned out to be a third Jack. There was a bit of a scrimmage; the Jackal getting away eventually and running up the bank, closely followed by the bull-dog. They sat contemplating each other, at about eight yards distance, for a short while, after which the dog returned to the water, and the Jack dragged himself off. Just about this time B— came up and said his dogs had run a Jack, which doubtless was the one in the water. The day had been very hot, and the evening was most oppressive, which more than accounts for the dogs being too done up to polish off the Jack. What appeared to me so curious was the behaviour of the first Jack, for there he was, regardless of everything, within a few yards of a particularly big greyhound, apparently fearless, and returning to the charge after having been fired at. Probably instinct told him the dog was too done up to do him injury. To me it seemed he was trying to distract attention from his companion, who was recouping himself in the water, and whose whereabouts, up to this, had not been discovered.

With regard to this peculiar cry I have heard it said that Jackals make use of this weird call when they are mad, toothless, old, decrepit, etc., but I have never heard any really satisfactory explanation. This is the only occasion I have ever been able to identify a Jackal as the author of the cry. From the surrounding circumstances I should attribute its use, in this instance, to fear, excitement, annoyance at, or hatred of, the dog, or possibly as a warning cry to other Jacks of danger, or to summon them to the assistance of a companion in distress. Should any member of the Society be able to throw any light on the use of this weird and hideous cry, I should like very much to be enlightened, as I have long wished for an explanation.

R. M Betham, Captain, 8th Bombay Infantry. Camp Baroda, *8th June*, 1897.

In vol. 8, page 438, Mr. F. A. Hill gave an interesting account of his investigations into the meaning of the expression, *Kol-Bhalu*, as applied by natives in Guzerat, the Konkan, and in Kanara to old Jackals which give utterance to this peculiar cry. His experiences coincided with those of Capt. Betham in a remarkable manner. He said:—

“On one occasion, in the evening whilst returning to my camp, I saw a Jackal at a short distance off, and having dogs with me I set them after him, but to my astonishment the jackal made no great efforts to escape, but ran into a small bush a few yards away, and as soon as the dogs came up, the *Kol-Bhalu* cry was uttered; the dogs stopped and after sniffing round the bush for a short time came back to me. I never saw these dogs behave in this manner before; they had always been very keen in attacking jackals and had killed many. I can

form no reason why this jackal which, from the cry uttered, must be called a *Kol-Bhalu*, was left in peace.

[It is quite possible that the Jackals which utter this curious cry give off some peculiar smell, indicating the existence of mange. It is also well known that dogs have an instinctive dread of this disease, and will carefully avoid animals which are suffering from it.—Editor.]

No XVI.—The “Kol-Bahlu,” and the Instinct of Fear in Wild Animals.
(Journ. BNHS, Vol. XI.)

Captain Betham in the November issue of our Journal asks for information in the matter of the “Kol-Bahlu,” a subject in which I specially interested myself some years ago. That interest extended to stalking the melodious jackal at any reasonable hour of the day or night and endeavouring to ascertain the cause of his discontent. On at least two occasions I found that the excitement was caused by a tiger, and I had a good opportunity of examining the proceedings. The tiger took no notice of the jackal, who also showed no signs of fear, although he kept at a respectful distance, say 15 to 20 yards. Occasionally he would utter the weird cry we are all familiar with, and then sit down or stroll around in an unconcerned manner. On another occasion I was much puzzled at seeing two jackals wildly howling in dense forest, and as they perpetually gazed upwards it was not until, in the dusk of the evening, I observed a large python in a tree overhead that I could understand the occurrence. Jackals run to bay by dogs will often make this noise, and their dying cry, when shot, is frequently in this language. Altogether, I think there can be no doubt that, as a rule, it is a warning note of danger by the individual and perhaps a call for assistance. Probably also it is employed in the breeding season, and this would account for hearing it in civilized localities where there are no excursions and alarms. Natives assert that this is the case, and I have proved the veracity of the statement in one instance by having the jackal shot—it was a slut in season. In some jungle districts not a week pass by without hearing the familiar cry of the “Kol-Bahlu.” It should be remembered that the instinct of all wild animals leads them to keep the dangerous object under observation and not to fly wildly from it. The sole exception being when the danger is so far-reaching as man has proved himself to be. Deer of all kinds will remain in the vicinity of a tiger or panther as long as possible though they will not dog his retreat. It would seem as if the larger carnivora do not relish a wild charge into a herd of observant deer, and that the latter know full well that the charge would at once follow if they turned their backs on the enemy. I have seen a sambhar hind belling at a tiger within 25 yards and refusing to move; and a chital stag standing even

closer and loudly expressing his disapproval. In the first instance the tiger was eating a wild boar and in the second a buffalo. In the same way, jackals having encountered a danger will, for the sake of safety, keep it under observation. The jackal possesses a marked sense of humour. I was one evening observing the remains of a goat which had been killed by a panther when some jackals appeared on the scene and at once fell to with an appetite. A temporary disagreement followed by a sharp fight ending in one being driven off. It sat at a short distance for some time and, when the attention of the others was fully engaged, rushed towards them with growls, bounding in quite an unusual manner. So good an imitation was it of a panther's charge that all the jackals fled with bristling coats. The practical joker then came in for his share of the feast. It is beyond doubt that wild animals are to a great extent judges of the intentions and humour of others without direct communication. The smaller carnivora know well whether the owner of a half-eaten kill has finally relinquished his claim or not; the deer can tell if a prowling tiger is on the hunt or merely taking a constitutional. In the first case a glance or a sniff will send the hungry hyæna or jackal away with hair on end, and the satisfied roaring of a well-filled tiger will elicit no warning cries from the deer in the vicinity. The law of the jungle is more a fact than a romance, and we dense mortals learn but little of it even after a lifetime spent in the haunts of big game.

S. Eardley-Wilmot, Lucknow. *December, 1897*, Conservator, Oudh.

No XVII.—The “Kol-Bhalu.” (Journ. BNHS, Vol. XI.)

I think it may be taken as proved by what Messrs Eardley-Wilmot and Wallinger have written in their papers published in No. 3 of the Society's Journal, Vol. XI, that one of the animals that makes the cry of the Kol-Bhalu is a jackal. But my experience loads me to believe that there are other animals that make a similar cry, and it would be interesting to know if this can be confirmed by any one else! One morning some years ago in the wet weather I was climbing the hills at a place called Ubliada-Mogra in the Igatpuri Taluka of the Nasik District. I had left my camp before it was light and reached the foot of the ridge running up to the high hill of Pimpalgaon. I had three dogs with me, two greyhounds and a fox terrier, when suddenly about half way up the ridge I heard the cry of the Kol-Bhalu. I at once set my dogs off and they started three animals, ran them about a quarter of a mile, and then disappeared with them in the jungle. After some little time my dogs came back, but they had not tackled the animals, although accustomed to running jackals and killing them. I am sure they did not tackle for they were not bitten at all, nor were their mouths blood-stained. I had a very good view of those animals, for they were

not fifty yards off when the dogs brought them into view. Although dark when I left my camp, it was quite light by the time I got to the foot of the hill, and I could see quite distinctly. They were in a dip the other side of the small ridge I was climbing when I heard the cry, and though not in sight when the cry was uttered, still one of them must have been responsible for it. They were reddish animals, not so red as a wild dog, and they had reddish bushy tails. They were not unlike jackals in shape, but appeared to me to be much larger, and *they were decidedly not jackals.*

W. G. Betham, Indian Forest Service. Karwar, *April*, 1898.

With regard to the various Miscellaneous Notes on the "Kol-Bhalu," which have appeared of late in the Society's Journal, an experience which happened to me some little time ago will, I think, help to support Mr. Eardley-Wilmot's contention that the cry is, as a rule, the jackal's warning note of danger. One afternoon out stalking I got a snap-shot at a tiger as he bounded away through some long grass, and on following up to see if I had wounded him I came across a doe sambhar which the tiger had been eating when I disturbed him. As I had missed the tiger I thought it highly probable that he would return to the kill very soon, and so I determined to wait for him. I had, however, only one man with me and no means at hand for making a "machan." I therefore sent this man back to my camp, some two miles away, for the necessary help, and in the meantime I climbed up into a tree near the dead sambhar. In a very short time a jackal appeared, which I had excellent opportunities of observing, as he was quite unconscious of my presence, and passed me time after time within a few yards. there was nothing in any way peculiar about him, and judging from his condition and the glossiness of his coat he was evidently in excellent health. He was, however, with the curious instinct which these animals seem to possess, fully aware that the tiger had not finished his meal and that he might be expected back shortly. He therefore would not touch the carcase, but contented himself with wandering round and round it, sometimes coming quite near, at other times making circles of about 100 yards radius. In one of these peregrinations he came suddenly on to the tiger, who had evidently not been much alarmed at my shot, and was creeping back to the kill through some low bushes. The jackal seemed much startled, bounded back a few yards, and then gave vent to the peculiar "Kol-Bhalu" cry.

T. MacPherson, Lieut.-Colonel. Poona, *April*, 1898.

Out-of-place Lizards in Tennessee

Randy Hutchings

[Ed. Note — Randy forwarded this very interesting newspaper account of large lizards being found in rural Tennessee. They were apparently released from a private collection. The lizard in the accompanying photo is a monitor (*Varanus* sp.), but it is difficult to identify specifically. The article is undated, but probably from the late 1960s.]

“Leaping Lizards! Milan Area ‘Jittery’

Bob Parkins

Tennessee state correspondent

“Milan, Tenn. — Discovery of the third giant lizard in this area in the last month has made some residents wary of shortcuts through fields and lots.

“Gibson County Sheriff Lawrence Jackson said the latest to be sighted was 52 inches long and nearly 10 inches wide and weighed about 25 pounds.

“It was killed in the Concord community near here last week. A SIMILAR lizard was killed in Spring Creek Bottom between Gleason and McKenzie last month. It was 5ft long and weighed almost 30 pounds. Another was sighted in the Gann community near here last month.

“Citizens are wondering where they come from and what they’re doing here.

“The Concord creature was first spotted by a motorist who saw it cross the road near the home of L. M. Connor. Frightened, she stopped her vehicle and called Connor to the scene.

“‘When we went into the yard, that thing came out of the ditch and shot up one of my shade trees like a squirrel,’ Connor said. ‘I got my shotgun and we spied the lizard about 40ft high in that tree.’

“A passerby, Bernie Rutlege, using Connor’s gun, blasted the reptile from the tree, killing the lizard instantly. The reptile was taken to the jail at Trenton where it went on display at the courthouse. ‘That’s the first one any of us ever sighted at Concord,’ Connor said.

“Mrs. Margaret Anderson, Milan schoolteacher who has researched extensively on lizards, said the creature appears to belong to the Monitor family.



“The ones sighted here appear to have a description more nearly resembling the Monitor than any I have read about,” She said. “The larger forms are classed as either Iguanas or Monitors and it appears that the latter fits the description of those around here.’

“The Lizard, killed near McKenzie, which appeared identical to the one killed near here, was identified by a Bethel College official as a Branded Tegu, common to South and Central America and rarely found in the extreme Southwest United States where the climate and terrain are more favorable for its habitation.

“So, what are the lizards doing here? There are many here who would like to have the answer to that - and also, according to Sheriff Jackson, the answer to the question of how many more, if any, are around.”

The text under the image reads:

“A Tale Worth Telling

“Trenton Tenn. — Gibson County Sheriff Lawrence Jackson, left, and Deputy Sheriff Cecil Barber examine a lizard killed in a treetop near Milan.”

From the Past: The Sea Serpent Again!

The Sun, April 3, 1835

Captain Shibles, of the brig Manhegan, of Thomastown, from New Orleans, which arrived here on Saturday last, states that he saw when almost nine or ten miles from Raco Point light, what he, as well as the whole crew, supposed to be a Sea Serpent; — he could definitely see it with the naked eye, but to be certain, he took his glass and saw his eyes, neck and head, which was about as large as a barrel — the neck had something that looked like a mane upon the top of it; — several times he run his head seven or eight feet above the water, and for thirty or forty minutes he swam backward and forward with great swiftness. There were two other vessels near, the crews of which were in the rigging looking at the same object. Capt. S. states that he should think it was from 200 to 250 feet long, and that his head, neck and tail and his motion in the water, was exactly like those of a snake; every time he put his head out of the water, he made a noise similar to that of steam escaping from the boiler of a steamboat. One of the crew told us that his appearance and motion was precisely like that he saw last summer while in the bay, which was said to be a Sea Serpent. The Captain and crew attest to the correctness of this statement.

A Mathematical Viewpoint in Regards to Cryptozoology

Craig Heinselman

Mathematics is by definition the study of numbers and their relationship and properties. In scientific examinations of a myriad of subjects these relationships or properties are connected to the workings of nature. They are used as methodologies for population estimates, distributions, decline rates, abundance factors even relationship of an ecosystem to support life. Through geometry, statistics, logarithms and other disciplines under the header of mathematics, the world is explored.

Why then can we not look at the unknown through the eyes of mathematics? Look at patterns established through reports? Look at rates of discovery as connected to as-of-yet described species? In brief can we not utilize the basic principles of mathematics to examine potential evidence from the realm of Cryptozoology?

Such usage of mathematics has indeed been utilized in Cryptozoology (and tied disciplines of Dracontology and Hominology). These utilizations are the core of this review then, the examination of mathematics in regards to Cryptozoology.

The Forefront

At the forefront of this mathematical examination of the unknown are two individuals, Dr. Charles Paxton and Wolf H. Fahrenbach. Each has examined two distinct venues of Cryptozoology, unknown aquatic creatures and unknown bipedal creatures (respectively).

Dr. Paxton broached the subject in his 1998 article "A Cumulative Species Description Curve for Large Open Water Marine Animals" that appeared in the Journal of the Marine Biological Association of the United Kingdom (78). In this treatise Dr. Paxton takes the discovery (or description) of large marine animals, greater than 2 meters in length, and applies the data to create a discovery curve for new marine animals. The end result is an expected discovery of one new marine animal every 5.3 years. Dr. Paxton used data from between the years of 1830 and 1995 to create his discovery curve, based on 217 species looked at, and aside from the 5.3 years between discoveries a total of 47 new marine animals await discovery.

In 2001, Dr. Paxton authored another piece based on his early 1998 work. Entitled "Predicting Pelagic Peculiarities: Some Thoughts on Future Discoveries in the Open Seas" (in Dracontology Special Number I). Here he clarified some points of his early

work and corrected some oversights. For example the total marine animals analyzed are now 220, as 3 were overlooked by him in 1998. Using the new data the estimated total marine animals to be discovered is 51. He further clarifies the gray area between discovery and description, which could lag for years. To further complicate matters the usage of modern genetic analysis of species could cause reclassifications, which although new in the specific sense are not new in the sense of new discovery rates.

So, to hold true to the proposed discovery rate, a species would need to be discovered that is greater than 2 meters in length in the year 2000 (as Dr. Paxton used discovery rates up to 1995). In actuality a new form of beaked whale was found in 2001, and awaits formal description now, making the discovery rate for the new whale only a few months overdue to Dr. Paxton's discovery curve. Will another 5 years yield another success? What about large freshwater species? Well, Dr. Paxton is working on that analysis currently. To get a feel for some of Dr. Paxton's work, his website at www.sea-monster.info has some information for you.

