The Cryptozoology Review

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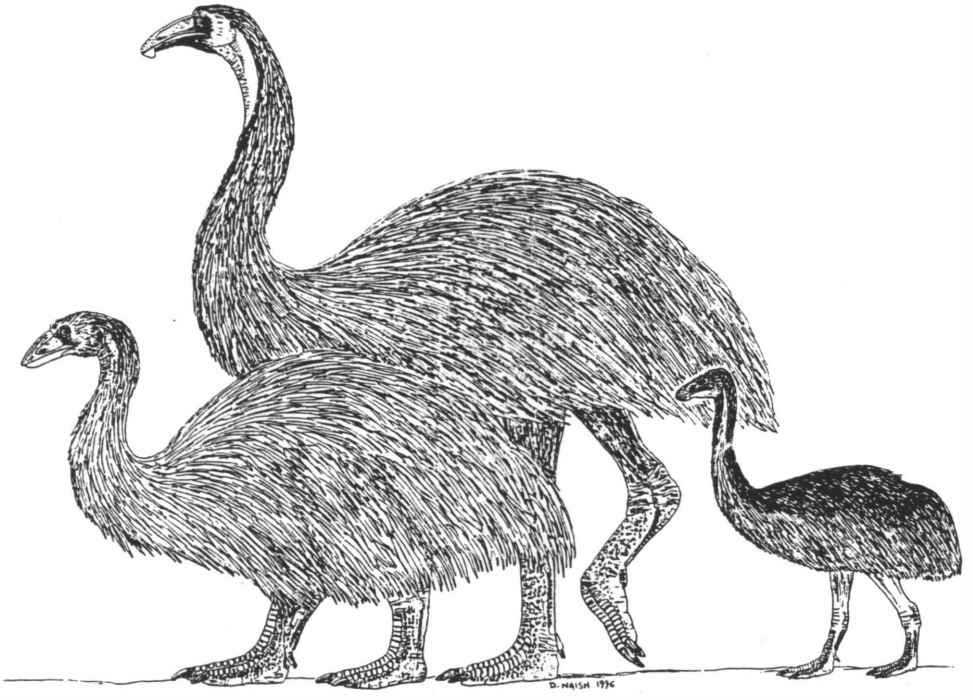

The Editor's Page

Welcome to another issue of *The Cryptozoology Review*. This issue, as you may have noticed, has four more pages than usual. This increase is due to the large amount of material in this issue: a long, informative "Compendium of Cryptids", the first part of a comprehensive and interesting review of the cryptozoology of moa by frequent contributor Darren Naish, and the second part of my continuing series examining alleged sea serpent carcasses worldwide.

This issue also has a more professional cover, printed on coloured card stock. This change is merely aesthetic, but I think that it enhances the overall quality of *TCR*.

The extra pages and better cover do come at a cost, however, and I am curious if you would be willing to pay an extra $2 (Can.) on top of current subscription prices to retain these features. Please let me know if you think this small increase is worth it.

In any case, I hope you like the features and the changes in this issue, and thank you for your continuing support.

-- Ben S. Roesch

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On The Cover: Several different species of moa. Illustration by Darren Naish.

The Cryptozoology Review is published three times a year by Ben S. Roesch. Subscriptions are (in Canadian currency) $12.00 in Canada, $14.00 (air mail) in the US (or $11.00 US), and $16.00 (air mail) in all other countries. Sample copies and back issues are $4.00 (Canadian) in Canada, $6.00 (or $4.00 US) elsewhere, each. Method of payment: In the US and Canada, you may pay by personal check, money order (International MO in US), or well-concealed cash (in either Canadian funds or the equivalent in US funds). In the UK, you may pay by personal check or well-concealed cash (in British pounds), or by IMO (US or Canadian funds only). In other countries, you can pay by International Money Order (in US or Canadian funds only, please). All checks and money orders should be made out to "Ben S. Roesch". If there are any problems with payment, contact the editor. Also, for those that run their own cryptozoological publications, keep in mind that we are always willing to exchange subscriptions, as long as the relative prices are about equal. How you can help: If you are interested in contributing your cryptozoological artistic, writing and/or editing skills to *TCR*, please contact the editor. We take unsolicited manuscripts and artwork! Send the editor anything you think we might be interested in, and he will take a look and get back to you. There are no contributor's guidelines, but please write your article professionally and fully-referenced. We are non-profit, so payment is in copies (2 for an article, 1 for a review). Legal stuff: Everything in *TCR* is copyrighted! Please do not reproduce anything without permission. We usually approve requests to reprint material (provided we know what it is used for) and it'll save both of us a lot of trouble. Of course you may quote us and our articles, but please cite it properly. Thanks!

Letters

We welcome letters about TCR and its contents. Please indicate whether you want your letter published or not. We may edit any letters for content and clarity.

Lost Pets and Cryptozoology

Cryptozoology is the "search for hidden animals" as Loren Coleman states in *TCR* Vol. 1 No. 1, p. 9. This seems to cover a massive and increasing range of topics and, in some cases, seems to contradict itself.

While a large black cat of panther-like description stalks Bodmin Moor (possibly an escaped exotic pet) is usually classed as a subject for cryptozoology, are the circumstances any different to the cockatiel [*Nymphicus hollandicus*] I found in my back garden? Obviously, escaped pets are commonplace, particularly birds, but when does "lost pets" stop and "cryptozoology" begin? Presumably it is based on the rarity of the animal and possibly the level of surprise from the community it is found in!

However, cryptozoology will hopefully never have restrictive rules on what "is" and "isn't" classed as cryptozoology. Whatever is deemed as interesting and accepted by the cryptozoological community should be welcomed in the hope of attracting new followers to the subject.

Thankfully, Loren Coleman referred to cryptozoology as the search for hidden animals, not just hidden life. I am sure everyone has a hard enough time deciding whether or not Nessie or Bigfoot do really exist without having to start looking for Leprechauns or Gnomes!

Steven Henry.
Nottingham, England.

Mr. Henry's interesting letter prompts a couple of comments: first, that a escaped cockatiel is not a good comparison to the Bodmin beast, as some have suggested that the latter is in fact an unknown felid species--therefore bringing the animal into cryptozoology again. The cockatiel Mr. Henry found, on the other hand, was never thought to be a new species. Second, if leprechauns and gnomes really did exist (an idea we do not subscribe to!), they would be classified as animals (like humans), and therefore would have a place in cryptozoology. The science of "hidden life" would apply to both animals and plants (and other living things such as bacteria etc.) - and would have to be called cryptobiology, not cryptozoology.

Sasquatch as "Death"

Here is an interesting piece of historical sasquatchery that John Green missed.

In 1958 everything parents feared about the effects of leather jackets and slouching were realized in Charlie Starkweather, who drove across Nebraska with his fourteen-year-old girlfriend and shot eleven people dead.

"That's interesting," you're probably thinking, "Martin Sheen played him in the movie, but what does a homicidal James Dean wannabe have to do with cryptozoology?"

Before being executed, Charlie wrote his autobiography in which he explained how people had always been mean to him and that life was unfair. He also recounted a vision of "Death", which he had seen two years before the shooting started:

> "I don't known [sic] how it was, but I would always wake up and see her standing there in the window ... and all I could see would be the part from the waist up. It was a kind of half human and half bear ... only it didn't have no neck. It just tapered off from a big chest to a small pointed head ... It didn't have no arms and no ears. It was close and loud at first, but it got further and further away and the sound became mournful and sad until I couldn't hear it no more." (King, Brian [ed.]. 1996. *Lustmord--the writings and artifacts of murderers* (Burbank,California: Bloat), p. 274.)

Six months after Starkweather's murder spree, newspaper stories began to appear about big footprints at a road construction site in Bluff Creek, California.

Robert Damon Schneck.
Dana Point, California.

A Compendium of Cryptids

("All the latest cryptozoology news fit to print")

by Ben S. Roesch

Reinhold Messner and the Yeti

In the last issue of *TCR* (2 [2]), I wrote in "Compendium of Cryptids" that renowned mountaineer Reinhold Messner had claimed that he had startling new photographs allegedly showing the yeti (or "abominable snowman"). Few details were given at the time, but a new article was published recently in the *Sunday Herald Sun*, and it gives much more information about Messner's claim.

According to Messner, he has sighted the yeti four times, has photos of some of the sightings, and, most amazingly, has a skeleton of the creature. His first sighting occurred in 1986 in Eastern Tibet, after he followed a trail of 35 cm (14 inch) wide footprints. In June, 1996, he bought an alleged yeti skeleton from some nomads in Ladakh, at the borders of India and Pakistan. It was then that he began to become extremely interested in the yeti, and he commenced an earnest search of the area. Messner began to search 12 hours a day, and about a week later he and his group-members spotted what they think was a yeti mother and child. Messner was able to photograph the two from the back. The child had bright red fur, and the 2 m (6 ft) tall mother had black fur. Both of the animals left the area when they spotted the human observers.