Michel Raynal in "Cryptocetology and Mathematics: How Many Cetaceans Remain to be Discovered?" (in Dracontology Special Number I), borrows from Dr. Paxton's work, but uses a similar methodology to calculate how many cetaceans are left to be discovered, 15 by his figuring or nearly a third of all marine species awaiting discovery. A demonstration of how formulation from an earlier work can be utilized in later works to show progress levels of research.

Dr. Wolf H. Fahrenbach has looked not at aquatic unknowns, but terrestrial ones. In Cryptozoology Volume 13 there is a thorough research report entitled "Sasquatch: Size, Scaling and Statistics." In it, Fahrenbach examines western North American Sasquatch reports (from Alaska, Washington, Oregon, California, Idaho, Nevada, Montana, Utah, Wyoming, Colorado, New Mexico, British Columbia and Alberta) from a mathematical perspective. These perspectives allowed for the extrapolation of data that is descriptive of the Sasquatch and which in turn can be used as a comparison to elsewhere in the world.

Dr. Fahrenbach's analysis yields then values that are not based strictly on the anecdotal accounts of witnesses. Rather by looking at raw data from reports and applying allometric scaling, he was able to present data for discussion. For example he presents a formula for estimating height of a reported Sasquatch based on remnant footprints, the formula translates to $H = 29.624L^{0.42054}$, wherein H is the height in inches and L is the foot length in inches. Using this formula then a 24" foot would yield a height of 9'5", a 12" track a height of 7' and so forth. His work even suggests that there is minimal sexual dimorphism between male and female Sasquatch as plots of 706 footprint lengths show a peaked distribution, but not a bimodal distribution which would suggest a much larger varied population potentially explained by dimorphism between sexes.

Dr. Fahrenbach's work in the journal was complex and very thorough, but difficult for the casual reader to follow. To his credit an adapted and easier to read version was made available online at Bobbie Short's website at www.n2.net/prey/bigfoot/. For those interested in the complexities of the subject, this would be the best venue to look at first.

That is All Well and Good, but is There More?

Dr. Paxton and Dr. Fahrenbach's research are perhaps the best examples out there of utilization of the principles of mathematics. They are by no means the limit though. A good number of people have applied these techniques to various degrees, among them Bruce Champagne, Michel Raynal, Don Keating, Gary Mangiacopra, Dr. Dwight Smith, Dr. David Avery, Christopher Murphy, Jeff Glickman, R. W. Sheldon, Carl Sagan, S. R. Kerr, Craig Heinselman, W. Scheider, P. Wallis, C. H. Mortimer, Valentin Sapunov, George Gill, Paul Johnson and Joan Jeffers, among others. Each of these individuals have examined the situation from a differing perspective, from limnology and fish biomass consumption to state and county distribution of reports, to theory testing and population density. To a limited degree even photographic analysis has been done using mathematics.

George W. Gill, for example, in a paper presented in May 1978 at the conference Sasquatch and Similar Phenomena, looked at population clines of the Sasquatch in relation to zoological rules such as Bergmann's Rule and Gloger's Rule. His data was not from a large selection, as Dr. Wolf Fahrenbach's aforementioned work, but showed certain patterns in coloration and structure depending on latitude. A similar study by Craig Heinselman in 2001 for a talk at the 3rd Annual East Coast Bigfoot Researchers Meeting looked at a large sampling of cases from the east, and showed little if any trend in coloration, but a marginal increase in height stature as elevation and longitude increase. Gill's work further went on to show that as larger samplings were taken in, potentially of mixed ages and sexes, then the patterns were not as obvious. A case that demonstrate a similar consistency to Heinselman's analysis, which showed little variation, for example, between east coast and west coast reports as compared against Dr. Fahrenbach's analysis.

Gary Mangiacopra with Dr. Dwight Smith and Dr. David Avery presented in the article "Calculations of Size-Density Population of Lake Monsters Based Upon a Lake's Physical Limnology" (in CRYPTO Volume III, Number II) an examination of limnological properties of a lake in relation to supportive biomass properties. Indicating that if a lakes biomass cannot support a more "romantic" explanation for a lake monster due to higher food requirements, then explanations of less "romantic" explanations such as reptiles and invertebrates that require less caloric consumption need to be looked at. The paper was in essence an abbreviated look at the situation from an extended

review of it presented in a master thesis by Gary Mangiacopra for Southern Connecticut State University in May 1992 entitled “Theoretical Population Estimates of the Large Aquatic Animals in Selected Freshwater Lakes of North America.”

The concept of limnology and biomass analysis though goes further back in the case of lake creatures. In 1976 in a Nature article, Dr. Carl Sagan touches on the application of a physics formula, the Maxwell-Boltzmann velocity distribution. Dr. Sagan’s brief examination yielded the following:

“the agreement does tend to support the contention that there is a real population $\sim 10^2 \pm 1$ of large organisms inhabiting Loch Ness.”

Dr. Sagan goes on later to speculate on the nature of the possible creatures;

“The nature of these organism seems still more uncertain than their existence, but it appears more likely that they are a minor variant of a fairly abundant contemporary taxon than, for example, the only living surviving group of aquatic Mesozoic reptiles.”

An even early study was done in 1972 by R.W. Sheldon and S.R. Kerr in “The Population Density of Monsters in Loch Ness” from Limnology and Oceanography, Volume 17. Once again limnological calculations are done to estimate population size. They calculate that 1 to 156 “monsters” exist in the Loch, but that in order to keep a population going the minimum number must be at least 2 and in all likelihood at least 10. Further data would suggest that these “monsters” are rather large, and hence do not die as often. This is supported by two suppositions, one that the “monsters” are not found dead and the reported “monsters” are not typically of a juvenile nature which would occur if mortality was very frequent (hence more young). W. Scheider and P. Wallis in a 1973 comment on Sheldon and Kerr’s examination concur that the estimate of population would be inline with their own respective estimates, and likewise the upper limit to the biomass of the “monster” is inline with their calculations, 15,725 kg for Scheider and Wallis, 15,675 kg for Sheldon and Kerr.

Along a similar, but varied, line is the examination of Bruce A. Champagne in his “A Preliminary Evaluation of a Study of the Morphology, Behavior, Autoecology and Habitat of Large, Unidentified Marine Animals, Based on Recorded Field Observations” (in *Dracontology Special Number 1*). Within Champagne examines and correlates data from the marine environments of the world. The purpose of such an examination is, in Champagne’s own words:

“If designed study and experimentation are used as a means of discovery, the researcher’s funds and resources may be more productively utilized and extended.

Experimentation also allows the researcher to be physically prepared (equipment, etc.) to observe, record, collect, and classify the animal. Certainly, information obtained during continued, regular, observations would be important and helpful, but that information would be moot without the actual collection of the animal.”

Champagne’s attempt then is to narrow a search venue down, a similar idea has been presented for the area of Hominology by Joe Beelart and touched on as well by Craig Heinselman in regards to Beelart’s idea of a Standard Sasquatch Area (SSA). But, what Champagne also arrives at is weather conditions of sightings, time of year and other associated pertinent details that would allow for a more fine tuned expedition search for one of these aquatic unknowns. Champagne is still working on his study, but the preliminary findings are quite intriguing.

Champagne also touches on a narrowing technique, that of Quality Control of Data. A rating scale was created by Champagne in order to judge the usefulness and credibility of the cases in question. In Champagne’s case it was a created system, however the same concept was applied by Craig Heinselman in his paper “Eastern Sasquatch: Potential Patterns or Dubious Data?” Heinselman utilized an industrial standard to minimize bias based on heavier reports from particular states in regards to specific characteristics to be analyzed (height, weight, length of foot imprint, width of foot imprint). The methodology used a military standard called MIL-STD-105E. Both Champagne and Heinselman used essentially a separate statistical or mathematical qualification method to minimize bias and unintentional contamination of the data being analyzed.

In a vein akin to the limnology studies of Loch Ness, a regional examination, individuals such as Don Keating, Paul Johnson and Joan Jeffers and Yasushi Kojo have looked at distribution patterns within set systems. Kojo in his “Distribution Patterns of Cryptid Eyewitness Reports from Lake Champlain, Loch Ness and Okanagan Lake” from Cryptozoology Volume 11 and “Some Ecological Notes on Reported Large, Unknown Animals in Lake Champlain” in Cryptozoology Volume 10, show potential time and monthly observations. The results show a skewed distribution for Lake Champlain, indicating more sightings occur in the early evening hours just before sunset and peaking during the summer time season. While in Loch Ness the time distribution is bimodal between late morning and late afternoon periods, while in Okanagan Lake the time is more consistent with peaks in the late morning and late afternoon. Similar reproductions for Lake Champlain were also done in a theory test by Craig Heinselman in “Testing the New Moon Theory at Lake Champlain” (North American BioFortean Review, Vol. 3, No. 1). These distribution tests and time tests could aid in time frame investigations or narrowing of potential researchers.

Don Keating in his book *The Eastern Ohio Sasquatch*, breaks down Bigfoot reports of Eastern Ohio by month. The results show a peak in the summer, particularly

in July. In the same work he breaks down the data as to reported height of the creatures seen, by a far draw the reported height is 7-8', with 8' being predominate. Similar to the Yasushi Kojo analysis of lake denizens, Keating's look at distributions in Eastern Ohio could lend a hand to researchers in narrowing the time frame of investigations and as a benchmark against their own data. Paul Johnson and Joan Jeffer's use a similar technique as Keating in their book The Pennsylvania Bigfoot. Although the data isn't broken down as simply, they do lump characteristics acquired from sightings and track changes in sightings over the years. This change in reports from year to year can then be used to look at the situation through weather conditions, or even sociological and economic levels to see what occurred during that time frame that may have caused an increase or decrease in sightings, again in theory. Perhaps the best example of these regional analyses would be John Green's database. He can pull up and spit out the statistics from several thousand cases of Bigfoot reports across North America, from hair color to size.

Extending beyond standard Cryptozoology fair, we have the work of John and Linda Lutz. As part of a yearly tabulation, the Lutz's chronicle and breakdown the data of reported cougars in the Eastern United States. Their breakdown appears in the first issue of the Eastern Puma Research Network Newsletter for every year. An example is that from July 1, 1983 to December 31, 2000 a total of 4,882 reports were documented, 3,781 of a natural coloration, 1,101 of a dark or black coloration and 377 had cubs reported. A state breakdown shows that Pennsylvania has the highest number of reports, with New York, Maryland, West Virginia, Virginia, Michigan, New Jersey, Maine, Illinois, and Ohio making up the top ten. Again, this information would tend to aid in the search venue, as would one travel to Massachusetts to search when more cases come out of Pennsylvania? The answer would be no, Pennsylvania would be better search grounds if available.

Hand in hand comes the report on "Habitat Suitability Analysis for the Central Appalachians" by Kristin Taverna, Jason Halbert and David Hines (Appalachian Restoration Campaign, A Project of Heartwood). In the analysis they look at the suitability of the terrain to hold a population of cougars, even though not necessarily acknowledged to officially exist there. Human habitation, vegetation, topography and predation levels are all looked at. A suitability study for an unconfirmed predator of the east. Even the work by Dr. Patrick Rusz in "The Cougar in Michigan: Sightings and Related Information" examines suitability of environment and pattern distribution within Michigan.

Conclusions

The arena of mathematic application in Cryptozoology is far from full, or even in danger of overkill. The topics and ideas touched upon here are but a precursor, as

they all deserve to be looked at in fuller and more detailed comparisons. What was done here was to demonstrate how, when and where these analyses have been done and to what impact they have had.

One could look at any number of side categories, from photographic analysis such as the work by Dick Raynor and Dr. Paul LeBlond, to film analysis such as done by Jeff Glickman, Christopher Murphy and B. and J. Rutkoski. All of which use geometry and trigonometry to various degrees to analyze a particular artifact or image. Granted, some of these analyses are better and more substantiated than others. Such detailed looks at particular mathematical approaches would be, and will be done, beneficial as a demonstration of methodology within each discipline.

The end result though is simple. Mathematics has a place and right to be used in Cryptozoology. We are looking at an unknown, or unknowns, and at times we must use a clear cut analytical approach that cannot be achieved simply by chronicling sightings in a list. Pattern establishment and comparison to theories is essential to test ideas, and even narrow search windows for these unknown animals. For perhaps, down the road, when one of these unknown animals is discovered and its behavior is documented, then the data analyzed before it was found could be used to further substantiate the place of Cryptozoology as a legitimate, albeit soft, area of study.

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The Black Panther Mystery

John A. Lutz
Eastern Puma Research Network

The Black Panther... Devil Cat... an Evil Spirit... one of the most mysterious four-legged mammals on the face of the earth. Believed to be not native to North America, this flesh and blood mammal has proved impossible to capture, except for pictorial material. At one time it was declared nothing more than a “phantom” lurking only in the minds of the beholder. But over the last decade, photographic evidence has been established to prove its survival, yet its elusiveness continues to baffle scientists.

The Black Panther has puzzled generations of Americans and wildlife leaders for centuries. In the Old World, the word “panther” was used as another name for the African-Asian black leopard. The South and Central American panther, the black color-phase of the natural colored native jaguar, is known to inhabit the vast tropical jungles of that region.

However, questions remain as to which of the two above-named species does the North American Black Panther belong. Unless brought to the Americas by ship, the African-Asian leopard would have had a long swim. That’s not the case for the jaguar. Its journey would have been by land... but with a 1,900 mile stroll. Is the jaguar capable of such a feat? Probably.

In the world of wildlife, I’ve learned never doubt the ability of any cat.

The Slave Trade

One possible reason for the presence of large black cats in North America is the possibility of ancestral Asian-African backgrounds. The original idea behind this theory goes like this: The large “black” felines commonly called “devil cat” by some nationalities were released onto the southeastern North American coast by early African slave traders. Could those repeated releases at the end of each ocean passage explain the large number of “black panthers” of today?

When the slave trade was in full swing, one must remember the embattled prisoners feared for their lives. When forced from their homelands against their wills, many brought with them deeply concentrated “black magic” beliefs.

Rooted within this “magic,” is the fear of “black animals, especially ones with glowing red eyes.” It terrified them then as does their ideology today. Early historical literature indicates black Africans brought to the U. S. in the early days of slavery were extremely fearful of all “black” animals. “Black” has long been associated with the “devil” in voodoo. Thus “Black” Asian leopards would have been an effective tool in keeping the slave prisoners under their trader’s control.

Back in the early 1970s, I was fortunate to meet a scholarly black man while on another type of case with law enforcement officers. His name was Isaac Dorsey. He was in his late 70s.

In conversations with him, Mr. Dorsey told us some challenging but interesting stories, stored deep in his mind, which were passed down generation to generation, that could help solve the America’s “black panther” mysteries. His great-grandfather was a slave aboard a ship in the early 1800s.

He claimed many black people today are fearful of “black cats” because their ancestors, arriving in the Americas aboard slave ships were guarded by “large black cats” while below and again above decks, when brought “topside” for the crews’ entertainment.

Could his long-forgotten stored information become a factor in solving the America’s “Black Panther” mysteries? That is the \$64 question.

Similar strategies are used today by prison officials with their use of guard dogs, of which many are “black” Dobermans and German Shepherds.

Although the large, ferocious looking black cats of yesteryear are mostly in the minds of science fiction buffs, one would be surprised to learn that many of today’s commercial businesses continue to display black cats in aggressive positions, usually with evident fangs and laid back ears on clothing and pictorial materials.

Different Views

If one reviews the Black Panther Controversy honestly, there is little doubt as to the overall compelling evidence of their survival. They are not like the UFO craze, but an actual large flesh and blood feline. Independent researchers and a few wildlife professionals have obtained dozens of photographs and videotapes that can attest to the cat’s survival in North America.

However, some wildlife professionals consider the black panther to be nothing more than figments of peoples' overactive imaginations or list them as another type of a UFO craze. Any one believing in such a phenomena has the "ridicule curtain" dropped upon them. Most insist NO scientific evidence, i.e., actual carcasses have been found to prove their survival.

Both the wildlife professionals and the independent researchers are correct from their viewpoints. Nowhere on any museum shelf or in the wildlife community has a specimen of a Black Panther been found, thus resulting in a mystery for centuries.

A century ago, the name *panther* was originally used only for the leopard. Today, the word *panther* is vaguely placed on all large black American felines. They are not of a distinct species, but are believed to be offspring that may carry the mutation or color irregularity within litters.

Another question of the puzzle: if the cat is of the leopard species, where are the spots? After 35+ years of collecting reports, few witnesses, including trained observers, have reported "dark" spots on an already "black" coat.

Early Writings/Name Changes

The black panther mystery is NOT a new phenomena. Early New World hunters, trappers, settlers, sailors, and pioneers mentioned the big "black" cats in their memoirs.

The earliest writings came in the mid-16th century by Georg MacGrave as the "*Brazil Jaguarete*." His memoirs described it as "a shiney black cat mixed with shadows and black spots."

This description soon became known as the Guyana "*On-za*" as noted by Etienne Desmarchais in the early-1700s, who then translated it and called it *Tigris nigra*. Desmarchais was an India Sailing Company Frigate Captain for 25 years. Over that time his route encompassed the South American Coast and he became a noted authority on their mammals.

By the late 17th century, British naturalist Thomas Pennant began an interest in Brazil's "*Black Tiger*," describing it as a rare species, calf size, black in color with a pale underbelly and heavy paws.

A few years later the cat's name was again changed by German naturalist,

Christian Schreber. He identified the same mammal as *Felis discolor*. He included the Jaguarete in the “new” species. In doing so, he claimed the “*der schwarze Tiger*” seen by Pennant and Desmarchais had NO discernible black spots.

New Species/New Names?

Is it possible that no link exists between the black cats of the early Americas and the Asian Leopard? Could there be, an as yet unknown sub-species of a large black cat, similar to the puma prowling eastern America? Is science burying their heads in the sand by denying their survival? Or is North America’s Black Panther some type of Holistic Phenomena of which current science doesn’t as yet understand?

Many questions... few answers....

In the mid-1800’s, British zoologist Robert Kerr tried systematizing the large “black” cat under one name, *Felis discolor kerras*. This name was later used to describe both the jaguar and puma in its black color-coat.

The South American lush jungles are the jaguar’s principle home. With its spotted coat, natives once believed the thick foliage helped to camouflage the cat’s true color into a blackish hue. Then when true black jaguars were discovered, they were quickly given the scientific name, “*tigre negro*” or “*onca prieta*.” These jaguars are totally black, occasionally pockmarked with “spots.”

In the Americas, the true black puma is probably the rarest of all large felines.

Canadian Jean de Lalachue claimed a century ago, “the black puma, called ‘*black tigre*’ in South America inhabited America’s North” too. The black puma, called “*Chat negre*” or “*el negro*” in Paraguay, is known as “*Felis concolor niger*” or “*el Tigre Negro*” in Nicaragua, while in Costa Rica its named “*pantera negra*.”

Except for the pictorial evidence, little other documented proof exists in North America as to the black puma. That is not so in the Southern Hemisphere of the Americas.

William Thomson, a Canadian sportsman, killed a black puma in 1845. But not in Canada, he was on a expedition 250 miles from Rio de Janeiro, Brazil, when he shot the animal. He described it as thus: “Everything was

total black, head, back, rump, shoulders & tail. Its undersides and throat were an ashen-grey.”

It is believed the North American Black Panther Controversy results from many misunderstandings. Most people, including a few wildlife scientists do not understand the numerous names for the same mammal. This results in denials as to the cat’s survival. Another fact is an overabundance of inconsistencies that observers claim when seeing the animal in the wild.

Just because facts do not fit any animal’s behavior, doesn’t mean that mammal does not exist. Perhaps it is time for researchers and wildlife officials alike to ignore historical accounts of their behavior traits and instead focus on more current characteristics and habits the feline seems to have taken on.

A Maine historian, William D. Williamson once wrote that three distinct species of big cats survived within the state’s forests. He named them, the *Catamount*, *Wild-cat* and *Black Cat*. As for the last named cat, he claimed, “the black cat is much larger than the wild-cat, very aggressive and violent... has short legs, a long tail.” To this day, Maine outdoorsmen call this cat the *Wooleneag*.

Documented Sightings

Nationally-known Canadian wildlife biologist, researcher and writer, Bruce S. Wright listed over 20 sighting reports of Black Panthers in New Brunswick, Quebec and Nova Scotia between the early 1950s and 1971. He also acknowledged that *NO specimen of a Black Puma has ever been found in North America*. Thus it is imperative the word of witnesses be accepted until proven otherwise.

Wildlife researcher Helen McGinnis completed a two year study of big cat sightings for the Pennsylvania Game Commission in the early 1980s. From the total number of reports she reviewed, some 35 were of the Black Panther, between 1957 and 1981. She also noted the existence of Black Panther historical accounts dating back to the mid-1800s.

Between early 1983 and the end of 2001, the Eastern Puma Research Network of Baltimore, Maryland, has received over 1,200 reported sightings of Black Panthers east of the Mississippi River. Only 2 states lack black cat reports: Connecticut and New Hampshire. Some reports are documented on videotape or in photographs. Pennsylvania leads in Black Panther sightings with 305, New York is close behind with 209. Both states encompass the Appalachian Mountain Range, which allows all types of wildlife species to traverse its trails

unseen between the wild, rugged eastern Canadian wilderness and the swamps of Georgia.

Yet a third theory: some black Florida cats escaped north onto the Carolina's Coastal Plains, where more than 400 sighting reports have been recorded by now-retired wildlife biologist Charles Humphreys. In the mid-1990s, he wrote a book entitled, "Panthers of the Coastal Plains."

In the late 1950s, sightings began changing. People began reporting more brown panthers in the Sunshine State, to the extent that 95% of today's reports involve brown/reddish-brown cats. Thus the name confusion: panther, puma, cougar. The name "Mountain Lion" is unheard of, probably due to lack of mountains.

Regardless of which species North America's large black cats turn out to be, it is a proven fact, black pumas do survive in the Central and South American jungles. If such a black phase occurs naturally in North America, they have NOT been documented by the established wildlife community. No one in authority will acknowledge one sighting documented with hard-core evidence. Nor has a dead specimen ever been offered to any major learning institution.

Photographs/videotapes of black panther-type cats are becoming more frequent and being turned in to independent researchers across the eastern United States. However, pictorial evidence is NOT conclusive, based on statements by wildlife officials, who claim, "tampering can occur." That is their easy way out.

Hair samples are helpful, but with a lack of carcasses of "known" dead black panthers, the strains cannot be compared to an actual cat. If DNA tests have been run on the samples already collected, no details have been released.

So until one large "Black Forest Devil Cat," whether called cougar, puma, panther or klandaghi, is captured and positively identified with a particular species, the cat must continue to be listed as "in the darkness of the night." For until you round a curve on a forest-sided highway... and there on the road ahead at the stroke of Midnight stands a...a....



Data Evaluation of Selected Eastern United States Sasquatch Reports

Craig Heinselman

An abridged version of the presentation and paper entitled Eastern Sasquatch Analysis: Potential Patterns or Dubious Data?, given at the 3rd Annual East Coast Bigfoot Researchers Meeting of September 22, 2001 in Delmont, Pennsylvania

Introduction

Many theories exist as to what may represent the common term of Sasquatch or Bigfoot. Are they multiple species or sub-species? Do they differ in the eastern portion of the country from their western representatives? Such continual debates are often at the forefront of Hominology in North America. These Debates, however intriguing, do not necessarily look at the raw data from a specific geographic area. This data is the core of this paper and corresponding talk.

In the western portion of North America a good deal of analysis has been performed on certain traits of reported Sasquatch. John Green has maintained an extensive database of national sightings from which he has offered rough statistics. George Gill in the late 1970s looked at selected cases for connections to ecological principles of Bergmann's Rule and Gloger's Rule. At the forefront is the contemporary work of Wolf H. Fahrenbach (see Appendix A).

In the eastern portion of North America little attention to data analysis has been demonstrated. Some isolated cases do exist, for example Don Keating and Paul Johnson have looked at height statures and sightings distributions of time. In general though, data analysis of eastern reports is rare.

Utilizing portions of all these various analyses, and related ones on mammalian species, it is the attempt then to see if a pattern does exist. And if so, what is that pattern per se.

Methodologies

654 total reports tying together one or more criteria are utilized in this study. The criteria evaluated are estimated height stature, estimated weight, coloration, foot length and foot width (assumed ball width when otherwise not noted by researchers). This data is taken from a variety of sources from around the country, from John Green's Sasquatch: The Apes Among Us, to John Bindernagel's North America's Great Ape: the Sasquatch, to self-published books and regional newsletters. The Internet is used sparingly, as reports are extremely easy to fabricate anonymously and have been done with this new tool of communication. Only sites tied to an established publication

or from which contact information was obtainable for an interview is used.

These 654 reports are taken from 15 different states; Connecticut, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Vermont, Virginia and West Virginia were selected. These states are selected as they form a rough cutout of the country that share similar environments and atmospheric conditions. Bordering Canadian provinces are not included as for the sake of the analysis state boundaries and geographic locations from the United States are evaluated.

The analysis herein does not deal with certain behavioral or physical characteristics of reported Sasquatch outside of the selected criteria. This has been done to limit the variables initially looked at, but in an extended evaluation these variables would be necessary to determine more zoological and ecological behaviors of reported Sasquatch. The presence of 3 and 4 toes tracks do appear in cases in the east. These cases are not omitted, but amount to 3.7% of the overall data. When a separate analysis is run omitting these reports, the data variations amount to less than 1% from what is presented here.

It should not be taken that these 654 are the sum total of all reports from these areas, as they are not. 10%-100% or more reports from each state are known, however they did not necessarily meet the criteria requirements. The omission of reports for any reason unless as stipulated above or known as complete fabrications or hoaxes, would lead to an evaluator bias.

The exclusion of various states may be viewed as a bias. However, to include all the states would be an immense undertaking. It is therefore necessary to separate states by rough geographies, as was the case here. Extended surveys, into other geographic regions and atmospheric zones would be invaluable in further understanding distributions and traits of.

Usage of an extended spreadsheet custom made in MS Excel as well as Visual SPC and PQ Systems Statistical Software is used to analyze the data. Data is collected from the years 1838-2001, with 91.89% from the last 50 years.

State Breakdown

State	Total Sightings	% of Total (654)
Connecticut	7	1.07%
Indiana	25	3.82%
Kentucky	23	3.52%
Maine	15	2.29%
Maryland	65	9.94%
Massachusetts	12	1.83%
Michigan	11	1.68%
New Hampshire	11	1.68%
New Jersey	31	4.74%

New York	57	8.72%
Ohio	188	28.75%
Pennsylvania	144	22.02%
Vermont	20	3.06%
Virginia	27	4.13%
West Virginia	18	2.75%
Total	654	100.00%

Criteria Breakdown

Criteria	Total Sightings	% of Total (654)
Height Stature	433	66.21%
Weight	58	8.87%
Coloration	367	56.11%
Track Length *	140	21.41%
Track Width *	74	11.31%
Month of Year **	549	83.94%

* Track Length and Width do not necessarily coincide with sighting report, may be stand alone case

** Not one of the main criteria, however used for other purposes in analysis

Analysis of Data: Western to Eastern

Wolf H. Fahrenbach, in his report *Sasquatch Size, Scaling and Statistics*, uses a wide range sampling data from Alaska, Washington, Oregon, California, Idaho, Nevada, Montana, Utah, Wyoming, Colorado, and New Mexico. Additionally data from the Canadian Provinces of British Columbia and Alberta is used. The end result is 706 samples of foot length, 438 samples foot ball widths, 123 samples of foot heel widths and 89 samples of height stature and track length tied together. These far outreach the data from the east, but a comparison using the same methodology as Fahrenbach can be done to test for connection.

Comparison Data Foot Length:

Data	Western	Eastern
Sample Size	706	140
Range	4" — 27"	6" — 24"
Mean (Average)	15.6"	15.7"
Median	16"	16"
Standard Deviation	3.1"	3.5"
Standard Error	.12"	.29"

Comparison Data Foot Width (Ball):

Data	Western	Eastern
Sample Size	438	71
Range	3" — 13.5"	4" — 14"
Mean (Average)	7.2"	7.02"
Median	7"	7"
Standard Deviation	1.69"	2.12"
Standard Error	.08"	.25"

*Comparison Data Height vs. Foot Length:

Foot Data	Western	Eastern
Sample Size	89	32
Range	8.5" — 25"	10" -22.5"
Mean (Average)	16.6"	16.6"
Median	16.5"	16.3"
Standard Deviation	3.2"	3.3"

Height Data	Western	Eastern
Sample Size	89	32
Range	5' — 13'	6' — 12'
Mean (Average)	8.1'	7.9'
Median	8'	7.6'
Standard Deviation	15"	16.8"

*Where foot length and height both reported in same instances

A 5% maximum difference is present when the data is compared side by side. This uniformity allows for continual comparative analysis to Fahrenbach's work. A relationship between the foot's length and width can be done to show if a symmetry appears between the west and east reports. The width of the foot divided by the length of the foot yields an index of .46 for the mean foot from the west and .45 for the east, or a 2.2% difference. A foot-to-height multiplier can also be extracted using Fahrenbach's report. The end comparison is a 5.84 multiplier for the west and a 5.71 multiplier for the east (using the mean values, this also equals a 2.2% difference west to east). These values can then be tied into a formula for estimating the height of a Sasquatch from a track.

The formula as presented by Fahrenbach is:

$H = 29.624 L^{.42054}$ wherein the H is the height of the individual in inches, L is the length of foot in inches and a coefficient established from a plotted regression line of the values.

Fahrenbach doesn't demonstrate the inverse; however an estimation of the track length left by a reported Sasquatch can also be approximated by the inverse of the above formula.

$L = (H / 29.624)^{2.37778}$ wherein L is the length of foot in inches, H is the height of the individual in inches and an inverted coefficient is utilized.

Utilizing the formula a track 21" long would have a height estimation for the Sasquatch at 8.8', a 12" track, yields a Sasquatch 7' in height, and so forth. There is a point to be made here though, this is but an estimation of the height of a Sasquatch as the raw data itself may be skewed one way or the other. Additionally sexual dimorphism may have some influence in the matter. As the information is based off a larger group a comparable percentage of male and female would theoretically be presented. Therefore as a rough guide this formula presented by Fahrenbach functions well. Even allowing for a percentage of error, the affect on the end result is a matter of a few inches. Wherein witness's description of height have a range, (i.e. "*It was 6 to 6 1/2 feet tall*" or "*It was 7 to 8 feet tall*") this caution is justifiable.