Two days later, another amazing sighting occurred. Messner and his counterparts actually came across and filmed a sleeping yeti. They were about 20 m (66 ft) from the sleeping creature, and managed to not only photograph the creature but film it as well. They watched it for three minutes, and then it woke up and spotted them. Messner commented to the *Sunday Herald Sun*: "He looked at us like a small child who has just met someone for the first time. We stood eye to eye; I could have touched him. Then, he stood up and slowly walked away."

These are remarkable claims. If this evidence is genuine, it could positively confirm the existence of a large, unknown primate in the Himalayan region. The skeleton would unquestionably be even more spectacular and important than film or photos, because it will allow scientists to classify the yeti as a new species. Of course, we still do not know if the skeleton, the film or the photographs are real. Messner's plan is to release all of this supposed evidence in a book he has written, to be published in about two years. He also has plans to convert part of his castle in the Italian Alps into a yeti museum, to display his finds along with other information. I can only hope that Messner will allow the alleged yeti skeleton to be inspected by qualified scientists, because without this sort of confirmation, the finds are practically worthless.

Messner has also theorized about the habits of the yeti. He claims that it is very shy, comes out at night to feed on yaks and sheep, and communicates by whistling. He also thinks there a thousand yetis alive today in the Himalayas, and that they face no real threats. The author of the *Sunday Herald Sun* article noted that despite Messner's claims that the yeti is a carnivorous animal with a taste for livestock, there have been few reports of missing yaks or sheep in the Himalayan region. However, Chris Bonington, a British mountaineer who knows Messner well and has field experience in the Himalayas, does not find the lack of food a problem: "The valleys north-east of Everest are incredibly remote, almost impossible to travel in and thickly forested. The forests would provide food and shelter as well and would account for the relatively few sightings of the creature. On that interpretation, the yeti would venture above the snow line only to travel from valley to valley." Such a scenario has also been suggested by various other yeti researchers in the past.

Karl Shuker, a well known British cryptozoologist, also made an interesting speculation in reference to Messner's sighting of the mother and child yeti. Some yeti sightings in the past tell of a creature that is red (this is the "real" yeti) and of a different creature that is taller and is coloured black. There are also a few sightings of another red-coloured type that is smaller than either of the other two. It was thought that these three types of "abominable snowman" might be different species or subspecies. Shuker thinks, however, that if Messner's claims are authentic, it is possible that all of these different "species" actually represent one: the red-coloured individuals represent the young, while the black-coloured ones are the adults. As I said, this is an interesting idea, but would be quite unprecedented, considering that no non-human primates are known to show difference in hair colour between adults and young (with the exception, perhaps, of gorillas; males often develop into "silverbacks" when they mature).

In any case, Messner's claims are spectacular; if they are verified, the yeti will be the first "super-star monster" (such as the Loch Ness monster, sasquatch, or the sea serpent) to be identified since Bernard Heuvelmans coined the term cryptozoology over 40 years ago.

Source: Champkin, J. 1997. "Yeti: I've climbed the Himalayas and met it four ..." *Sunday Herald Sun*, September 21.

More Tasmanian Tigers

The Tasmanian tiger, or thylacine (*Thylacinus cynocephalus*), continues to make news headlines around the world.

One of the most recent sightings was made by Denis Millar, a 49-year-old farmer of North Tumbulgum, in New South Wales near the Queensland border. Last November (1997), Millar claims to have seen a strange fox-sized creature on a neighbour's property. He was sure that it was not a dog. Apparently, it had a kangaroo-like head and a thick striped tail, which tapered towards the end. Millar added that other family members, as well as neighbours, had also seen the same animal. The news stories unsurprisingly claimed that the creature was a thylacine--which officially disappeared in Australia 3000 years ago (though some think it became extinct there as late as the 1700's). Millar, however, said he has seen old pictures of the thylacine, and the animal he sighted was smaller and lacked body stripes.

Reports of thylacine-like animals have also been made in recent years in Irian Jaya (see *TCR* 2[1]). Now, more reports have appeared from the rugged Jayawijaya region, in central Irian Jaya. The animals are reported to resemble large dogs, with light brown fur and dark stripes along their backs. Local people are blaming these thylacine-like creatures for the deaths of various livestock, such as pigs and chicken. The animals are said to rove about in packs, making their kills at night (this pack hunting behaviour is not typical of thylacines though). According to district officials, the locals are very afraid of the predators, and they stay inside as much as possible. The sightings have certainly inspired interest from the local government, who has offered a reward of approximately 7 million rupiah (about $670 US) for the capture of a thylacine.

The World Wildlife Fund, meanwhile, has also received reports "of a species of wild dog" from the Pass valley in the Abenaho district, and stated that villagers had killed three of the animals. The fate of these dead animals is unknown to me, but it is possible the animals were simply discarded. In any case, the WWF office in Jayapura said that they had no good evidence for the existence of the thylacine in Irian Jaya, though they are planning an investigation into the matter. These reports are not new to the WWF--during the last few years they have received several sightings of strange dog-like creatures from central Irian Jaya (including the rugged and little explored Lorentz National Park). These reports may well be of feral dogs, though they are still worth looking into. Also, in 1993 a WWF field researcher, trekking above the snowline in the Jayawijaya range, came across dog-like paw prints that resembled those of a thylacine.

Still, most researchers, including Australian wildlife expert Tim Flannery of the Australian Museum, are rather skeptical of the idea that the thylacine still exists in Irian Jaya (fossil remains of thylacines have never been discovered in Irian Jaya, though remains found in Papua New Guinea suggest the thylacine lived there several thousand years ago). If the existence of the thylacine in the region was confirmed, it would certainly be a remarkable discovery. Unfortunately, investigations into the mystery will probably be delayed; the region has been closed since 1996, when several scientists were taken hostage and held by OPM guerrillas for more than four months.

Sources: Anon. 1997. "Farmer opens up Tassie Tiger mystery." *Daily Telegraph* [Australia], November 19. // Walters, P. 1997. "Irian Jayans spy 'Tassie Tiger'." *The Australian* (Sydney, Australia), August 20.

A Mystery Carcass off Kuwait

At about 11 p.m. on August 8, 1997, Mohammad Yousef Obaid, a 35-year-old Kuwaiti municipal employee, was fishing on a family trip to the Al Fantas area of the Kuwaiti shoreline. Looking to the water, he saw a strange-looking carcass floating "face down" in the water. His first thought was that the remains were those of a human, and he wanted to phone the police. He decided, however, to investigate himself, and turned the remains over with a stick. "I was shocked to see that the creature, or whatever, had a strong resemblance to humans," Obaid said. "I could see that the body was disintegrating but could distinctly spot the strange skull, remnants of eyes, ears and mouth, spinal cord and pelvis." When Obaid pulled the carcass to shore, it broke into three pieces, and he took home what he believed to be the skull and attached spinal cord (the rest was not retrievable). Obaid thought the creature must have been dead for about a week.

The carcass was described as 1.5 m (5 ft) long, possessing a "big mouth, two nostrils, two eyes and two ears which jut out of the skull". It was said to resemble a Chinese dragon or even the devil.

Obaid said he was keeping the remains in a deep freezer at home, but that it had turned black within a week or so. He tried to incite interest in his find among research centers in Kuwait, but apparently no one took him seriously. Despite this, Obaid defiantly stated that "[i]t is no hoax ... I think it will be a big shame if such a rare find goes uninvestigated."

Fig. 1 - Skull (left) and skeletal remains (right) of the Kuwait carcass. Credit: *Jordan Times*.

Two photographs were published of the find, which have been reproduced here in the best quality possible (Fig. 1). They both show very strange objects. The photo of the entire skeleton laid out on what appears to be a black garbage bag is not very telling. The photo of the head is also strange, and does resemble an "alien" or humanoid head. But to the trained observer the skull photo actually gives away the creature's identity: I am certain that the creature is really a species of ray, the flat-bodied "cousin" of the sharks [1]. First of all, the remains appear cartilaginous. The photo of the entire body, especially, bears a resemblance to the decomposed carcasses of basking sharks often thought to be sea serpents. The head of the Kuwait carcass, however, is clearly not that of a basking shark, or any shark for that matter. It does, on the other hand, greatly resemble that of a ray. The most telling feature is the somewhat human-like jaws: the shape and flat teeth are characteristic of a ray. The other strange structures on the skull are also typical of the skull of many sharks and rays, including the nasal capsules above the mouth. Marine biologist Richard Martin has suggested to me that because of the anatomy of the jaws, nasal capsules, and the indented rostrum (creating two rounded "lobes"), the creature may have been a cow-nose ray (Fig. 2), possibly *Rhinoptera neglecta*. This species fits well with the size of Obaid's strange carcass and is common in the Arab Gulf.