Statistically 99.73% (using +/- 3 standard deviations) of the foot length will be between 5.2" and 26.2" (21" range). From Fahrenbach's data the western samplings fell within 6.3" — 24.9" (18.6" range). Overall this amounts to an 11.43% difference in range, with the eastern reports having a 2.4" larger range distribution statistically. Using +/- 3-standard deviations, 99.73% of the samples for height fall between 3.06' and 11.76' in the eastern study states.

A note of caution must be entered here. Usage of height statures is a fallible area. This information is relied on based off of witness descriptions. As witnesses may

under or over estimate height, the distributions are not necessarily accurate. By taking a wider sampling, as is done here, the variation in descriptions is minimized. The data and equation derivatives that tie into height estimation therefore are strictly reference points only and should not be taken as incontrovertible fact.

Fahrenbach continues in his analysis to look at the gait of reported Sasquatch as evidenced by track finds, caloric intake requirements as well as life and growth cycles. These values are equally derived from mathematical adaptations based on primate and human characteristics. However, a duplication of these results for the east is not done at present for a variety of reasons. Chief among them is that this report is a preliminary investigation, and intended strictly as a manner to look at certain selected characteristics and ideas that are testable, for the most part, from the data with little supposition.

The data is indicative of a similarity in physicality and trace evidence regardless of geographic variations between eastern and western states.

What remains to be looked at is variation between set geographic states. These state boundaries, recognized by humans only, act as generalized distribution areas. Due in part to some study states having a higher level of researcher activity (Ohio, Pennsylvania and Maryland for example) the tendency is for a skewed regional look and a less accuracy in the end distributions. These tendencies make for interesting conversation, but do not make for strong statistical or trend data. One can extrapolate data from it, the end test though is verifying the data for accuracy with an increase in raw data to better balance of the state report differences.

The State Breakdown

To minimize bias derived from inequality in state reports an acceptance and rejection of data for analysis is done. In sampling, especially in a manufacturing environment, there is always the chance of faulty samples being included. A common practice in many industries is a sampling plan, particularly an older military one called MIL-STD-105E.

This standard breaks down the particular number of samples required from a batch in order to determine acceptance. In many industries a 2.5 A.Q.L. (Acceptable Quality Level) is a general default, there is a 95% confidence in acceptability of a batch following this sampling plan when using that A.Q.L. Tighter limits, 1.5, 1.0, .65 increase the confidence level while maintaining the same sampling base and only changing the acceptance/rejection points. For example a batch has 2000 pieces; a sample of 125 would be taken. If 7 were defective the batch would still pass, however if 8 were defective the batch would fail.

Using this same technique a rough acceptance of state data can be done. For example, a state with 2-8 reports needs 2 samples to be evaluated, 9-15 reports equals

3 samples, 16-25 reports equals 5 samples, 26-50 reports equals 8 samples, 51-90 reports equals 13 samples, 91-150 reports equals 20 samples, 151-280 reports needs 32 samples, 281-500 samples needs 50, and 501-1200 reports needs 80 samples. Taken as a whole the 654 reports looked at thus far meet the sampling requirements, with the exception of weight. The weight hence omitted as it is an argumentative attribute. Certain characteristics of the individual states do not meet these sampling procedures, which demonstrates a limited sampling area and more study is necessary.

This will limit the data used in further analysis; those characteristics that are rejected due to insufficient samples are not necessarily defective. Rather, they do not represent a valid basis for study. Color has been maintained though as all states maintained a minimum sampling acceptance level.

The only acceptable criteria to compare overall are the estimated height stature of the Sasquatch. By comparing median to mean (average) height statures from all states there is a slightly higher mean value than median, amounting to a 1.07% - 5.75% variation. This slight variation suggests that a mixed distribution of sexes and/or sexes is present; if the data was within 1-2% variation of each other it could be tied directly to witness variations in estimation, but with the larger range and some tests the data demonstrates a sexual and/or age variation as well.

Weight values as estimated by witnesses would have been necessary to omit even if they had not failed the sampling basis. The reason for this is best explained by looking at data from the famous Patterson-Gimlin Film, wherein weight estimates from data extrapolation have yield ranges typically between 300 and 1000 pounds, with extremes approaching 2000 pounds. Such wide ranges are evidence for a weak area of evaluation and as such are reminiscent of a side show carnival's Guess Your Weight booth.

Is there a Geographic Trend?

When plotted by increasing latitude, based off of each states capital for reference, there is no indication of increased height. Following the ecological principle, Bergmann's Rule, which states generally that as a species increase in latitudinal range an increase in body mass is observed, coupled with elevation and temperature influences, it is theoretically plausible that an increase in stature would be noted. George Gill in his study *Population Clines of the North American Sasquatch as Evidenced by Track Lengths and Estimates Statures*, dealt with this principle and others (see Appendix B). Latitudinal direction doesn't take into account is the elevation of an area, this elevation has been noted in other mammalian species to show an increase in body size. Regardless, the principle of Bergmann's Rule is a debatable topic in ecological thought even now after over 150 years of research, as the function that applies in some cases and not others is still far from understood.

From the data of the height estimates, and the progressive analysis of patterns in relation to geography, there is a tentative trend. As the elevation increases the height

increase, as the longitude increase the height increases. Usage of the mean elevation is essential as plotting data against the highest or lowest elevation point within a given state will lead to skewed data.

What is shown is a tentative tie to the idea of Bergmann's Rule in that a species tends to increase in size with an elevation increase. Additional study of temperature and precipitation as well as other influences is required to correlate whether the two trends are connected or isolated instances or a fault of the data set utilized

Study comparisons in the future of variations in height as compared to longitude, latitude and mean elevation on a continental level , by generic region, would be beneficial to test this tentative trend.

Is There a Coloration Trend?

11 total color variations were found in the 367 reports. The combination of light and dark reports is required to get a better picture. This means that under the heading of DARK, the coloration of Brown, Black, Brown/Black, Dark, Reddish, and Reddish/Brown would be lumped. Under the heading of LIGHT, the coloration of White, Gray, Tan, Silver and Light would be lumped. Overall then DARK reports are substantially higher (81.23%) than LIGHT reports.

To represent the distribution of coloration it is not feasible to do so by the number of reports per state as this would show a large bias to states with more sightings. A single variable of light to dark is needed to fairly distribute the values within a state. The variable then is LIGHT divided by all color reports within a given state. The total variable for the 367 reports works out to .158 or 15.8% of sightings.

As some states do not have a value for the coloration variable, plotting all the information would cause skewed values. It is then necessary to omit states that lack a coloration variable. The data shows a minuscule increase trend of LIGHT coloration as the latitude increases, but a trend to the opposite as the longitude and elevation increase. This trend is opposite of what was seen in the height analysis by latitude, longitude and elevation. Consequently a scatter plat of the coloration variable against the height demonstrates that as the LIGHT variable increases the height decreases. If the inverse of the coloration variable is examined (i.e. $1 - \text{Coloration Variable} = \text{Inverse Variable}$), no trend at all is present. This means that LIGHT coloration does exhibit a trend but the inverse, or DARK coloration, remains constant across all states.

This inverse connection demonstrates that there is little if any significant variation in coloration in the bulk of the states and what variation is seen would be a factor of individual variables of the Sasquatch itself and not a factor of the environment.

Extended survey into more humid and moist regions of the United States would be beneficial to determine if a trend is there in those regions.

Migration?

After looking at various data characteristics of height variation and coloration, it becomes necessary to evaluate whether Sasquatch in the east exhibit any form of migratory pattern as well as plausible range areas within their territories. If a population migrated it would be from either a latitudinal pattern or an elevation pattern.

Of the 654 reports looked at 549 (83.94%) of them have a specific month attributed to the report. This is a large amount of data to work with, if it is broken down in four approximate seasons, Spring, Summer, Fall and Winter the data is more manageable. These are approximate seasonal breakdowns only, as there is no set monthly start to a season of the year, rather they rely on astronomical factors of solstices and equinoxes which change slightly over time. Spring is defined as the months of April through June, Summer is defined as the months of July through September, Fall (Autumn) is defined as the months of October through December and Winter is defined as the months of January through March.

As some states have a larger number of sightings a bias for these states is created. To lessen this bias a variable is required. This variable, the seasonal percentile, is defined as the value of the number of sightings in a season divided by the total number of reports for a given state. Once this is done, then a latitudinal, longitudinal and mean elevation examination can be performed.

As the latitude increases an increased number of sightings occur in the spring, a leveling off in the summer, decrease in the fall and then an increase again in the winter. When the same data is plotted against a longitudinal direction, the opposite is seen. In the spring there is a decline, summer levels off, the fall shows an increase and the winter a decrease. When the data is plotted against mean elevation for the state there is no significant variation across the states during any of the seasons.

At this point the data supports that no significant large scale migration exists and that the Sasquatch remain essentially within their same theoretical home territory. If the data did support migration, it would be expected that the number of reports would be fewer in number in the northern latitudes during the winter months, and larger in number during those months in southern latitudes, or that plotted elevation changes would demonstrate an increase in reports in the warmer months within higher elevation areas and a decrease in reports during the cooler months from those same areas. None of these scenarios are demonstrated.

Summation:

1) Data comparison to western North America shows little variation indicating comparable height and other physical measurable characteristics.

2) There is a height increase in those states with higher mean elevations and those states with an increase longitude.

3) Light coloration marginal increases as the latitude increases and at the same time the height stature of reported Sasquatch decreases. By inverse the dark coloration remains stable across all states, indicating that any coloration variation is a factor of individual characteristic and not a factor of ecology.

4) No elevation or latitudinal migration exists.

Additional information regarding climatic conditions and individual state geographic variations may lead in the future to a more fine tuned analysis when coupled with extended sightings data from these areas. Physical characteristics as well have not been looked at, aside from coloration, extended analysis of behavioral and other physical traits would be an interesting and extensive undertaking and would be interesting to compare to correlations done by researchers across the country. Comparison for data variations in broader ranges is necessary to establish if any potential trend found is a true pattern and not a factor of sampling or of such minuscule proportions as to be variable over time.

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On a Supposed New Species of Hippopotamus.

S. G. Morton, M. D.

From: Proc. Acad. Nat. Sci. Phil., 2(1): 14-17. Jan./Feb. 1844

It is about six months since I received from my friend Dr. Goheen an extensive series of skulls, of mammiferous and other animals, from Western Africa. They had been obtained by him during a residence of several years at Monrovia, where he had officiated as Colonial Physician; a situation which gave him great advantages for procuring the natural productions of that region. Among these crania were two of a Hippopotamus, of small size, from the river St. Paul's. Although nothing could be more manifest than the difference between the head of this animal and that of the common species, I have hesitated to publish it, from fear that some one else may have already done so; for I could hardly convince myself that so remarkable a species was wholly unnoticed in the systems. Having, however, searched the latest European works on Zoology without finding any account of this interesting animal, I venture to submit the following facts in relation to it.

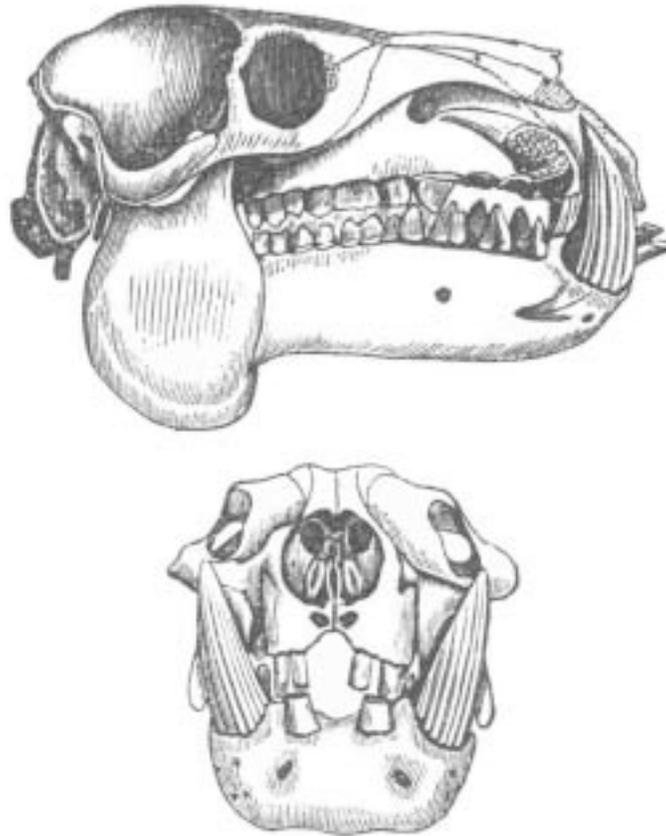
Hippopotamus minor

	Inches
Length of the skull, measured from the anterior extremity to the notch between the condyles of the occipital bone,	12.3
Zygomatic diameter,	8.
Parietal diameter,	3.5
Distance between the orbits over the surface of the skull,	3.9
Vertical diameter of orbit,	2.
Horizontal diameter of orbit,	1.8

Dental Formula :

Incisors,	$\frac{4}{2}$	or	$\frac{2-2}{1-1}$; Canines,	$\frac{1-1}{1-1}$
False Molars,	$\frac{4-4}{4-4}$; Molars,	$\frac{3-3}{3-3}$		

These measurements have been taken from a very old individual, in which the sutures are entirely obsolete, and the teeth worn almost to the level of the jaw; and the contrast in size, between this and the large or common species, (familiar to every one as the *H. amphibius*, but recently divided into two species, the *H. capensis* and *H. Senegalensis*;) will be manifest to every one. The difference, however, is not only in size, but in all the proportions of the head, as the subjoined drawings will show:



In the *H. minor* there is a uniform *convexity* of the upper surface of the cranium, from orbit to orbit, and between the occiput and ossa nasi; while in the common species the orbits are remarkably elevated, and the intermediate surface is *concave*. The orbit is placed about midway between the occiput and snout, and the latter is consequently short: while in the large species the orbits are placed about one-third the distance between the occiput and snout. The *H. minor* has only two canines in the lower jaw; the false molars are proximate to the canines; and the base of the zygomæ is in the same plane with the upper maxilla.

The second skull of this species (which is of the same length as the other,) is that of a younger animal; for the sutures are open, and the teeth in the process of changing from the deciduous to the permanent set. The posterior molars are only partially protruded, and rise obliquely from the jaws, like those of the Elephant and Mastodon.

Dr. Goheen, who assured me from the first that he could find no notice of this animal in the systematic works, has obligingly favoured me with the following memorandum in relation to it. "This animal abounds in the river St. Paul's, and varies in weight from four hundred to seven hundred pounds. They are slow and heavy in their motions, yet will sometimes stray two or three miles from the river, in which situation they are killed by the natives. They are extremely tenacious of life, and almost invulnerable, excepting when shot or otherwise wounded in the heart. When injured they become irritable and dangerous, but are said by the natives never to attack them when in their canoes. The negroes are very fond of the flesh, which seems to be intermediate in flavor between beef and veal."

My comparisons with the common Hippopotamus have been made on four specimens, (three of which are fully grown,) two from the vicinity of the Cape of Good Hope, and two from the Senegal river.

From the Past: Early New Mexico Jaguar

The Philadelphia Medical and Physical Journal, Nov. 27, 1805 (V. 2, pt. 1, Sect. 3)

7. In New-Mexico, there is found a beautiful animal, which, perhaps, may be the true Leopard. Its skin is a fine yellowish-white colour, spotted elegantly with brown and blackish spots. General Wilkinson carried one of the skins of this animal with him, from this country. They are said to possess enormous strength: relations are given of their carrying away the carcasses of horses and bullocks. If this be true, they must be larger and more powerful than the Panther*, which seldom attempts to carry away any thing above the size of a hog, or large calf.

William Dunbar, *Esq.*
Letter to the Editor, dated Natchez, March 1st, 1801.

**Felis concolor* of Schreber, best known, in many parts of the United-States, by the name of *Painter*.

Art. VI—*Facts and considerations showing that the Two-Headed Snakes of North America and other parts of the world are not individuals of a distinct race, but universally monsters.*

In a letter from Dr. Samuel L. Mitchill, of New-York,
to Dr. Godman of Philadelphia.

From: The American Journal of Science and Arts (Proc. Boston Soc. Nat. Hist.),
V. 10, No. 1, November.

The two-headed serpent has long been an object of admiration and research. The rarity of its occurrence has added interest to the inquiry. It has, however, been found in so many, and such distant places, that several authors have been induced to make delineations, and various collectors to procure specimens.

The production to which I allude is not the *Amphisbæna* of hot climates, erroneously alleged to have a head at each extremity of the body, with the capacity of moving both ways, as its name imports at will. This one I possess from the island of Jamaica, has no such constitution. Such a two-headed being belongs to fabulous, and not to real zoology. But it is an aphetian reptile, having two distinct heads, or a double head, at one extremity of the body.

In the usual cases, among the mammalia, the departure from the ordinary figure and structure, has been uniformly considered as indicating or constituting monstrosity. When a similar peculiarity of organization occurs in serpents, it seems to have been viewed by many, with a different regard. The creatures have attracted notice as a distinct race, and perfect in their kind.

This opinion has probably arisen from the size which the animal has attained, and the agility with which it performed all its functions. Hence a sentiment arose, that a *Serpens biceps*, belonged to a specific breed, regularly and naturally formed with two heads.

The circumstances were powerful and imposing; and for a time, I was myself inclined to that belief. But latterly I have acquired information, that has obliged me to abandon the notion.

During the year 1823, a female snake was killed about six miles west of the Genesee river, together with her whole brood of young ones, amounting to one hundred and twenty. Of these, three were monsters; one with two distinct heads; one with a double head, and only three eyes; and one with a double skull furnished with three

eyes and a single lower jaw; this last had two bodies. The figures correctly drawn from the originals in my collection, represent the shape and size of the several individuals. (See the annexed plate, fig. 1, 2, and 3.) My friend, Dr. Voight, of Rochester, having heard of the occurrence, travelled to the place and inquired into the facts. He procured the three which were deformed, and very obligingly placed them at my disposal. The dam, or mother, was of the sort called the *Black Snake* or *Runner*, one of the most frequent and prolific of the New-York serpents. The species is very well known, and is apparently the *Coluber constrictor* of Linnæus, and *Le Lien* of La Cèpede. It frequently attains the length of six feet, and has been known to equal twelve; is sleek and slender, with a black back and a bluish belly, with a white throat, and sometimes a white ring around the neck. The vulgar name is derived from a tale, that in the amorous season, the male is bold enough to chase human beings, and encircle them with his folds. It is nevertheless free from poison.

This species belongs to the tribe of viviparous snakes, comprising such as are in strictness, containers of eggs, but do nevertheless hatch them within their bodies, and bring forth the young alive. This has been long known to happen in the case of the European *viper*, called *Vipera*, a derivative from *Vivipara*, from the known habit of excluding the offspring from retained or unlayed ova.

We have here an example of the monstrosity of three individuals belonging to a single litter of serpents, and that monstrosity conspicuous in the twofold formation of the head. It might hence be inferred from analogy, that all serpents of this irregular constitution are also monsters. Still, as these mishapen productions have somehow been regarded as exceptions to the rule, I shall add a few more observations.

Intelligence by a most credible source has reached me from the Black river, near Lake Ontario, of a snake with *three* heads. The specimen was promised to me, and I do not yet despair of receiving it.

I offer as part of this communication, a somewhat circumstantial description of a two-headed serpent, I received from one of the Fejee Islands, a few years ago. The length is four inches and three quarters. Though there is some difficulty in counting the shields, yet, as nearly as I can ascertain, the scuta of the belly are one hundred and twenty-five, and the scutella of the tail fifty-three. There are two pairs of jaws, two pair of eyes, and two complete and separate heads. From the anterior termination of the dorsal ridge, the body branches forwards into two equal and regular necks. These necks are short and connected by an intervening membrane, and continuous skin beneath. On this skin is a sort of ligament, reaching across the chin, from the outer angle of one mouth to the outer angle of the other. It seems to have given strength and simultaneous motion to the jaws. The two heads are of the same size, and very symmetrically formed. The back is dark brown, approaching to black; the

belly paler, and of a yellowish brown; the tail tapers away like that of most other snakes, being neither flat, abrupt, nor blunt.

Among the ancients, two-headed snakes have been mentioned by Aristotle and Ælian. Among the moderns, Joseph Lanzoni relates that he had seen such an animal. Francis Redi has left a very particular account of one that was caught near Pisa, on the bank of the Arno; and which lived from January to February, after it was taken, affording many opportunities for experiments and remarks. When life was departing, the right head appeared to die several hours before the left. Aldrovandus had one in his cabinet at Bologna; and there is one in the museum of the King of France, at Paris.

For further intelligence on this curious and controverted subject, I refer to the Count La Cèpede's able disquisition (*Des Serpens monstrueux*), on Serpentine monsters, (Vol. IV. pp. 311-326 of the copy I had the honour to receive from him,) wherein, like a sagacious reasoner, he decides the whole class of these productions to be anomalies.

A two-headed serpent is figured, in several views, by George Edwards in the fourth volume of his history of birds, plate 207, and described. The drawings are of the natural magnitude. He introduced the subject by observing that he did not propose to exhibit monsters in his work, but that the species even if it had not two heads, might be better known to the learned world. He mentions an *English* serpent, that had been brought to him, with two distinct heads. The specimen he describes was from Barbadoes.

The other intelligence touching this inquiry, has been so fully and properly posted up by Mr. President Clinton, in the note FF, subjoined to the discourse he delivered before the New-York Literary and Philosophical Society, in 1814, and published in the transactions of that learned body, (Vol II. pp. 160-162) that I avoid the transcription of his luminous statement.

From the facts stated, and the references made, it appears that two-headed snakes have been found in the West-Indian and Polynesian Isles, in Great Britain, in Italy, and in the state of New-York. An inference arising naturally from the premises is, that *they are individuals of different species, and probably of different genera*; inasmuch as it is very unlikely that the two-headed snakes, of remote situations on the continents, and more distant localities on the islands, were the issue of the North American, or New-York Black Snake. This conclusion is fatal to the supposition, that these singular productions constitute a race of their own, and propagate their kind in regular succession.

Of such perpetuation of the species, there is no evidence whatsoever. A procreating association, or union of male and female parents, has never been observed, because

such connexions do not exist. The birth and parentage of these strange and enormous productions, have been hitherto unknown; because, until Dr. Voight's important disclosure, not a naturalist could tell whence they came.

My own judgment on the case under consideration, is, that the miscreated and extraordinary constitution of the three young black snakes is owing to *monstrosity*; and by a similar anomaly in nature to that which occasionally produces monsters in the black snake, they may be engendered in other serpents belonging to the numerous species of *Coluber*.

If it should be asked, wherefore it happens that two-headed monsters are more frequent among serpents than other animals, it may be answered that this is very far from being ascertained and established. Two-headed births are by no means uncommon in other creatures; among which may be enumerated *dogs, cats, swine, sheep, kine*, and even the *human race*. Generally they are still-born, or very short lived; and, by reason of their hideous and disgusting shapes, are soon removed from sight.

The like happens to other animals; and, among the oviparous class, to poultry, and domesticated birds. The two-headed monsters usually die soon after hatching.

I have heard of a two-headed tortoise (*Testudo*,) that lived to acquire a considerable size, by having taken food at both mouths.

Two-headed serpents, hitherto, seem to have been of small or diminutive size; leading to a belief that their organization, which allowed them to live and enlarge for a short term, or a season, forbade them to reach entire expansion, and old age.

Serpents are destitute of limbs, and are consequently incapable of monstrosity, in feet, legs, hands, and arms, either by defect, redundancy, or malformation, when it happens, therefore, monstrosity must be in the head or tail, and the head is most frequently the seat of it.

The prominent peculiarity in these monsters, is that they can continue alive so long, that they can receive and concoct food, and that they can thereby be nourished, and acquire bulk. It is to those qualities differing from the generality of other monsters, that the two-headed snakes owe the notoriety they hold among zoologists and travellers.

New York, August 1, 1825.

Red Dogs and Thous

Charles Hamilton Smith

(From: Mammalia. Dogs.—Vol. I. in The Naturalist's Library. Vol. XVIII. Edited by Sir William Jardine. London: Henry G. Bohn, 1866.)

[Ed. Note: This article is derived from an early popular work on the systematics of wild dogs. Specifically, these are the non-wolf, non-fox, non-jackal canines of the Old World. Many of these species no longer are considered valid. Given that some mystery dogs have been reported from Asia and Africa, however, it might be interesting to look more closely at the old canine species.]

Chryseus. The Red Dogs.

The second group of wild dogs belongs to the old continent, and at present is found in Asia from the southern side of the Himalaya ridge to Ceylon, and from China to the Mediterranean. By a notice in Shaw's Zoology, it appears equally spread through Africa, and with a slight modification of characters; other species are observed in the great Australian islands, occupying, with the exception of New Holland, the same portions of the ancient world where the largest felinæ reside, as if they were appointed to keep them within bounds. The obscure name of *Chaon*, mentioned by Cælius to be the parent of the Chaonian dogs, and merely noted as *luporum* genus, may have indicated this group in the earliest Doric tongue. All the species examined were found to want the second tubercular tooth in the lower jaw, had the soles of the feet hairy, and were more or less long-bodied and fulvous in their livery: they had the eyes oblique, and eight mammæ. There is no evidence that any of them burrow; hence their greater shyness and retired life in the jungles, the habits of constant co-operation, the necessity of great personal courage, and the instinct of defending each other in danger. Their voice is a kind of barking; they hunt both by day and by night; and though fearing the presence of man, they have the courage to attack the largest animals, the antelope, the wild boar, the buffalo, not excepting the tiger and lion. Bearing an inherent hostility to the larger felinæ, they are incessantly on the watch to destroy the whelps, and the concert and energy they display in encountering the adults, is believed to be the chief cause, which all Indian sportsmen admit, of the alarm of the tiger at the sight even of a domestic spaniel; indeed, the dread cannot have been caused by the sportsman's domesticated spaniels or pointers, but must lie deeper in the natural instincts of beasts of the forest; and we may surmise, that the species of Chryseus are the instruments Nature has appointed to keep down the superabundant increase of the great felinæ of the wilderness. The manners and

instinctive faculties of these animals remove them alike from wolves and from jackals. No naturalist adverts to the offensive odour so commonly remarked in wolves, jackals, and foxes, as belonging to them; whence, we may conclude, that they approximate dogs also in the smaller volume of the anal glands; and as there appears to be a probability that a species of this group formerly resided in Europe, to their nightly hunting, perhaps more than to the wolf, may be ascribed the origin of the mysterious stories of romance, first found in the Ostrogoth sagas, concerning the wild hunter of Germany and his demon hounds, the Hellequin and King Arthur in the forest of Broceliant.

As we find species of this group in the southern part of the Old World, so we find an approximating species (or perhaps group) with similar colours, and it seems with a like want of the second tubercular tooth, in the corresponding latitudes of the New World. The *Aguara gouzou* is the species we mean; and until its manners are better known, we may suspect it executes some parts of the same duties, although, not being gregarious, it does not possess the same efficient means.

We consider it to be absolutely begging the question, when canines, by travellers called wild dogs, are deemed varieties that are descended from the domestic, or that may by some chance be their offspring, even when in all the country where they are observed, the familiar dogs are totally different, or are a poor degenerate race when compared with the wild. This practice only tends to protract the uncertainty, as is evident when we look to the statements of Viscount de Querhouent, who, we believe, first noticed the *Canis pictus* of authors, and whose description continued most pertinaciously to be placed with dogs run wild. Sparrman indicates both the same animal and the red wild dog, and points out a third, which is no doubt the *Hyæna villosa*, so lately described by Dr. Smith; yet, until his figure and description appeared, this also was a feral dog; whereas, if they had been entered in the catalogues of naturalists, their existence would have attracted inquiry much earlier. It is because we think there is sufficient evidence to presume that it was a species of the group now under consideration, which Oppian described as the *aureus* of Mount Amanus, that the appellation of Chryseus has been applied to distinguish the five or six species, varieties, or races, we have to enumerate. Notwithstanding the absence of a tubercular, and that the sole paternity of domestic dogs cannot in our view be ascribed to a single species, we think Mr. Hodgson was fully justified in offering to his species the name of *Canis primævus*, the animal we take for the type of the whole group.

Chrysæus primævus. *Canis primævus*, Hodgson. The Buansa of Nepaul.—This species wants the second tubercular tooth on each side of the lower jaw, has the soles of the feet hairy, the ears erect, the superior parts of the body deep rust colour, the lower yellowish, and the tail very bushy, straight, and of medial length. The buansa

is a true wild dog, in size between a wolf and a jackal,* hunting both by day and by night, in troops of from six to ten individuals; following game rather by the scent than sight, and generally overcoming the quarry by persevering exertion, combination, and force. The animal barks with a peculiar tone of voice; and unless taken very young, is quite untameable.— Young pups, reared among domestic dogs, are reported to have quite as much instinct and discernment as the familiar breeds, but it is not as yet known what their temper may be when grown up. The species belongs to the woody and rocky mountain ranges between the Suttleje and the Boorhampootra, but it is found, with some distinctive features of race or variety, more to the south, in the Pindya hills, the Ghauts, the Nielgherries, the Casiah hills, in South Bahar, and Orissa, to the coast of Coromandel. Among these,

The *Kolsun*, or *Canis Dukhunensis* of Col. Sykes, is stated to be a mere variety of the above, having a similar skull and dentition, but differing in the colours of the fur being somewhat paler and the quantity less dense; a difference which may be ascribed to the latitude and the habitat being both lower, and therefore much warmer. Colonel Sykes's specimen had the head elongated and compressed, the nose not very sharp, the eyes oblique, pupils round, irides light brown, the expression of the countenance similar to a coarse ill-tempered Persian greyhound, distinct from all other wild canines; the ears were erect, long, somewhat rounded, without fold of the tragus; limbs remarkably large and strong in relation to the bulk of the body; neck long; body elongated; between the eyes and nose red brown; end of the tail blackish; general colour red, paler beneath; the tail pendulous and bushy. Length from nose to tail thirty-three inches; tail eight inches and a half; height at the shoulder sixteen inches and a half.