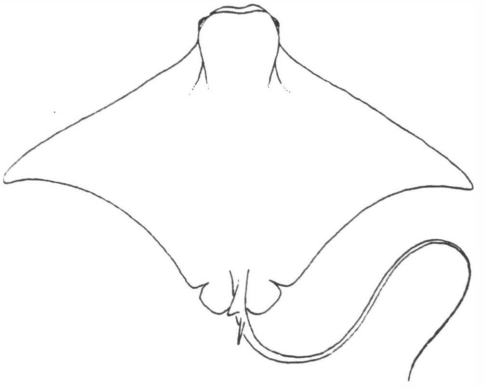

Fig. 2 - A cow-nose ray (*Rhinoptera* sp.). From Lavenberg and Grove (1997).

This case, which is the first time a ray has been identified as the culprit of an alleged sea serpent carcass, certainly brings up a question that remains unanswered in my mind: when is a real sea serpent going to wash up?

Source: Lavenbuerg, R. J. and Grove, J. S. 1997. *The Fishes of the Galápagos Islands*. (Stanford, California: Stanford University Press). // Martin, R. 1998. Pers. comm. January 7. // Vivekanand, P.V. 1997. "A 'creature' fished out of Arab Gulf remains in freezer with no interest from authorities." *http://www.accessme.com/JordanTimes/ Monday/news7.htm*[Jordan Times Newspaper Economy Page], accessed September 6, 1997.

Another "Sea Serpent" Carcass

On December 25, 1996, an odd-looking skeleton washed up on Villa Rico beach in Claveria, Masbate province, Philippines. It was 26 ft (8 m) long, was eel-like, and had a turtle-like head. It lacked ribs, and its head was said to have a blowhole-like opening. It also had fins. *The Philippine Star* published a photograph of the creature's limbs, skull, and vertebrae, which I have seen (see conclusions below).

[1] In a phylogenetic sense, rays are sharks. However, the distinction will be retained here for convenience.

The photo, and pieces of the creature's dried flesh, were shown to various researchers, but none were able to identify the animal. The best guess given was that it was a primitive "eel-like fish", though the idea of a "dolphin-like fish" was also proposed. Some scientists even suggested that the carcass should be carbon-dated, to find out if the animal was prehistoric. This is quite ridiculous--there was clearly flesh on the body--and makes me wonder whether these scientists (and the journalists covering the story) have been watching too many science fiction movies. Another, almost unavoidable, theory came from a Canadian missionary in Davao City named Ken Sandberg. He claimed that the remains were definitely those of a plesiosaur, which he unsurprisingly used to back up creationist views on evolution. Needless to say, his laughable arguments were flawed and filled with errors. Finally, one of the scientists concluded that the remains were probably that of a whale shark (*Rhincodon typus*); this is possible, but only if the skull of the Masbate creature had a laterally expanded cranium (a feature of the whale shark's skull [Fig. 3]). I have not seen a dorsal view of the creature's skull, but the published photograph does not seem to show a laterally-expanded skull.

Fig. 3 - Skull of the whale shark (*Rhincodon typus*), dorsal view. From Compagno (1977).

In any case, I think that the creature was a basking shark (*Cetorhinus maximus*). Basking sharks have turtle-like skulls, and when they rot, their bodies become eel-like (see Roesch, 1997), especially if the skeleton (basically, just the skull and vertebrae) is all that remains (which was the case with the Masbate carcass). All sharks lack ribs, as did the Masbate carcass. Even the "blowhole" of the Masbate carcass can be explained by the fact that basking sharks, as well as other sharks, have numerous openings called foramens in their skull (which accommodate nerves, blood vessels etc. in life). Some of these foramens are present on the dorsal surface of the skull. (A "blowhole" was also reported found on the "Block Ness monster", found off Block Island, Rhode Island, USA in 1995. It turned out to be a basking shark [See Roesch, 1996]). Finally, the photo of the Masbate carcass clearly shows the skeleton of a shark (the small, strangely-shaped skull and rounded, beaded vertebrae are practically diagnostic). Since most such carcasses turn out to be basking sharks, it is most likely that the Masbate carcass is just that, like so many other "sea serpent" carcasses in the past.

Sources: Anon. 1997. "Is Sea 'Monster' a Plesiosaur." *The Philippine Star*, March 1. // Compagno, L.J.V. 1977. "Phyletic relationships of living sharks and rays." *American Zoologist* 17: 303-322. // Dones, L. 1997. "Masbate's Loch Ness?" *The Philippine Star*, February 24. // Dones, L. 1997. "Biologist: 'Monster' a Shark." *The Philippine Star*, February 27. // Roesch, B. S. 1996. "Three Recent 'Sea Monster' Carcasses." *The Cryptozoology Review* 1 (2): 15-17. // Roesch, B. S. 1997. "A Review of Alleged Sea Serpent Carcasses Worldwide (Part One--1648-1880)." *The Cryptozoology Review* 2 (2): 6-27. // Shuker, K. 1997. "Alien Zoo." *Fortean Times* 105: 16-17.

The Beast of Bodmin is Caught on Film

It has long been my opinion (one shared with several others) that the question of whether big cats (specifically pumas [*Felis concolor*]) exist in small numbers on the moors of southwest England can decisively be answered "Yes." There is a huge volume of sightings, tracks, livestock killings and other evidence pointing in favour of this conclusion. After all, the premise is not that unusual--pumas and other big cats are well known creatures (thus, the case of UK big cats deals more with out of place animals than true cryptids)--and it is quite possible that a number of them were released into the wild in the 1970's, when the Dangerous Wild Animals Act was introduced. This Act placed new restrictions on keeping exotic pets, and some owners of big cats might have been sufficiently perturbed by possible legal trouble that they literally dumped their pets and ran.

Of course, a 26-day government inquiry was made into the matter in 1994 that found no evidence for the existence of big cats in southwest England. However, the inquiry seemed to some as more of a mediocre exercise to show the public that their government was actually concerned about the matter, rather than a serious investigation to find the possible big cats behind the mystery. I do admit, though, that I do not have first-hand knowledge of the proceedings of the investigation.

Regardless, some better evidence came to light late last year that prompted Liberal Democrat Paul Tyler, MP for Cornwall North, to urge Agriculture Minister Elliot Morley to reopen the 1994 government investigation into the Beast of Bodmin Moor (just one of several "beasts" from England, all named for the location of their occurrence). Morley complied, and a new inquiry into the big cat mystery was implemented in late December 1997. The new evidence that influenced the new search consists of bite marks on attacked animals, a new scientific study of droppings allegedly from a mystery cat (including a DNA analysis which hopefully will be completed soon), and photographs.

One of the photos is causing considerable attention. It was taken through binoculars by a man in the St. Austell area of Cornwall, and shows what is believed to be a adult female puma that may be pregnant. Behind it is a smaller cat curled up in a ball; its markings suggest it is a cub. The photographer--who wishes to remain anonymous and donate any profits made from the film to charity--gave the photo to Alan Cooper, the editor of the *Cornish Guardian*, who in turn published it. It should be noted that the photographer only gave Cooper the photos after a discussion about something totally different. In the discussion, Cooper asked only halfheartedly whether the photographer in question had ever seen the Beast of Bodmin or had any photos of it. Apparently, the photographer sees the puma on a regular basis. The same photographer also has a long-range panoramic photo which shows the same puma sitting on its haunches. This photo has yet to be released, as the photographer does not want the location revealed, for fear of crowds of photographers and less friendly "shooters."

As would be expected, several British big cat experts were consulted for their opinions on the photo. Overall, the consensus was unanimously positive, though most conceded that the location and the photographer's identity would be key in verifying the claim. It would also undoubtedly be a very good place for the new government inquiry to start. Hopefully, this inquiry will find evidence for the existence of big cats in southwest England sometime soon, just to satisfy those who can't be convinced until there is a fresh puma carcass at their feet. Of course, I think this is exactly what one needs to prove any cryptozoological riddle (unless it is possible to attain a live specimen), but I think that it is pretty obvious that there are probably a few pumas living on the moors of southwest England, and we should move on to more pressing issues. Whatever happens, we can be sure that all of this new evidence--some of the best yet, mind you--is just more of a reason, in my opinion, to say "Yes, there are big cats on the moor."

Sources: Anon. 1997a. "'Beast' -- The Proof." *Western Morning News* (Plymouth, England), November 28. // Anon. 1997b. "Amazing Puma Photo Stuns Big Cat Experts." *Western Morning News*, November 28. // Anon. 1997c. "Beast of Bodmin Moor Returns." *The Herald*, December 3. // Anon. 1997d. "Government action over big cats." *Western Morning News*, December 27.