The *Dhole* of Mr. Wooller, discovered by him in the Mahabliishwar hills, is also considered to be at most only a variety of this race.

The *Qyo*† of Dr. Spry is by him identified with the *Kolsun*, and represented as a rufous brown dog, paler beneath, with a hairy hanging tail and round pupils. The size is superior to that of the jackal, the body longer, and the limbs more robust. He reports the claws to be sharp, and that they scratch out the eyes of their prey. It was from a pack of ten or twelve *Qyos*, Colonel Bowles took a buck antelope, which had been so hard pressed by them, that it was already at bay in a pond of water, having in the extremity of distress boldly dashed through a column of camp followers, whose

* From nose to tail, three feet; tail, one foot; height at shoulder, about one foot seven inches. Ears, three inches.

† The word is likewise written *Quihoe* and *Quao*, evidently allied to the Greek *Chao*.

shouts had not arrested the pursuit, but brought the officers at the head of the troops back to the rear to secure the prize.

With some hesitation we place here also the short notice of the *Wah*, a canine designated as a *Dhole*, but possibly a very distinct species. It was first mentioned to us by the late Lieut.-colonel Deare of the 8th Dragoons, who was a native of the East Indies, a keen sportsman, and many years resident in that part of the world. A printed account of a similar animal, observed in captivity, has since appeared in one of the annuals; both agree in the description, one having been killed in Central India, the other seen in the southern provinces. This *Dhole* was represented to be a robust thick-bodied animal, nearly equal in height to a harrier hound, but heavier in weight; the head broad and ponderous; the forehead flat, with a greater distance from the ears to the eyes than from these to the nose; this was blunt, dark-coloured, and rather broad, the rictus or gape black, opening to beneath the eyes, which were of a greenish yellow, set in dark eyelids, and offering a most ferocious aspect; the teeth very powerful; the legs and claws remarkably strong, resembling a bulldog's, and the tail rather short, but most bushy towards the end, and sooty in colour; the general colour of the fur tanned, browner on the back, with some white on the breast, belly, and between the limbs. It growled with a deep and threatening voice, and the natives related, that, in danger, the animal, by means of the tail, flings its urine in the eyes of pursuers. The Colonel considered this not to be the true *Dhole*, and characterized it as reminding the spectator of a low-legged hyæna with the colour of a dog, but he was too familiar with the *Hoondar** to mistake it for that animal. It was reported to hunt in packs, uttering an occasional deep-toned bay.

The *Beluel* of Avicenna, which he seems to have considered to be the *Thos* of antiquity, is the next we have to mention. This we take to be the *Beluch* of Beloochistan, one of two species of wild canines found in the woody mountains of South-eastern Persia, and probably extending along the high lands west of the Indus into Caubul. It is described as a red wild dog, very shy, and extremely ferocious; hunting by day in packs of twenty or thirty, seizing a bullock or a buffalo without hesitation, and tearing the animal to pieces in a few moments. A British officer, who traversed a part of this wild region of alternate jungle and sandy plateau, deeply scarred into long and parallel furrows, barren and vertical, so that no quadruped can cross many without complete exhaustion, observed a group of these red dogs basking on the edge of the forest, yet on the watch for game; but they withdrew into cover before he could fire at or completely examine them: they were, however, long, and rather low on the legs, of a rufous colour, with a hairy tail and a powerful structure: their

* The name of the hyæna of India, very distinctly marked with dark zigzag lines down the back, but lower than the wolf.

foot-marks in the sandy soil were very distinct, and indicated that their feet were exactly like those of a hound. The native peasants related that they keep aloof from human habitations, and consequently do little injury to human property; but that no animal, especially if it be entangled in the billowy ridges before mentioned, can escape the pertinacity of their pursuit. Having demanded some particulars about their structure, they pointed to a domestic dog then present, and said that the Beluch was very like it, but larger and destitute of white colour, which marked the domestic animal; but that there existed, farther to the west, a wild species still larger than the red, which had so much white that the brown and black occurred upon its back in the form of spots.*

The *Red Wild Dog of Southern China* is most likely another race or species of our sub-genus *Chryseus*. This animal is described as resembling the Dingo of Australia, though somewhat lower on the legs; but whether this or the Beluch wants the second tubercular tooth, is not ascertained.

On reviewing the notices of the present group of wild dogs, whether they be one or several species, it is evident that they extend their habitat over an immense surface of Asia; and since they are found to the westward of the Indus, it is likely they also inhabit the deep forests along the Caspian, and, continuing in the same parallel of latitude, that they have existed, and possibly may still be found, in the mountains of Asia Minor. If, now, we compare the foregoing descriptions with the account of the ***** or *Aureus* of Oppian, which he relates was a resident of the rocky jungles of Mount Amanus and Taurus of Cilicia, a province where he—the poet, naturalist, and sportsman—was born, we cannot suppose that he spoke wholly from hearsay, and, ignorant of the characters of his golden wolf, mistook it for a jackal, then not frequent so far to the north; but which in comparison is insignificant, does not fear the heat, nor retires during the appearance of the dog-star;† is not of a bright fulvous colour,

* A very dangerous canine sometimes follows the caravans from Bassora to Aleppo. The Arabs call it *Sheeb*, and report that all who are bitten by one die of the wound. Dr. Russel accounts for this statement by supposing the animals in a state of hydrophobia, which indeed would be sufficient cause for inducing the *Chryseus*, at other times sullen and shy, to quit his haunts; but then several unite in these expeditions, which no mad canines do; and we question whether hydrophobia really exists in Western Asia, at least it is unknown among the street curs in cities. This *Sheeb* is most likely a *Chryseus*, or the *Thous toeta*. See that name.

† *Sirium orientem meduit.*

but greyish in Natolia; is not to be mistaken on account of its howling; burrows in the vicinity of human habitations; is the reverse of a shy and solitary nature; and, finally, is not noticed by him under another name.† The uncertainty and confusion respecting this group commenced with the ancients, who ranged in all probability no less than three very distinct canines under the names of Thoes. Pliny, in speaking of a Thos, which he viewed as a kind of wolf, merely remarks that it had a longer body, shorter legs, sprang with velocity, and lived by hunting; adding, not dangerous to man.‡ All these characters are perfectly applicable to the Chryseus of our type, and to its varieties. The mistaking Oppian commenced with Belon, and Kaempfer, being unacquainted with the existence of the rufous wild dog, referred *aureus* to the jackal and misled Linnæus.

It is even more likely that from this group the mixture with a domestic race might be reported to have been obtained, which the ancients, and even Aristotle, repeatedly assert to be the Alopecides or the Chaonian and Spartan breeds, but which, from their strength and courage, could never have resulted from crossing dogs with foxes.*

There is some reason to presume that the Chryseus formerly existed in Southern Europe; for to what other species can we refer the kind of wild dogs noticed by Scaliger as existing in the woods of Montefalcone in Italy? “There resided,” he says, “for ages, about Montefalcone, a species of wild dogs; animals differing from wolves in manners, voice, and colours; never mixing with them, and being particularly fond of human flesh.” This last character may have been a gratuitous addition of his informers; he does not in this paragraph notice the particular colour, but in another

† Oppian’s Thous was a spotted animal.

‡ “Luporum genus est (Thos) procerius longitudine, brevitatis crurum, dissimile velox saltu, venatu vivens innocuum homini. *Pliny*.—Ælian’s Thos may be jackals, but the Thoes of Homer, described as put to flight by the lion, while they surrounded a stag at bay, cannot be jackals but the Chryseus. So also is the Thos of Aristotle, whom he notices their engaging the lion.

* Isocrates and Xenophon represent the Laconian dogs to be amongst the most powerful, and Aurelius Nemesianus:—

Elige

Non humuli de gente canem, sed cruribus altis,
Seu Lacedemonio natam seu rure molosso.

part of the work, wild dogs of a rubiginous colour are incidentally recorded;* and Pliny, who collected all the information within his reach, without attempting much of arrangement or identification, may have had that race in view, when he asserts that all animals in a domestic state had their counterparts also in a wild condition. These considerations we deem sufficient to establish the right of applying the name of *Chryseus* to the present group, and even to add to it

The True Dhole †

Chryseus scylax, Smith.

Plate VII.

The Dhole of *Capt. Williamson*, and Quihoe of *Dr. Daniel Johnson*.

The names here brought in just-a-position, show how much confusion there exists in designating the animals already described and the present species among the natives of India; a confusion they extend to hyænas and wolves. Qyo, Quihoe, and Qao appear to signify imitations of the animal's voice when hunting, Dhole a Praerit name; but it is evident that where the names of Hoondar and Beriah, hyæna and wolf, are considered synonymous, species still more indistinctly marked may well be expected to be confounded. The Scylax is described to be in size between the wolf and jackal, slightly made, of a light bay colour, a sharp face, fierce keen eyes; in form approaching a greyhound; the tail strait, not bushy; the ears wide, pointed, open, and forming a triangle; the skin dark; nose, muzzle, back of the ears, and feet sooty. From this description the animal differs from *Chryseus primævus* and the other races, in being more slender and higher on the legs, in having a sharper muzzle, a long close-haired tail, and large dark ears. It is reported to hunt in packs of greater numbers, to utter a cry, while on the scent, resembling the voice of a fox-hound, intermixed with occasional snarling yelps. Dr. Daniel Johnson witnessed a pack attacking a wild boar.

* A family of the name of Montefalcone bore a wolf salient gules. Another of the same name had red dogs for supporters, in a collection of blazoned Italian arms in the library of St. Mark at Venice.

† This name is an antique Asiatic root, implying daring, recklessness; in Turkish, Deli; in Teutonic, Dol, mad; in Belgic, Dulle, outrageous.

The drawing we possess of *Chryseus scylax* was taken from a carefully executed Indian water-colour painting, observed in a collection on sale in London, some years before Capt. Williamson's Oriental Field Sports were published. Colonel Deare, then a captain, was about this time in London, and the copy being shown him, he first conveyed the information that it represented the Dhole, or, as he termed it, the True Dhole, distinct in form from the other species already described. In Europe, that name was then only known to a very few persons who had previously resided in India. Specimens occur, it seems, very rarely, and these only in the Rhamghur hills, and sometimes in the western Ghauts.

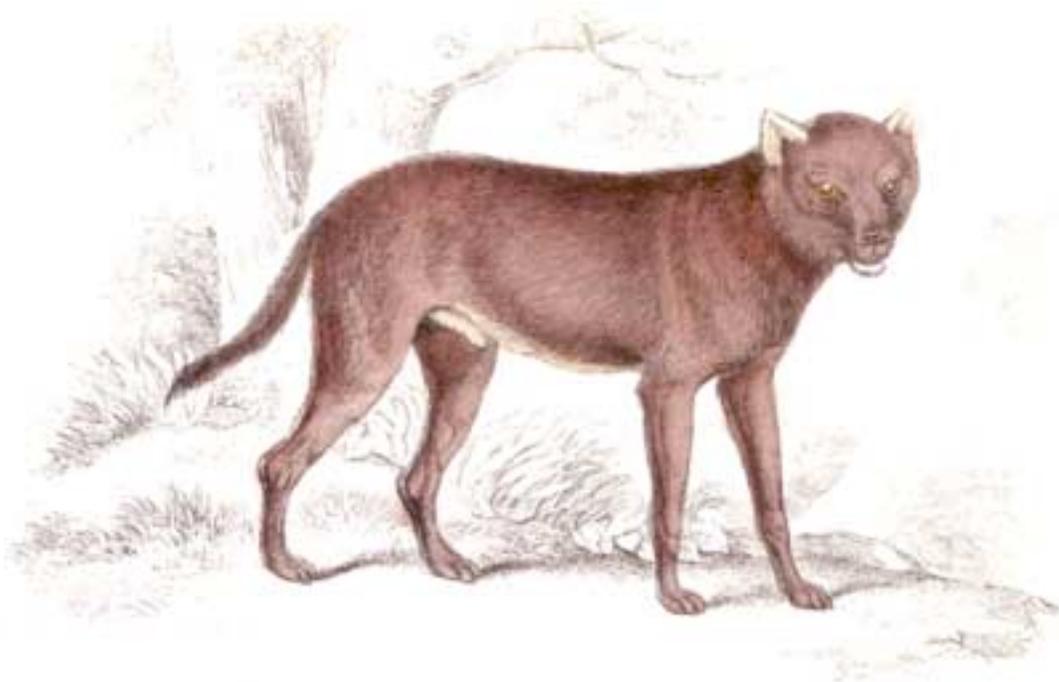


Plate 7. Dhole. Native of India.

Dhole Of Ceylon.

Chryseus Ceylonicus.

Plate VIII.

Canis Ceylonicus, *Shaw*; or Wild Dog of Ceylon,

First described by Vosmaer. This species is evidently much allied to the last-mentioned, although the account of it was not taken from an adult. The stuffed specimen was not much larger than a domestic cat, measuring about twenty-two

inches from nose to tail; the tail itself sixteen inches, gradually tapering to a point; the colour yellowish grey with a cast of brown, owing to some hairs of that colour being longer than the rest; the feet strongly tinged with brown; the hair close but soft to the touch; the head long and pointed; the snout and under chin brown, but the top of the head yellowish ash colour, which, passing beyond the ears, forms a spot below them and terminates in a point below the eyes: the ears were small, elevated, and pointed. In this specimen, the last molar of the lower jaw was also wanting. The claws resembled those of a cat more than of a dog, and there were five toes on the hind as well as the fore feet. We have examined, in Holland, the skin of a dog which was said to have come from Ceylon and corresponded sufficiently to admit of its being the same species, although it was at least four inches longer and the colours were less grey and more fulvous; the tail was long and without a brush, and the claws blunt, but with five on each foot. It is evident that the discrepancies between the two were owing to non-age, in Boddæert's specimen. The skull we have not seen.

Although in the following extract it is likely that more than one species may be confounded, yet the description is in general so like that of the true or greyhound Dhole, that it may be surmised a race of *Chryseus* actually extends to the Cape; and it is probably mixed up with some characters of the Tokla, which will be mentioned with the Thoes.

In Dr. Shaw's Zoology, wild dogs are mentioned as inhabiting Congo, Lower Ethiopia, and the vicinity of the Cape of Good Hope. "They are said to be red-haired,



Plate 8. Dhole of Ceylon.

with slender bodies and turned up tails, like greyhounds. It is also added, that they vary in colour, have upright ears, and are of the general size of a large fox-hound; they destroy cattle, and hunt down antelopes and many other animals, and commit great ravages among the sheep of the Hottentots; they are very seldom taken, being exceedingly swift as well as fierce; the young are said to be sometimes obtained, but grow so fierce as to be with great difficulty rendered domestic. In this short description we recognise the Mebbia of Congo, which assemble to the number of thirty or forty, and hunt all kinds of animals, but offer no hostility to man. These wild dogs cannot be confounded with the *Canis pictus*, which in all probability resides in Western Africa, because the limbs of the Mebbia are described as remarkably heavy, and the colour of their fur is rufous.

The Pariah Dog.

Chryseus pahariah, Nobis.

Chien marron of the French at Pondicherry.

It may be questioned whether the races of Pariah dogs of India be merely a low degraded kind of mongrels, descended from a nobler breed of domesticated dogs, or be the offspring of an indigenous wild species of the jungles. Naturalists in general, preoccupied with the views which Buffon disseminated on this subject (views we shall have occasion to show the great and eloquent naturalist affirmed and contradicted sometimes within a few pages), have assumed without proof and often against probability, as a fact, that where wild and domestic races nearly allied were found, the former were only feral or bewildered descendants of the latter. In the present case, however, the wild Pariah is found in numerous packs, not only in the jungles of India Proper, but also in the lower ranges of the Himalaya mountains, and is possessed of all the characters of primeval independence, without having assumed the similitude of wolves or of jackals, which systematists seem to think must be the result of returning from slavery to freedom. There is nowhere any notice taken that they burrow, apparently resembling in this respect the rest of the present group; they associate in large numbers, and thereby approximate jackals, but their voice is totally different from them. In form the wild Pariah is more bulky than the last-mentioned species, but low on the legs and assuming the figure of a turnspit; and the tail of a middling length, without much flexibility, is more bushy at the end than at the base; the ears are erect, pointed, and turned forward; the eyes hazle; the density of fur varies according to latitude, and the rufous colour of the whole body is darker in the north than in the south, where there is a silvery tinge instead of one of black upon the upper parts. They are said to have five claws on all the feet, but if there be a molar less in the lower jaw, is not known. This species is in general so similar to the

domestic, that if it were not ascertained they existed in great numbers in the wildest forests at the base of the Himalayas, all possessing uniform colours, they would be considered, in the lower provinces, of the domestic breed, and are often mistaken for them when they follow armies. The domestic, however, are less timid, generally more mixed with other races of dogs, more mangy about the skin, and variously coloured in fur. Their voice is yelping and howling, but may be distinguished from the jackals' by the sound.

The Pariah is certainly the connecting link with the jackals, but as these constitute a small group occupying an immense surface of the old continent, extending to the south beyond the equinoctial line, and in their turn form the nearest approach to the nocturnal canines, it may be preferable, before they are considered, to examine another group more nearly allied to wolves, residing almost entirely in Africa, and therefore by us detached from the jackals.

Sumatran Chryseus.

Chrysæus Sumatrensis, Smith.

Plate IX.

Canis familiaris, var.—*Sumatrensis* of *Hardwicke*.

This is one of the smallest of the group, and is possessed of characters distinct from all the known canines, being only about two feet long from nose to tail, and yet



Plate 9. Dhole of Sumatra.

standing fourteen inches high at the shoulder. The countenance is that of a fox, the nose pointed and muzzle black; the whiskers long and black; the eye oblique; ears erect, very hairy, and more rounded than in the jackal or fox nose and lips foxy brown, mixed with black; tail pendulous, bushy, particularly in the middle, smaller at the base, and reaching to the leg joint; five toes on all the feet, the fifth being small, and a round callosity above each; the general colour a foxy ferruginous red, varying to lighter shades on the belly and inside the thighs. The action of the animal, in confinement, was restless in the extreme; and while in the presence of human beings, or if teased, it emitted a most fetid urine. The voice was more of a cry than a bark.

We place in the Chrysean group also several wild canines of the great Australian islands, which seem by their external characters to belong to this type, although they are provided with the second tubercular molar, wanting in the former. Among these the best known is

The New Holland Dingo.

Chrysæus Australiæ.

Plate X.

The Dingo of New Holland, or *Canis Australasiæ* of Authors.

This animal has been regarded by French naturalists as a feral dog, although it is unquestionably a wild species, only in a small degree reclaimed by the savage natives. The fact of being partially domesticated is not sufficient ground for assuming that the Dingo was introduced by human intervention; for this argument would demand its existence in New Guinea, and include the necessity of the other canines, the jackals of Sumatra and Java, being introduced by similar means. The wild Dingos are, however, larger and more powerful in the interior than the domestic race. In confinement they are entirely mute, neither howling, barking, nor growling. When offended, they raise the hair upright, and assume a truly menacing aspect, but howl in a melancholy tone when prowling in a state of freedom. When they attack sheep, their delight is to kill as many as they can overtake; and their bite is so severe, that few who are wounded recover. They emit a strong odour, and in fighting domestic dogs snap very severely. The number of their pups is equal to that of domestic dogs, littering in some hollow log, deserted ant-hill, hole in the ground, or dense brush cover.

If we may generalise a fact related by Mr. Oxley, Surveyor-General of New South Wales, and recorded in his Journal, the Dingos possess the quality of mutual attachment in a degree far exceeding all other brute animals. His words are, "About a week ago



Plate 10. New Holland Dingo.

we killed a native dog and threw his body on a small bush; in returning past the same spot to-day, we found the body removed three or four yards from the bush and the female in a dying state lying close beside it; she had apparently been there from the day the dog was killed, being so weakened and emaciated as to be unable to move on our approach; it was deemed mercy to dispatch her.”*

Domestic dogs falling in their power are immediately devoured.† They hunt in pairs or in small families of five or six, and their fierceness and activity is equal to, if not more than a match for, the most powerful dogs of Europe. They possess the daring courage of the present group far superior to that of wolves, having been known to chase sporting dogs to the feet of their masters. One brought to England attacked and would have destroyed an ass, if he had not been prevented: another in the menagerie of Paris would fly at the bars of cages where he saw a panther, a jaguar, or a bear. Domestic dogs they seize without hesitation: yet these facts, excepting the first, relate to individuals of the reclaimed race, not larger than our shepherd’s dog, or less than two feet high at the shoulder. They have the muzzle somewhat fuller, the head large; under fur grey, covered by longer and abundant hair fulvous or white; the forehead, neck, back, and superior side of the tail is dark fulvous; the sides, under

* Oxley’s Journal, &c. p. 110.

† P. Cunningham. Two Years in New South Wales.

part of the throat, and brush paler; all beneath, the inside of the thighs, the legs, and nose whitish. We have seen two with the tip of the tail white, but the wild race is said to be destitute of that colour, and many of them are dark with shaggy hair;* they carry the tail horizontally, not curled, bent down when watching, and it is only partially furnished with long hair. They run, unlike dogs, with the head high, the ears erect and turned forward. The specimen at Paris could not swim. The parent race is wild all over Australia, but an inferior breed is partially tamed by the natives, who make some use of it in hunting kangaroos and emus. The young obtained from a pair in the Zoological Gardens were all more or less spotted with white.

We understand that there is a strongly marked variety or race of these dogs in Van Diemen's Land.

Chryseus Javanicus.

Canis Javanicus, Desm.

Probably the Asuwawa of Raffles. This species was first brought to Europe by Monsieur Leschenaut. It is in size and proportions equal to a common wolf, but the ears are smaller; the colour is fulvous brown, blackish on the back, feet, and tail. It is evidently a tenant of the woods. Messrs. F. Cuvier and Desmarests class the *C. Javanicus* with wolves. Its manners are still unknown.

This short review of the Chrysean group, we trust, will be sufficient to make naturalists pause before they come to the gratuitous conclusion that wild diurnal canines, being neither wolves nor jackals, are necessarily feral dogs or dogs become wild, after they or their progenitors had been domesticated. They have been traced through Asia, Africa, and the Australian islands; and although there are clearly several very distinct species in the number, they all retain the fulvous livery, and in their wild state none assume the distinctions to which, if they were descended from wolves or jackals, they must have returned; neither do they assimilate with the Thoes of our distribution, for under that name the ancients noticed such a variety of anomalous or fabulous animals, that having already disposed of some, and others will occur among the jackals and lychaontes, we restrict the group to those which appear to have been principally had in view by them.

* A skin from the Swan River, now before us, measures 41 inches to the tail, the tail 12 inches. The fur in colour resembles the wolf of Asia Minor; but the eyes are very near the nose, only 31 inches distant; the head is small for the size of the animal. One recently brought to Plymouth was as large as a tall lurcher and resembled that race in make.

Thous. The Thoa Wild Dogs.

The Thoan group represents in form the wolf on a reduced scale; being only somewhat larger than jackals, but differing from them in manners and livery. They do not burrow, and are marked on the back by black and white colours, contrasting into lines, chequers, pencils, or stipples; the rest of the fur being in general ochry or buff. The Thoas likewise emit little or no offensive odour, are not gregarious, and do not howl in concert; nor are they warners on the approach of the great feline, as jackals certainly are wont to do. The intermediate position of the group is illustrated by the component species being alternately classed among wolves, jackals, and foxes. Aristotle, we think, had in view the typical species, *Canis anthus* (F. Cuv.), when he remarks that the Egyptian wolves were smaller than those of Greece. In Guldenstædt's notice of jackals, he appears to confound some species of Thous with others of our group *Sacalius*. Mons. F. Cuvier, after remarking the difference between individuals of each section which bred together in captivity, retains them in the series of his dogs only as distinct species, but we think that in a late paper he has felt the necessity of forming them into more separated locations. The variegated colours on the back were most likely the cause which induced the ancients to assert that the Thos (or Chaber of Africa) was, according to Oppian, an hybrid between the wolf and panther, or between the hyæna and wolf, according to Varinus; and Solinus justly named the Ethiopian wolves Thoas. All the species have the tip of the tail black, and prefer rocky sandy districts where there are bushes and water, to humid woods. We suspect the greyhound of the desert was originally derived from a species very nearly if not actually belonging to this section.

Thous Anthus.

Canis Anthus, F. Cuvier.

The Wild Dog of Egypt.—Deeb of the Natives.

The head of this species is rather deep at the jowl: the nose full at the point; the ears erect; the throat and breast dirty white; the body above of a mixed fulvous, white, black, and buff, producing a series of small black spots, or pencils, caused by the tips of the longer hairs being black and uniting in meshes. The woolly under fur is reddish brown, darkest on the back; the ears are rather small; the nose, edge of the lips, and whiskers black; lips, under cheeks white; ridge of the nose brown; a black band passes round the neck towards the breast; tail hairy, rather long, with a brown spot one-third down the base and a long black streak spreading down to the end; below it is buff; the black hairs shining; lower limbs rusty brown on the outside, buff on the internal face; soles naked and black, as well as the claws. Irides brown; the

female more buff in the colours. The animal from nose to tail measures about two feet six inches, the tail one foot, height at shoulder one foot four inches.

Dr. Ruppel obtained specimens about Bahar el Azrak. It is not common in Egypt. The same traveller observed a head taken from the catacombs of Syout or Lycopolis, which he concluded to be of this species. It may be also the animal the ancient Egyptians employed to typify the southern hemisphere, as perhaps the Syrian chaon designated the northern. Professor Kretschmer, in Ruppel's Atlas, after remarking upon his unwillingness to view all the races of dogs as descended from one stock, although it be difficult, even in those the most decidedly marked and possessed of the greatest purity of descent, to decide from which of the original species they may be derived, is nevertheless disposed to consider the *Thous anthus* as the aboriginal species whence the Egyptians obtained their domestic dogs; and in support of this opinion, he appeals to the similarity existing between that species and the smaller breed of wolf-dogs (the Pomeranian dog) still abundant in the vicinity of Frankfort. But he appears to overlook the question, even if it were decided, that the mummy dogs of Egypt were embalmed from their domestic race, whether those of Lycopolis, or the wolf city, belonged to it. The probability, we think, would be that they were entombed one degree lower down the river at Cynopolis, or the dog city, on the island opposite Co, where Anubis was the presiding divinity, and the attendant priests ate their food out of the same dish with the sacred dogs. Although it is not unlikely that this race also produced a breed of domestic dogs, still there is reason to believe they were a distinct species.*

* It may be remarked that the Greek Lycopolis is the present Syout, and referring to the animals represented in the prænestine mosaic. The figure of a canine in a howling attitude occurs in the part depicting Upper Egypt or Nubia, and above it is the name *ZIOIT*, which agrees sufficiently with the Ethiopic plural Zybt, Azybit, a wild canine, or canines; though not a wolf, unless the animals of that species, wild in Nubia, be classed with the wolves. Syout, or Assiout, is therefore an ancient name of Lycopolis.

The Thous of Nubia,

Thous variegatus,

Plate XI.

Is about an inch lower at the shoulder and in other respects proportionally smaller than the last mentioned animal. The head is rather broad, buff with black hairs on the occiput; the under fur buff and soft; the upper coat of hard hair, buff at the roots then black with a buff ring, and the tip again black and shining: these tips gather together on the surface in small pencils or patches, resembling chequer work on a buff ground; the nose is blunt and black, thence to the eyes pale buff: the ears eight inches ten lines in height, buff on the outside, white within; under parts dirty white; tail rather short, chequered like the body, the tip dark. The extremities are long, the hind legs longest; all are buff-coloured; the feet hard, tumid, naked, and the claws blunt.

This animal has the same wolfish aspect as the anthus. It resides in rocky regions, not burrowing, and feeding on small mammalia and birds. During nonage the colours are less clear, and the coarse hair prevails. In old age the woolly fur predominates, the coarse hair being more scanty, but from the nape of the neck to the tail there is a mane of shining black and considerably lengthened hair. M. Ruppel observed this species in Nubia and Upper Egypt.



Plate 11. Painted Thous-Dog.

The Zenlee, or Pied Thous.

Thous mesomelas.

Plate XII.

Canis mesomelas of authors.—Yenlee of the Hottentots.—
Bontevos of the Dutch Colonists.—Chacal du Cap.

All the canines found in a wild state to the southward of the line, in both hemispheres, approximate the foxes in some of their characters or aspect. The pied Thous is an example in point, for being somewhat less in bulk than either of the former, and more vividly reddish about the sides and limbs, it has been classed with foxes, although the tail is not vulpine, and we are assured that the eyes are diurnal. The individual we have seen alive had neither the movements nor head of a fox, and the ocular disks were always circular, while observed. Of three drawings with dimensions taken from different individuals, one was twenty-five inches from nose to tail, the next twenty-six, the third twenty-seven. The tails varying with the length of body, from eight inches and a half to ten and a half. The different locations of dog, jackal, and fox, assigned to the species by naturalists, indicates the intermediate position it should occupy; and the livery or intermixture of colours the fur exhibits, claims its place to be in the present group; and if we look to the dogs of the Bosjemen and Koranas, there may be a question, whether their descent is not, in part at least, derived from a cross with the present species. The ears of the *T. mesomelas* are larger than in the *T. anthus*; the nose and forehead are ashy grey; the ears rust-colour



Plate 12. Cape Thous-Dog.

outside, whitish within; the cheeks whitish-ash and buff; from between the ears, over the back of the neck, and from thence spreading down each shoulder, the colour is black and white, variously intermixed; the space narrows gradually to a point at the root of the tail or partially down the base: this space is composed of hair longer and harder than that of the sides, and in some specimens the white forms only pencils on the black, in others it is a succession of waves, and sometimes it forms something of a regular yet undescribable figure in the midst of the black. The throat and breast are whitish grey; the lower part of the shoulders, the hams, and part of the base of the tail, with the outside of the limbs, is of a lively rusty buff; the belly, furnished with long hairs, is dirty white; the terminal half of the tail invariably black; the claws are blunt, the feet naked and hard. We are assured that this animal does not burrow, but lives among bushes and under prominent rocks. It is not found on the Karroo or wilderness.

Senegal Thous.

Thous Senegalensis.

Plate XIII.