"The International Conference on the Relict Hominoid"

A group of Russian scientists, along with American anthropologist Grover Krantz and Canadian sasquatch researcher John Green, gathered in Moscow last October (1997) for the first International Conference on the Relict Hominoid. The main goal of the conference was to discuss the state of unknown hominoid research today, and was intentionally set to coincide with the 30th anniversary of the filming of the famous Patterson film. This footage shows a hairy bipedal creature with large human-like breasts crossing a clearing at Bluff Creek, California, and was taken by Roger Patterson in 1967. Since then it has alternately been labelled as either a downright hoax or as prime evidence that a

large hominoid creature stalks the Pacific Northwest. The first day of the conference was dedicated to the film, and several speakers discussed its merits. Dmitri Donskoy, an 87 year-old professor of biomechanics at the Central Institute of Physical Culture, gave a speech about the footage, and stated that he is "fully convinced" that it is genuine.

Besides academic discussion, another aim of the conference was to increase public awareness about the sasquatch, yeti and other unknown hominoids. Dmitri Bayanov, the conference organizer and a Russian cryptozoologist, suggested that the Patterson film should be listed in the *Guinness Book of World Records* as the first ever bigfoot documentary. He also recommended that the sasquatch be given the scientific name "*Homo troglodytes pattersoni*". Finally, Bayanov expressed his ambitious view that a Porshnev World Institute of Hominology should be established, in honour of the late Boris Porshnev, a Russian scientist who was deeply involved in unknown hominoid research. The former Soviet Union was the first country whose government actively backed research into unknown hominoids, because so many sightings of hairy man-like beasts had been recorded there. However, following a fruitless expedition to the Pamir Mountains in 1958, research into unknown hominoids in Russia became less respected, and has fared badly since then. Hopefully, interest will be restored for a mystery in dire need of some closure.

Sources: McLaren, B. 1997. "Baffling bigfoot unites believers." *Moscow Times*, October 23. // van der Laan, N. 1997. "Scientists convinced that yeti does exist." *Daily Telegraph* (Sydney, Australia), October 23.

Notes of Various New and Rediscovered Species

-- According to reports from Brazil, Dutch primatologist Marc van Roosmalen has discovered a trove of new mammals in a small region close to the intersection of the Madeira and Amazon rivers. The area is only about 300 km (186 miles) from the major city of Manaus. The new discoveries include four new species of monkeys. One is a new, 1 kg (2.2 lb) member of the genus *Callicebus*, which is reddish-orange, with a grey-brown back (the natives call it the "zog-zog"). Another is a new species of the genus *Callithrix* that is greyish and has orange legs and a black tail (Roosmalen calls it the manicore marmoset). Roosmalen is also preparing to write a description of a new species of dwarf porcupine, which has soft-looking hair covering its spiny armament. As if these five new mammals were not enough, Roosmalen claims he has seen a new species of tapir and a new jaguar, but has been unable to collect any specimens. He plans to hunt for these two new species in the near future. Needless to say, the discovery of just one of these creatures would be a zoological marvel.
Sources: Bille, M. 1998. "New Finds From South America." *Exotic Zoology* 5 (1): 4.

-- In November, 1997, a team from the New Zealand Department of Conservation accidentally discovered a new species of snipe on the Campbell Islands (a small group about 240 km [150 miles] south of South Island). The team had set out to search for the rare flightless Campbell Island teal, but came across the new snipe after their dogs sniffed several individuals out of the brush. Snipes are wading birds with long legs and a long bill, belonging to the family Scolopacidae. The new species has yet to be named, but it will help efforts to obtain environmental protection for the Campbell Islands.
Source: Nixon, T. 1997. "Dog team helps discover new bird species." *Southland Times* (Invercargill, New Zealand), November 18.

-- The forest owlet (*Athene blewitti*), which has not been seen in the wild since 1884, has been rediscovered in India. The discovery was made by a team headed by Pamela C. Rasmussen, of the National Museum of Natural History (Washington, D.C.), Ben King, of the American Museum of Natural History (New York City), and David Abbott, an Ashburne, Virginia (USA) bird-watcher. Two of the owlets--possibly a couple--were discovered in a forested area near the town of Shahada in Maharashtra province after a 12 day search in November, 1997. The bird is about 20 cm

(8 inches) high, and has characteristic bands on its wings and underside. It also has big eyes and a big beak, and outsized feet and talons. Virtually nothing is known about the species, which has led to its designation as one of the three "mystery birds" of India. The other two "mystery birds" of India are the pink-headed duck, last seen in the 1930's, and the Himalayan Mountain quail, last seen about 100 years ago.
Sources: Anon. 1997a. "Scientists discover rare owl in India." *Globe and Mail* [Toronto], December 31. // Anon. 1997b. "Found: one really rare bird." *Mobile* [Alabama] *Register*, December 31.

-- In *TCR* Vol. 2 No. 1, I wrote that a British frog fanatic, Martin Pickersgill, was trekking from southern to northern Africa in search of frogs (actually, he "only" made it to central Africa), and had found four new species. He returned home last fall (1997) with more frog news, as well as stories of flesh-eating worms, malaria, crocodile-infested rivers and other jungle wonders. He said that he had found five more new species of frog, including a little one with red legs. When Pickersgill first saw the little amphibian, his first thought was of his girlfriend back at home (who, surprisingly, has no problems with Pickersgill's obsession with frogs). He promptly named it "Christine Watson" in her honour, and much to her delight. He later gave the frog the scientific name *Arthroleptis watsoni*. (Pickersgill named a frog after himself that he found in 1983 in South Africa. This is somewhat of a *faux pas* in scientific circles, but considering what he's put into his finds, I think he deserves it!) Pickersgill is already planning another trek--this time to South Africa in search of an unknown hominoid present in Bantu folklore called the *tokoloshe*. Apparently, it is only 3-4 ft (1 m) tall, but possesses the strength of 10 men. Pickersgill allegedly saw one of the creatures when he was 15 years old. To fund the *tokoloshe* expedition, Pickersgill is, strangely enough, offering to name the new frogs after persons willing to pay for the honour.
Source: Hugill, B. 1998. "Spawn free? No, it will cost you." *Observer*, March 3. // Walker, C. 1997. "Well, I just saw this and I thought of you." *Yorkshire Post*, November 1.

-- A new species of ant was identified recently on Green Island, Hong Kong. The new ant, of the genus *Acropyga*, is 4 mm long and has unusually small eyes. It was discovered two years ago, but was only recognized as a new species in late 1997 because of the complexity of ant identification. Dr. John Fellowes of Kadoorie Farm and Botanic Garden made the discovery, on a one-day survey of the island--part of a project to investigate environmental damage (incidentally, this puts the new ant--and the rest of its environment--in some danger) on the ecosystem of Green Island. Since beginning his work on the ants of Hong Kong five years ago, Dr. Fellowes has described 160 species of ant on Hong Kong, including seven new to science (others await classification). This is unsurprising considering that there are 9 000 species of ant worldwide, and it has been calculated that 9 000 more are waiting to be discovered.
Source: Holland, F. 1997. "Threat to New Ant Species." *South China Morning Post*, November 21.

Other Cryptozoology News

-- According to French ethnologist Dr. François-Xavier Pelletier, a mysterious giant monkey called the *curupira* may be lurking in certain regions of the Brazilian Amazon. Locals say the beast is about 1.2 m (4 ft) high, very hairy, and has a mane around its neck. Its chimpanzee-like head is said to have a flattened nose and a very large mouth, and it apparently has large feet with crooked toes. It has been allegedly seen eating bananas. Like known monkeys, it is reportedly arboreal, which makes tracking it from the ground difficult. Despite this, Pelletier has led expeditions in search of it in 1996, and again last summer (1997). Michel Raynal informs me that the 1997 trip turned out well, and Pelletier believes he now knows exactly where to find the *curupira*. Another expedition is planned for 1998, and we can only hope for the best possible outcome--proper evidence for the *curupira*'s existence.
Sources: Raynal, M. 1998. Pers. comm., January 13. // Shuker, K. 1997. "Alien Zoo." *Fortean Times* 102: 17.

-- As reported in last issue's "A Compendium of Cryptids" (*TCR* 2 [2]), a "globster"-like mass of flesh had washed ashore in New Zealand in late October, 1997. Now, another "globster"-like carcass has been found down under, but this time it showed up in January, 1998, at Four Mile Beach, north of Zeehan, on the west coast of Tasmania. The

blubbery, smelly and hairy mass of rotting flesh was over 5 m (16 ft) long and 2 m (6 ft) wide, and was estimated to weigh about 3-4 tonnes (3-4 tons). It also possessed "flipper-like arms." Several photos of the carcass were taken; two are reproduced below (Fig. 4). Early guesses by biologists as to the identity of the carcass leaned towards whale blubber, and this is exactly what it turned out to be. (The October New Zealand carcass was also confirmed to be whale blubber.) Barry Bruce and other CSIRO (Commonwealth Scientific and Industrial Research Organization) scientists made the conclusion following detailed examinations of the remains. Needless to say, I agree with this conclusion, as the description of the Four Mile Beach carcass fits well with one of a rotting piece of whale blubber. The "hair" on the carcass is caused by dried sinews in whale blubber, and the "flipper-like arms" are surely just a random artifact of decomposition. The photos taken of the creature also recall rotted whale blubber. CSIRO is planning to perform DNA testing on portions of the Four Mile Beach carcass to determine, if possible, which species of whale was responsible.

Sources: Anon. 1998a. "Tassie 'sea monster' to be DNA tested." *The Illawarra Mercury* (Wollongong, NSW, Australia), January 9. // Anon. 1998b. "Beach body a monster riddle." *Northern Echo* (Darlington, England), January 10. // Anon. 1998c. "Sea monster just whale blubber." *Daily Telegraph* (Australia), January 13.

Fig. 4 - Two photographs of the Four Mile Beach, Tasmania (1997) "globster"-like carcass.

-- An enormous new species of jellyfish was described from the eastern Pacific in August, 1997. The description of *Chrysaora achlyos* was based on colour photographs, video footage (taken by Howard Hall and featured in Nature's *Seasons of the Sea* television documentary), and four specimens collected in 1989. *C. achlyos* is very large, and its bell--up to 1 m (3 ft) in diameter--is dark purple to black in colour. Long, delicate tentacles trail up to 6 m (20 ft) behind the bell, surrounding thick oral arms. Besides its general anatomy, not much else is known about the species. Source: Martin, J., L. Gershwin, J. Burnett, D. Cargo, and D. Bloom. 1997. "*Chrysaora achlyos*, a remarkable new species of Scyphozoan from the eastern Pacific." *Biological Bulletin* 193: 8-13.

-- Recent evidence from New Zealand's South Island suggests that the South Island kokako (*Callaeas cinerea cinerea*) (Fig. 5), a bird species thought to be possibly extinct, might still be surviving in the little-explored forests of the Grey and Maruia valleys. The evidence includes kokako-like calls, unusual scratch markings on moss, the finding of a greyish-blue kokako-like feather, and two fleeting sightings of the bird. (A DNA analysis was performed on the feather, but the results were inconclusive because of contamination.) The last verified sighting of the South Island kokako occurred 30 years ago, and since then it has been considered extinct. A new expedition led by ornithologist Rhys Buckingham late last year (1997) failed to turn up further evidence for the kokako's continuing existence, though they did record several sounds that could be those of the kokako. Despite the lack of new evidence, Buckingham and his colleagues are still optimistic, and are planning another expedition to take place this May (1998), in the Oparara Valley area near Karamea.

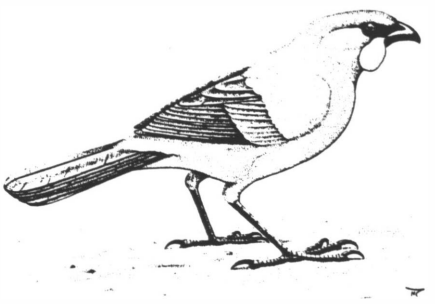

Fig. 5 - The kokako (*Callaeas cinerea*). The South Island subspecies (*Callaeas cinerea cinerea*) is very similar. From Halliday (1978).

Sources: Christian, P. 1997. "Clues Suggest Kokako Not Extinct." *The Christchurch* [New Zealand] *Press*, October 7. // Christian, P. 1997. "Cautious Search Continues for Clues to Kokako Whereabouts." *The Christchurch Press*, October 8. // Christian, P. 1997. "Kokako Hunt Fails." *The Christchurch Press*, December 16. // Halliday, T. 1978. *Vanishing Birds*. (London: Sidgwick & Jackson).

-- In early October, 1997, newspapers around the world carried surprising stories about the orang pendek, the alleged "little man" of Sumatra (Indonesia). The press claimed that a good photograph had been obtained of the mystery primate by an expedition in the region: "This was a picture of an ape walking almost erect, a creature with a long red mane, that could be man's nearest cousin, a new species of primate that could re-write the books on evolutionary theory. As the pictures filtered out to the world's zoologists and anthropologists, the debate began" (Ewing, 1997). This claim, of course, prompted considerable interest from various cryptozoologists, because such a photograph would certainly be phenomenal evidence for the existence of a well-known cryptid. Further investigations by Loren Coleman, however, turned up disappointing results. The expedition in question, led by Debbie Martyr, informed Coleman that while they had obtained new footprint evidence, no clear photos had been taken (the newspaper articles also mentioned two fuzzy photographs, allegedly showing the orang pendek, but these turned out to be fakes after months of investigation). In fact, no actual sightings of the orang pendek have been made in over a year and a half. How the press came to the conclusion that the world finally had decent evidence for the orang pendek's existence is a mystery in itself.

Sources: Coleman, L. 1997. Post on the Internet Virtual Bigfoot Conference, October 31. // Ewing, T. 1997. "Science goes ape over a snapshot that may change the way we see evolution." *Age* [Melbourne, Australia], October 18. // Hellen, N. and Leake, J. 1997. "The orange ape that walks like a man." *The Sunday Times* [London], October 12.

-- An expedition has been planned to search for an alleged monster in Seljord Lake, Norway. This August (1998), an

international group of researchers, led by Swedish freelance journalist Jan-Ove Sundberg, will search the lake for 17 days for a creature that they think might be a large new species of eel. Sundberg participated in a previous unsuccessful expedition to the same lake in 1977. He believes that more advanced equipment may increase the chances of turning up evidence of the creature this time around.
Source: Anon. 1998. "International team to search Norwegian lake for 'sea serpent'." *Agence France-Presse*, February 25.

-- Dozens of people in Mobile and Bladwin counties (Alabama, USA) have reported seeing a cat-like creature that some think may be a jaguarundi (*Felis yagouaroundi*), a lanky cat with short legs, a long tail and a small head (Fig.6). The species, which is not much bigger than a domestic cat and is either all black, dark grey or brown in colour, is native to Central and South America (there are some confirmed occurrences in Texas [Shuker, 1989]). The majority of alleged sightings from Alabama have originated in south Mobile county. One eyewitness, Joe Erdman (a life-long cat researcher) saw what he thinks were jaguarundi's near Fowl River, and heard their cries near Dog River. He said the cats he saw were tannish, about 35 pounds (16 kg), with long tails and short legs. However, no hard evidence has turned up as of yet. Photographs taken near Stockton in north Baldwin county are more suggestive of a black house cat than a jaguarundi, and some of the sightings are certainly mistaken identities of common animals like raccoons. On a related note, a video was shot near Selma about five years ago by Mike Ward of Mike Ward's Sporting Goods in Mobile that appears to show a large black cat in a clearing. However, it had long legs and a head and ears too large to be those of a jaguarundi, and was larger in size than a normal jaguarundi. This led some to suspect it may have been a black jaguar or leopard, in which case the creature would have to be a pet or zoo escape (jaguars are restricted to South America, and leopards to Africa). There are of course many sightings of mysterious black big cats in North America, as discussed by Shuker (1989), so Ward's sighting may be an example of these mystery cats, if they exist. As for the jaguarundi, only time will tell if a few out-of-place individuals are making Alabama their home.

Fig. 6 - The jaguarundi (*Felis yagouaroundi*). From Nowak and Paradiso (1983).

Sources: Nowak R.W. and Paradiso, J.L. (eds.). 1983. *Walker's Mammals of the World*, 4th Edition, Vol. 1 and 2. (Baltimore: Johns Hopkins University Press). // Rabb, W. 1997. "There's something out there." *Mobile Register*, December 1. // Shuker, K. P.N. 1989. *Mystery Cats of the World*. (London: Robert Hale).

-- Last summer (1997), the *Shinkai* 6500, the world's deepest diving manned submersible, was cruising 6400 m (21 000 ft) down in the Japan Trench when James Hunt, a marine biologist who was on board, saw a group of about a dozen strange worms swimming by. A photograph (published in *Discover*)was taken of one of them, and it was determined that it represents a new species of polychaete worm (no scientific name has been given to it as of yet). The creature is transparent (all of its internal organs are visible), 15 cm (6 inches) long, 1.9 cm (3/4 inches) thick and undulates through the water by moving at least 18 paddle-like "legs" (presumedly bristle-like setae, common in polychaetes) along the side of its body. It is unknown what it feeds on, but I would hazard the guess that, like many midwater invertebrates, it is a passive filter-feeder. Hunt said that an attempt to catch one of the new worms will take place next year, so that scientists will be able to study it in the less hostile environment of the laboratory.
Source: Anon. 1998. "21,000 Feet Under the Sea." *Discover* 19 (2): 16.