Chacal de Senegal, *F. Cuv.*

The able French naturalist, last quoted, considers the Senegal Thous to be a variety of his *Canis anthus*, but an artist seeing both would hardly admit more than the approximation of the two species. The animal is at least an inch higher at the shoulder, and several inches longer; the ears are larger; the head more dog-like; the tarsi higher; the tail shorter, less hairy; and the form more gaunt. The colours differ likewise; the nose and forehead are greyish-buff; the throat and under parts white; there is no black ring round the neck, nor the stippled arrangement of black points on the back; that part is buff and greyish, with four or five cloudy bars running in wavy lines downwards on each side, the space between with fainter greyish undulations; the darkest bars are on the croup, where a sixth passes down to near the hocks and upwards again towards the groin, leaving a whitish space at the buttock and in front of the thigh; the base and upper part of the tail is dark sepia-brown; the long hairs beneath and towards the tip buff; the hind legs are buff, very long and slender, making the animal stand with the croup elevated, and therefore the species must be very fleet. It resides in common with the jackal on the uplands of Gambia and Senegal.



Plate 13. Senegal Thous-Dog.

Thous Tokla, Nobis,

Tulki of the Persians, and probably the Tokla of Abyssinia,

Is a larger canine than the *T. anthus*, distinguished from the rest of the group by the predominance of rufous woolly hair, interspersed on the sides and covered on the back with long coarse black hairs; the belly is snow white and the ears jet black; the tail, rather short, is of the colour of the woolly fur, but with a patch at the root, and the tip of shining black hair. It howls with a moaning voice, and is confounded by Olearius with the common jackal. In Abyssinia the Tokla's bite is much feared, and is evidently the same as the Toqua of the Hottentots, which the Dutch of the Cape interpret by the name of wolf, and Mr. Kolbe as well as Sir J. Barrow seem to have regarded as the *Lupus vulgaris*. The long hair on the back of the Æthiopian Lycaon of Solinus may be the black hair above mentioned, and this ridge is not singular in Africa. We shall find it again in the *Megalotis famelicus*, offering a counterpart to the red Aguara wolf in Tropical America.

Wild Dog of Natolia.

Thous æmon, Smith.

Plate XIV.

Perhaps the Schib of Syria.

This animal has been confounded with the Turkish fox and with the jackal, and unless carefully observed would be mistaken for a country dog. The specimen whence our drawing was taken measured about seventeen inches at the shoulder, and was in length from nose to tail two feet eight inches; the head resembled that of a sharp-nosed vermin-dog, but the forehead is broader and flatter, the ears small and triangular; the girth of the body and neck full; the hair of the forehead, neck, back, and sides coarse; the tail short, but the basal part had crisped hair; the remainder longer and divided into five rings, three of which were black and two rust colour; from the nostrils to beneath the eyes, and from thence somewhat irregularly downwards to between the fore legs, the colour was white. All the rest of the head, body, hams, sides, belly, and upper part of the fore legs, including all the coarse hair, was rufous, buff, white, and sepia, mixed into a hoary fawn-coloured grey; from the nape of the neck down the back, including the base of the tail, the hair, forming a broad streak, stood up crisped. This appearance may be accidental, although a second specimen somewhat more



Plate 14. Wild Dog or Thous of Natolia.

rufous and larger had likewise the hair of the back standing up at the points.* The first was in the museum of Prague; the second, in private hands, came from Scanderoon. A reverend friend, who resided long in Asia Minor and is well known in his literary capacity, communicated to us a part of his journal where he had noted the discovery of a suspicious looking animal in a chalk quarry about six miles from Smyrna, much superior in size to a jackal, but not a wolf; he is however in doubt whether it is this species or one of the *Chryseus beluel* before named. The natives of Natolia informed him that it was likely he had seen the animal they call the Great Jackal.

As the characters which Oppian assigns to his *acimones* appear to agree with the animal under consideration in the short neck, broad shoulders, heavy limbs, small eyes, and sharp anterior part of the head, we think the name of Acmon may be applied to distinguish it from others. We are even inclined to believe that this race of animals is intended, where the ancients relate that a kind of wolves damaged the fishing-nets of the inhabitants on the Canopian Gulf of the Palus Meotis, unless they were allowed a proportion of the produce obtained from the water by the fishermen.†

* This character of the hair seems to be in the notice of Aemon in Oppian.

† Stephanus

From the Past: Panther Thought to have Escaped from Circus

Williamsport (PA) Sun — June 27, 1953.

English Center—The opinion is being expressed in this section that the “black panther” that has been seen in the vicinity is actually an escaped wild animal.

Last night a well known sportsman in the area said that many persons think the animal is of the cat family which escaped from a circus or traveling show. He said it could be a lion, tiger, leopard or panther.

There have been three incidents involving panthers in recent weeks.

Ernest Danley, his family and friends, reported seeing a “large, shiny, black cat” last Tuesday morning. It was described as 10 feet long.

Another was reported to have attacked three calves owned by George Danley, Trout Run Rd 1, clawing one.

Gerald Kahler reported seeing one on Boak’s Mountain.

The Nondescript

Francis T. Buckland

(From: Curiosities of Natural History. Fourth Series. 1891. London: Richard Bentley and Son.)

If Barnum managed to humbug the public so well, and to make such a sum of money as above related with his Fegee mermaid, I wonder what he would have done if he had had possession of my Nondescript, of which I now give a representation.

I am sorry to say I can get no history of this Nondescript. I first saw him in the shop of Mr. Wareham, china curiosity-dealer, at the corner of St. Martin's Court, Leicester Square. Mr. Wareham told me he had bought it at a sale from an old gentleman who prized it amazingly, and who in his lifetime valued it at the sum of 100*l*. It certainly is the most extraordinary-looking thing I ever beheld, and, indeed, I am rather offended with it, for when my friends come to see my private collection, I am sorry to say their attention is more taken with my hideous Nondescript than by other specimens which I flatter myself are valuable and interesting.



The Nondescript is about as big as a baby three months old, and, as a crusty bachelor friend of mine once said, “really very much like one.”

He has wings on the top of his shoulder like the old army aiguillettes, and there are claws on the tips and on the extreme ends of each wing: these wings are so artfully contrived that one would believe they could be opened out and unfurled like a bat’s wing at any moment the creature that carried it wished to take a fly either for business or amusement.

The arms are amazingly human-like, and look as though the dried skin had shrunk fast on to the bone; the legs also represent a similar appearance. The hands and feet are demon-like, and of a long, scraggy, merciless appearance, and each finger and toe is armed with a formidable-looking claw. The ribs project frightfully, as though the nondescript had lately been in reduced circumstances, and had been living for some time *à la malcontent*. The head is about as big as a very large apple. The ears project outward and downward, like those of an African elephant. The face is wrinkled and deformed; the nose like a pig’s snout; the eyes like those of a codfish; the teeth exactly the same as those in the mermaid above described—double rows in each jaw, with protruding fangs in front; and surmounting this hideous countenance, a rough shock of fine wool-like hair, presenting the true prison convict crop, as though the Nondescript had been in trouble and had had “the key turned upon him;” and this I should think, more than likely, for a more villanous-looking rascal I never beheld; a policeman would be justified in taking him up on suspicion alone.

Before this specimen came into my possession I was unable to examine it closely, as it was considered too valuable to be taken out from under the glass case. The moment, however, it came into my hands, I set to work to find out its composition. Everybody said there must be bones in the arms and legs and ribs. I soon tested this with a surgical exploring needle, but found no bone, nor anything like a bone, but simply soft wood, probably cedar. I made several incisions in the Nondescript’s body, and found that the main portion of his composition was (like the legs) a light wood. The skin, as well as the wings, are made of a species of papier-mâché, most artfully put on in wrinkles, and admirably coloured and shaded to give the appearance of the dried body of some creature that had once existed either on land or sea—had been slain—and then preserved as a curiosity.

Although I can obtain no real history of my Nondescript, I fancy that he must be the handiwork of some ingenious Japanese. I imagine he is an ancient specimen, and has doubtless seen a great many curious adventures, if he could only tell us his history. He may possibly have been made by the very Japanese fisherman whose acquaintance Dr. Von Siebold, the well-known traveller, made in Japan, and of which

he gives us an account in his work “On the Manners and Customs of the Japanese in the Nineteenth Century.” Von Siebold says:—

This fisherman displayed his ingenuity by making money out of his countrymen’s passion for whatever is odd and strange. He contrived to unite the upper half of a monkey to the lower half of a fish, so neatly as to defy ordinary inspection. He then gave out that he had caught the creature alive in his net, but that it had died shortly after being taken out of the water, and he derived considerable pecuniary profit from his devil in more ways than one. The exhibition of the sea-monster to Japanese curiosity paid well; but yet more productive was the assertion that the half-human fish had spoken during the few minutes it existed out of its native element, predicting a certain number of years of wonderful fertility, to be followed by a fatal epidemic, remedy against which would be possession of the marine-prophet’s likeness. The sale of these pictured mermaids was immense. Either this composite animal, or another, the offspring of the success of the first, was sold to the Dutch factory and transmitted to Batavia, where it fell into the hands of a shrewd American, who brought it to Europe; and there, in the year 1822-23, exhibited his purchase as a real mermaid at every capital—to the admiration of the ignorant, the perplexity of the learned, and the filling of his own purse.

Thus, then, we have good evidence of a regular manufactory for “Mermaids,” “Nondescripts,” and all such “Curioes,” as my friend Robinson Crusoe would call them. The days of mermaids are now past, though the time was (judging from old books of natural history) when they were much prized and looked upon as a distinct kind of existing creatures.

From the Past: Panthers Still Roam in the Adirondacks.

(From unknown 1925 New York newspaper.)

Frankfort, Sept. 1 — Panthers still roam in the Adirondacks near Rondax Lake, or at least there is one there, as will be testified to by a party driving in from there Saturday night. After they left the main road, near Spectacle Pond, the animal crossed their path, showing up to good advantage in the moonlight. Mr. and Mrs. Anthony Sprague, Mr. and Mrs. George Sturgess and Fortiss Sprague were in the party.

New Zealand Moa.—Vol. II. Page 70.

Francis T. Buckland

From: Curiosities of Natural History, Fourth Series. 1891. London: Richard Bentley and Son.

The “Daily Southern Cross,” of March 6, 1863, gives the following:—

“Two men started from the Arrow-township in search of gold about twenty-five miles north-west of the Arrow. They were sitting by their camp fire when they beheld an enormous bird approaching to the edge of a hill immediately above them, at a distance of between 300 and 400 yards from where they were sitting. The bird seemed to perceive the camp fire, and squatted down, keeping its head turned on one side, fixed on the fire. It continued so for several minutes, and at last got up and walked off. Although it stepped slowly it was soon out of sight, the length of its stride being so great. Its height appeared about seven feet, without reckoning the head and neck. Its head was very long and flat, and it carried its neck bent forward instead of carried back, as is usual with birds of the ostrich species.”

The last evidence of *Dinornis* having been seen by human eyes previous to that now placed on record occurs in a letter from the Rev. W. Williams to my Father, Feb. 1842. Mr. Williams writes:—

“I have obtained information worthy of notice. Happening to speak to an American about the bones, he told me that the bird is still in existence in the neighbourhood of Cloudy Bay, in Cook’s Straits. He said that the natives had mentioned to an English whaling party that there was a bird of extraordinary size to be seen only at night on the side of a hill near there, and that he, with the native and a second Englishman, went to the spot; that after waiting some time they saw the creature at some little distance; they described it as being fourteen or sixteen feet high. One of the men proposed to go nearer and shoot, but his companion was so terrified, that they were satisfied with looking at him; in a little time he took the alarm, and strode away up the side of the mountain.”

In an article in “Land and Water” No. 95, on some exceedingly fine specimens of *Dinornis* bones, by Mr. Charlesworth, a letter is quoted from the Rev. Richard Taylor, of New Zealand, dated London, October 5, 1867. He writes:—

“I believe this wonderful race of birds is not yet quite extinct in New Zealand. Dr. Hector, the Government geologist, discovered their tracks in the scrub on

the mountain ranges of the middle island, and gold-diggers, on two occasions and in widely-separate districts, affirm that they have seen it, in both cases in the dusk of evening; and Mr. Maling, a Government surveyor, met with the tracks of one on some moist ground, which he carefully measured, and found the imprints were fifteen inches long, with a stride of nearly six feet; but as this race are doubtless night birds, like the apteryx, and solitary in their habits, resembling the dodo, it is not at all wonderful that they have hitherto escaped being captured, their haunts being in wooded sidea sf mountains, where man seldom, if ever, penetrates; but I shall not be surprised to hear that one has been taken, as the solitary specimen of the *Notornis* was, which Mr. Mantell procured and sent to the British Museum, where it may now be seen.

“Richard Taylor.

“ To Edwd. Charlesworth, Esq.”

Pigmies in the Mississippi River Valley

S. G. Morton, M. D.

From: Proc. Acad. Nat. Sci. Philadelphia, Vol. 1, no. 8, Nov. 1841. pp. 125-126.

Dr. Morton made some remarks on the so called *Pigmy* race of people who are asserted to have formerly inhabited a part of the Valley of the Mississippi.

It has long been contended by intelligent persons, who, however, were ignorant of anatomy, that the adjusted bones of individuals of this race, never exceed four feet and a half in height, and are often but three feet. These statements induced Dr. Morton to investigate the subject by means of a skeleton of one of these people, which he at length obtained, through the kindness of Dr. Troost of Nashville; Mr. A. M'Call, a correspondent of Dr. Troost, having exhumed the remains from a cemetery near the Cumberland Mountain, in White county, Tennessee.

“The coffins,” observes Mr. M'Call; in the letter read by Dr. Morton, “are from 18 to 24 inches in length, by 18 inches deep and 15 wide. They are made of six pieces of undressed sandstone or limestone, in which the bodies are placed with their shoulders and head elevated against the eastern end, and the knees raised

towards the face, so as to put the corpse in a reclined or sitting posture. The right arm rested on an earthen pot, of about two pints in capacity, without legs, but with lateral projections for being lifted. With these pots, in some graves, are found basins and trays also of pipe clay and comminuted shells mixed; and no one of these repositories is without cooking utensils. In one of the graves was found a complete skull, and an os femoris, but most of the other bones were broken in hastily removing them. This is said to be the largest skeleton ever found at any of these burying grounds. It has the cranium very flat and broad, with very projecting front teeth, and appears to have pertained to an individual not over twelve or fourteen years of age.”

After reading Mr. M’Call’s letter, Dr. Morton exhibited the bones which accompanied it, and remarked that the stage of development of the teeth indicated a very juvenile subject. For example, many of the deciduous or first teeth yet remained in both jaws; while the only teeth of the permanent set which had protruded, were the first molars and the incisors, which, as every anatomist knows, make their appearance, at about seven years of age. Of the other permanent teeth, some had no part formed but the crown, and all were completely embraced within the maxillary bones. The presence of the new incisors, isolated from the cuspidati which had not appeared, obviously gave rise to Mr. M’Call’s remark respecting the very “projecting front teeth,” but which, however, are perfectly natural in position and proportion. The cranial bones are thin, and readily separable at the sutures; nor does the *flat* and *broad* configuration of the cranium differ from what is common to the aboriginal American race. The long bones have their extremities separated by epiphyses; and every fact observed in these remains is strictly characteristic of early childhood; or about the seventh year of life. Even the recumbent or sitting posture in which they are found, has been observed in the dead bodies of the American nations from Cape Horn to Canada; and the utensils found with them, are the same in form and composition with those exhumed from the graves of the common Indians.

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