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Cryptozoology of the Moa: A Review (Part One)

By Darren Naish

The moa (Dinornithiformes) were a group of large-bodied flightless ratite birds endemic to New Zealand that would have resembled emus or rheas when alive. They were not closely related to kiwis [1, 2], but like them grew a loose, shaggy plumage. Unlike kiwis, moa were predominantly herbivorous with elongate necks and legs. Uniquely, moa lacked all trace of a wing, including even a glenoid on the pectoral girdle. Moa are presently grouped into two clades: the diverse, mostly low-browsing emeids (8 species) and the giant, high-browsing dinornithids (3 species) [3, 4, 5]. The smallest emeids were roughly turkey-sized at 20 kg (44 lb) and 1.3 m (4.3 ft) height. Both the largest emeids and the largest dinornithids attained a weight of 240 kg (530 lb). The very tallest moa, *Dinornis giganteus* (continued usage of the specific name *maximus* for this moa [e.g. [6]] is incorrect [7]) had an erect height of 3 m (10 ft). The word "moa" is Polynesian for "chicken" or "domestic fowl" [8], and is plural (thus the word "moas" is etymologically incorrect [9, 10]). Silverberg's assertion that moa actually means "stone" or "raised plot of land" and that the birds were truly called "tarepo" [11], appears to be erroneous. Some excellent texts that review moa history, taxonomy, ecology, behaviour and extinction include Archey [12], Oliver [13], Fedducia [14], Trotter and McCulloch [15], Anderson [16], McCulloch [17], and Cooper *et al.* [3]. Volume 12 (1989) of the *New Zealand Journal of Ecology* was devoted to moa biology.

As is discussed below, textbook zoology states the extinction of moa during the European Middle Ages as fact. Persistent eyewitness reports of large new Zealand birds believed to be moa cast some doubt on this conviction and consequently moa are of extreme interest to the cryptozoologist. Heuvelmans [18] reviewed the cryptozoology of the moa but since his work was published many developments have been made. This article is an attempt to provide an up-to-date overview of all aspects of moa cryptozoology.

Traditional Views on Moa Extinction

It has never been disputed that the Maori hunted, killed and ate moa. Abundant evidence in the form of midden sites and butchered moa is recorded: remains of all moa species, excepting the crested moa (*Pachyornis australis*), have been recovered from Maori midden sites [19].

Both the number of known midden sites and remains of butchered moa are vast. For example, a moa butchery site at Waitaki Mouth, South Island, covers 60 ha (148 acres) in area [20]. Augustus Hamilton wrote in 1904 of the finding of between 50 and 60 discarded moa necks in midden piles [21] and Trotter and McCulloch recount instances of literally thousands of butchered moa bones being reported [22]. It is worthy of note that "[s]ubsequent investigators have not been able to repeat the discoveries of such large quantities of moa remains at hunter sites, thus modern writers have not fully appreciated the extent of moa-hunting activity" [23]. In numerous cases only select cuts, such as thigh muscles, were removed from moa prey [24]. Anyone doubting the massive unmanaged overexploitation of

Naish, Darren. 1998. "Cryptozoology of the Moa: A Review (Part One)." *The Cryptozoology Review* 2 (3): 15-24.

moa by the Maori should be made aware of the Hawksburn case study -- at this locality, almost 70% of the 430 recorded moa carcasses were represented by trimmed leg joints, rather than whole carcasses (25). This shows that between 33 and 50% of the moa meat that could have been recovered was left to rot at the butchery site. Clearly, all evidence demonstrates that moa hunting by the Maori was intensive, severe and without management.

Moa populations were probably not particularly high (26). The birds were furthermore vulnerable to hunting pressures as they were almost certainly slow K-strategy breeders whose clutches consisted of only one, or occasionally two, eggs.

These facts alone more than imply that the disappearance of moa and the contemporaneous invasion of Polynesian people were not coincidental. Despite this, it has long been doubted that the Maori were directly responsible for environmental degradation and large scale extinction (including that of moa) on New Zealand: a holdover of the "Noble Savage" concept. Those adhering to this naïve view have attempted to explain moa extinction by way of climatic change or racial senescence (27): theories contradicted by the evidence and without a foundation in fact. Habitat destruction by the Maori, avian diseases introduced by domestic fowl (28), and perhaps the predatory actions of introduced dogs (29) and rats (30) were quite possibly contributory to the moa downfall. The Polynesian rat or Kiore (*Rattus exulans*) has recently been shown to be a predator of juvenile birds after all (31). Kiore are now known to have been present on New Zealand since 2000 years before present (32, 33)--any effects this species may have on New Zealand's avifauna therefore had plenty of time to develop.

The archaeological record shows that no moa were killed more recently than 1600 A.D. (7, 15, 34) and any evidence that they survived more recently than this is, at present, equivocal or controversial. Possible occurrences of younger moa remains will be discussed in a future part of this review. Trotter and McCulloch (15) reviewed radiocarbon dates obtained from moa bone collagen, and showed that there was a trend with the youngest moa sites occurring farthest south. They noted that this could either indicate a "moving peak in moa-hunting activity" (p. 720) or hunting out of moa populations during a Polynesian southward migration. Anderson (20) argued for "serial overkill" of moa, with accessible coastal populations being exploited earliest. Inland settlements then hunted out moa in the less accessible areas. New Zealand's avifauna was thus subject to an overkill scenario as were Pleistocene-Holocene animal communities elsewhere (35, 36, 37). 32% of New Zealand's known avifauna was extinct prior to European colonization (38).

Two variables--moa body size and moa distribution--appear to correlate with extinction time. Larger species may have been preyed on first, presumably because they were most conspicuous and provided a greater standing crop. Anderson writes: "Insofar as the chronology of moa hunting can be regarded as precise, it would seem that *Megalapteryx didinus* survived longest, although only in remote western districts; at the other extreme, *Dinornis giganteus* may have been regionally extinct as early as 600 years before present" (26). It is also logical to assume that those moa of restricted distribution at the time of Maori invasion would have been most vulnerable to extinction, whereas widely distributed species would have been capable of surviving longer.

It must be emphasized that in view of the archaeological evidence for moa mass death and extinction, survival of any moa species beyond the moa-hunting period of Maori culture appears inherently unlikely. In my opinion, the most optimistic view that is reasonable is that of Cassels (39), who writes: "[The absence of moa] from late-period archaeological sites cannot prove that the moas [*sic*] were extinct; nevertheless, it is at least strongly suggestive" (p. 749). If a hypothetical moa population were to survive into more recent times, they would do so in the south of South Island, and would be one of the small, widely distributed species. The upland moa (*M. didinus*) matches these

criteria best of all.

Conflicting Views on Moa Life Appearance

"Traditional" life restorations of extinct animals are frequently incorrect because key evidence has been misinterpreted, or is unrecorded or unknown. What moa looked like as live animals is important for cryptozoological investigation as it allows a test of correlation between putative eyewitness data and what is truly known from subfossil and archaeological data.

Sufficient data is recorded from moa remains for them to be rightfully described as the best know of all extinct birds: preserved feathers, skin and other soft tissues, scutes, beaks, stomach contents, eggs and Maori art combined allow us to restore them with a fidelity of almost 100%.

Moa feathers were loose, elongate and often double-shafted. Most are brown or reddish, though one pure white feather has been described (40), and feathers with black or white tips, or pale central stripes, are also known. Like kiwis, live moa would have borne a shaggy plumage resembling long, soft fur. While much is known of moa plumage and integument, the extent of feathering on the body is still mildly contentious. As Heuvelmans pointed out (41), moa are traditionally restored as being like ostriches in having thinly feathered, elongate necks that are obviously demarcated from the bulky body, and thinly feathered legs that, again like those of ostriches, are not contoured into the body by thick plumage. Such 'traditional" views of moa are depicted in Fig. 1.

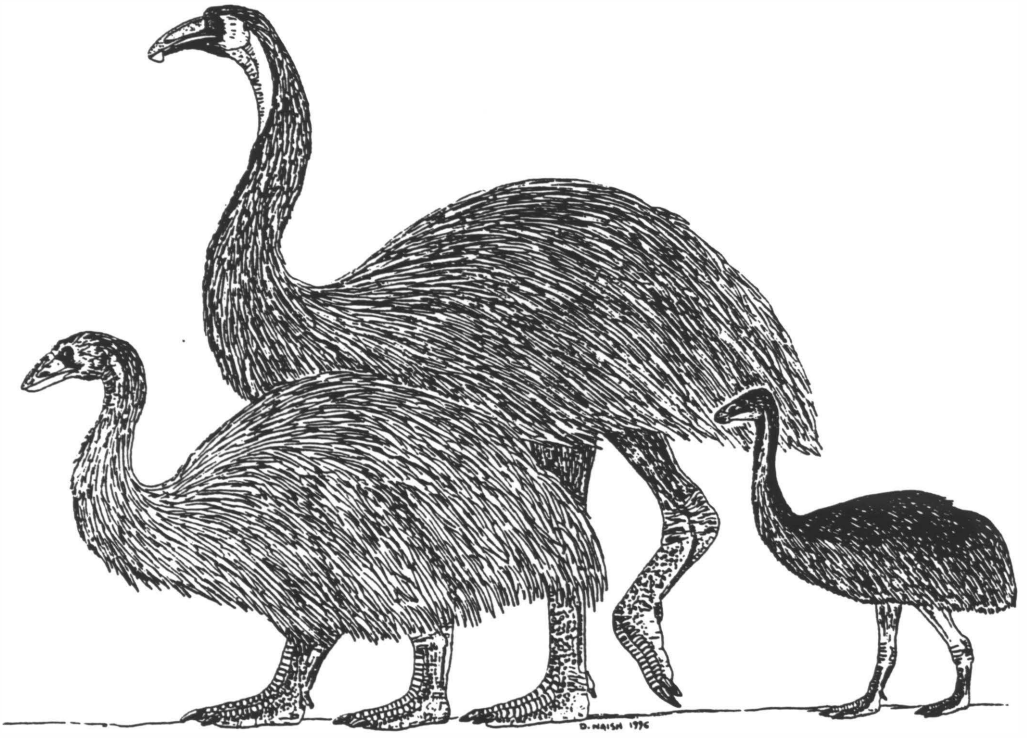

Fig. 1 - Diversity among the Dinornithiformes. From left to right: heavy-footed moa (*Pachyornis elephantopus*), giant moa (*Dinornis giganteus*), and little bush moa (*Anomalopteryx didiformis*). All three birds are restored in "traditional" guise: versions supported by Maori art and at least some archaeological evidence. Illustration by the author.

The "alternative" view is that moa looked rather different from this, with brilliantly coloured plumage, booted legs, a well-feathered, thick neck and a tall crest [41] ("booted" is the term used in descriptions of the thickly feathered legs of raptors such as the *Aquila* eagles). These ideas have resulted in some very interesting life restorations [41, 42], on which Fig. 2 is based. Do such restorations agree with other lines of evidence? The answer from Maori rock art must be no: a rock painting preserved at Craigmore, South Canterbury, South Island, depicts moa in the "traditional" style [43]. That is, the birds have elongate necks and legs fairly well demarcated from the bulky body. No crests are depicted. The birds appear to be dinornithids (Fig. 3). Apparently the only known Maori depiction of any moa, this painting illustrates the central of the three birds with an unusual multi-pronged horizontal structure where its feet should be. It has been suggested that this could be a stylized kicking foot [44], but I do not feel that this is likely.

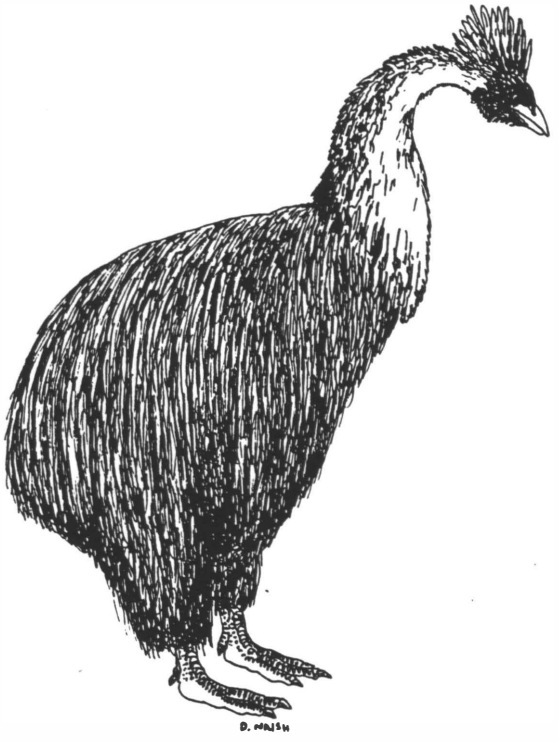

Fig. 2 - *Dinornis* in "alternative" guise, following arguments from Heuvelmans [18]. Illustration by the author.

The fact that "alternative" moa were crested is interesting, as pitted areas on the cranium of *Pachyornis australis* and other species suggest that large feathers growing here may have formed a crest. Consequently, Gill refers to *P. australis* as the "crested moa" [45].

What is known from mummified moa--the best known example being a specimen of the little bush moa (*Anomalopteryx didiformis*) found in 1980 at Echo Valley, Southland [46, 47]--does not confirm the "alternative" view as the legs do not display signs of ever being well feathered. It could be argued though that the specimens are not preserved well enough for this to be evident. Small feathers are definitely present on the legs of the upland moa (*M. didinus*) and show that it was feathered down to its toes (arguably an adaptation for the cold, sometimes snowy habitats it frequented [3, 48]), but its legs were only thinly feathered and there is no evidence that they were booted as in "alternative" restorations. It may also be considered unlikely that moa legs were booted when many of these bush-dwelling birds would have needed naked or thickly-feathered legs to move easily through their environment. Heuvelmans argued that, because large moas were not runners, booted legs would not be a problem [41]. It seems

however that dinornithids especially *were* capable of running and may in fact be regarded as cursorial [49]. Alexander has shown that even the most robust emeids were quite capable of running [50], in which case their extraordinarily robust femora and tarsometatarsi seem to be possessed of extremely high margins of safety, much as are the leg bones of white rhinos (*Ceratotherium simum*) [51]. The realization that the gigantic eagle *Harpagornis* was an active predator of moa, pursuing and killing even the largest dinornithids [52, 53], implies that running habits would have been at least partially advantageous for moa species, especially as they had no other conceivable mode of defence against an airborne predator.

Fig. 3 - Three large moa, probably *Dinornis* sp., depicted in Maori cave art preserved at Craigmore, South Island. After Swinton [43]. Illustration by the author.

Finally, the total absence of the brightly coloured feathers required for verification of "alternative" moa restorations is suspicious. Heuvelmans suggested that all the dull coloured moa feathers thus far reported may have belonged to females, and that only males were brightly coloured [41]. It seems more reasonable to accept that the numerous known moa feathers represent those of both sexes, rather than just females.

Acceptance of "alternative" restorations therefore *appear* to hinge on whether or not accepts Maori testimony. This may seem a strange point to debate, given that the Maori were the only people we know of who definitely saw and had close contact with moa, but it is by no means certain that the Maori tales of the past few centuries accurately reflect the observations of their moa-hunting ancestors. Some ornithologists have questioned the accuracy of Maori testimony [54], given, for instance, that the Maori report certain moa species to have been piscivorous [55]. Best characterized Maori moa traditions as "a remarkable quantity of puerile data." [56] Furthermore, Anderson writes:

> Virtually all alleged Maori traditions about moas were collected more than 80 years ago and it is now very difficult to evaluate them. With few exceptions they were published by Europeans and therefore at second-hand or greater from their original sources. In addition, most informants, as well as the precise time and place of transmission, are anonymous. ... There is [also] no shortage of potential information from foreign sources when Maoris were relentlessly quizzed about moas in the 19th and early 20th centuries. If any had in fact retained genuine traditional lore about specific aspects of moa biology, it soon became submerged in the muddied pond of tainted assertion and

cannot now be retrieved. (57)

However, it may in fact be that the Maori never really did describe "alternative" moa. Heuvelmans does not state from which source he took "alternative" moa descriptions from, but he does both cite, and refer to, the writings of William Colenso.

Colenso, so far as I can find, is the only author who described "alternative" moa. However, he only did so in a cursory manner, writing "I heard from he natives of a certain monstrous animal ... that in general appearance ... somewhat resembled an immense domestic cock, with the difference, however, of its having a 'face like a man'" (58). Colenso's reference to what we have been referring to as "alternative" moa is therefore extremely brief, and his information on moa life appearance appears to have been so sketchy and inaccurate (he also stated that the natives were unsure as to whether moa were a type of "person" or not--though the word person may not necessarily refer to human beings in this instance) as to be somewhat unreliable. If Colenso's writings really are the source from which speculations on "alternative" moa began, I feel we may disregard the possibility that moa ever were truly described in the "alternative" way.

In conclusion, "alternative" moa are not portrayed in Maori cave art, and there is no evidence from moa palaeontology or archaeology that "alternative" moa restorations are accurate: indeed, a fair amount of information suggests the opposite. Colenso, a printer and amateur naturalist who was travelling with the Protestant missionary William Williams (59), may be the source for the idea that the Maori believed moa to have the "alternative" appearance. If so, Colenso's allusion to moa life appearance was so brief and inaccurate that it seems extremely unlikely that the Maori ever believed this in the first place.

Nevertheless, it is of extreme interest to cryptozoologists that some purported moa sightings refer to thickly plumaged, unusually coloured birds, rather than ostrich-like uniform brown ones. This area is discussed below in the context of supposed moa sightings. Here it is worth pointing out that descriptions of supposed modern-day moa do not constitute a robust body of evidence that should outweigh other lines of data, especially so given their often doubtful provenance. In other words, if eyewitness descriptions are in disagreement with palaeontological/archaeological evidence, it is the eyewitness data which should be regarded as suspect, not vice versa. This is an important consideration because numerous descriptive accounts of supposed cryptids clearly reflect the icons of popular picture-book culture more than they do zoological reality (e.g. swamp-bound sauropods; swan-necked, beach-basking plesiosaurs; super-tall, erect-necked moa): a contention utterly discordant to that employed in conventional Heuvelmans-style cryptozoology, where eyewitness data is unsatisfactorily superimposed onto all manner of fossil taxa (60).

While the issue of plumage extent in live moa has been discussed in a cryptozoological context, a second area--moa posture--has not (Anderson (61) notes that moa sightings are generally of ostrich-like birds, and he illustrates a horizontal-bodied moa to show that he regards the former, and therefore the sightings themselves, to be fanciful, but he does not discuss the matter further.) Gill (62) observed that, while all early skeletal mounts of moa made them out to be extremely tall, erect-necked ostrich-like birds, this may not have been the case. The other possibility--that moa were relatively low and horizontal in posture like emus and cassowaries ("loop-necked" according to Halliday (63))--is equally likely or, according to some (3), more likely. More contemporary skeletal mounts, such as those on display at the Waitomo Caves Museum and the Museum of New Zealand, depict moa in this way. I imagine that moa walked in a cassowary-like horizontal posture, but reared up to create an erect-necked ostrich-like profile when high-browsing. This is only an opinion and is not based on data, but it is my suspicion that the constantly erect-necked ostrich profile is suited for a savanna lifestyle where big cats represent a threat (64). It would not be ordinarily beneficial to moa.

As will be made clear in a subsequent instalment of this review, virtually all alleged moa sightings describe the birds as having been extremely tall and erect-necked--in agreement, that is, with all early skeletal mounts and restorations of moa. As moa posture is here regarded to have been predominantly horizontal, eyewitness accounts are at odds with zoological reality. In combination with the evidence for moa mass death and extinction, this strongly implies that moa sightings are not reflective of encounters with genuine zoological entities.

An intriguing possible exception to these accounts of super-tall, erect-necked moa is, strangely, the 1993 account of Freaney, Waby and Rafferty. Though they described the bird as being 2 m tall, they claimed that its body was about 1 m off the ground, while its neck extended 1 m above this [65, 66]. Fig. 4 is an attempt to depict such a bird diagrammatically, and the result more resembles a proper moa (Fig. 1) than do old, super-tall restorations. Their sighting also partially conforms to an "alternative" moa more than a traditional one, as they described the bird as being feathered almost down to the knee joint [65, 66] (they were evidently referring to the ankle joint of course, which in birds appears to be a backward pointing knee). Their highly dubious photo (to be discussed in the next part of this review) also conforms with "alternative" moa in possessing an extremely thick, well-feathered neck, but in interview Freaney has described the neck as long and thin [65]--a notable inconsistency.

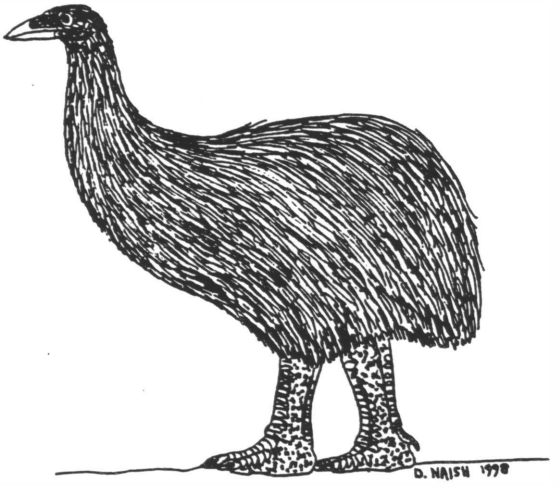

Fig. 4 - Restoration of the bird allegedly encountered by Freaney, Waby and Rafferty in 1993, based on their sighting reports and photograph. Though it has been widely assumed that this bird was a *Dinornis*-like animal, in this restoration it does not especially resemble birds of that genus. Illustration by the author.

Freaney *et al.*'s description is thus something of an anomaly in the history of moa sightings, in not being reported as a super-tall, erect-necked moa. It is joined by a few others, including Alice McKenzie's sightings, a 1963 account from northwest Nelson where the bird was "about a yard long and a yard high", and a 1928 encounter with three birds made by Danish prospector Jules Berg at Preservation Inlet, Fiordland (these sightings will be discussed further in the next part of this review).

It appears that these sightings of smaller, longer-bodied moa represent a different phenomenon from the sightings of super-tall ostrich-like birds. If they represent reality, they are the most realistic reported moa sightings in all of history because they appear to describe small-bodied emeids like *Megalapteryx* (though there are problems with this idea that will be discussed in the next part of this review). As, however, they are the most recently reported of all moa sightings, it is ironic that they are also the most unlikely.

Did moa have spurs?

A seemingly trivial aspect of moa literature which, in my opinion, requires elucidation, concerns the purported existence of tarsal spurs in moa species.

A confusing and oft-mentioned area of moa cryptozoology concerns the identity of a bird known as the roaroa (see next part of review). Suggestions that the roaroa may have been a large kiwi are perhaps not supported by Rochfort's observation (reported by von Hochstetter (67)) that it had spurs on its feet, and as will be discussed in the next part of this review, the idea that this bird may have been a late-surviving emeid moa has been published on several occasions. Writing in his 1991 book *Extraordinary Animals Worldwide*, Shuker states: "[Kiwis] ... [do] not have spurs--but the small moas [sic] did" (68), thereby advocating an emeid identity for the roaroa.

In ornithological parlance the word "spur" has a strict and specific meaning. It refers exclusively to an excrescence which, on the leg (some birds bear spurs on their lower wing bones), grows caudally (toward the tail) from the tarsometatarsus. Kiwis, indeed, do not have tarsal spurs, but for a long time I was intrigued by Shuker's assertion that small moas did because, as far as I knew, it was evident that they did not. Photos of moa feet kindly supplied by Dr. James Farlow do not reveal any spurs, nor is there any mention of them in published descriptions of well-preserved moa feet.

I learnt in conversation with Dr. Karl Shuker that his reference to moa spurs, however, refers in fact to the moa hallux (69). Mention of moa spurs was therefore an etymological error and should not be repeated because it causes confusion.

Rochfort's reference to spurs on the feet of his turkey-sized roaroa (67) may therefore be equally applied to either a kiwi or a moa, as both types of bird have feet equipped with a moderately large, claw-bearing hallux. Kiwis in fact use their claws as weapons, and there are reports of kiwis killing one another in this way (70). People fortunate enough to hold live kiwis in their hands are advised to keep the feet firmly grasped and away from he body because of the potential danger (54). Because moa may also have used their hallux claws in combat, we are still none the wiser as to the identity of Rochfort's kicking roaroa.

A nocturnal moa sighting by Rees in 1863 apparently resulted in physical evidence in the form of trackways. These were described as being large but otherwise typically avian, and with the mark of "a spur" (71). Regardless of whether or not any parts of this account really occurred, the reference to a "spur" is again technically incorrect, as any structure leaving a mark behind a bird's foot pad would be a hallux.

Notes

(1) Cooper, A., Mourer-Chauvire, C., Chambers, G.K., Von Haeseler, A., Wilson, A.C. and Paabo, S. 1992. "Independent origins of New Zealand moas and kiwis." *Proceedings of the National Academy of Sciences, USA* 89: 8741-8744.

(2) Paabo, S. 1993. "Ancient DNA." *Scientific American* 269 (5): 60-66.

(3) Cooper, A., Atkinson, I.A.E., Lee, W.G. and Worthy, T.H. 1993. "Evolution of the moa and their effect on the New Zealand flora." *Trends in Ecology and Evolution* 8: 433-437.

(4) Cracraft, J. 1976. "The species of moas (Aves: Dinornithiformes)." *Smithsonian Contributions to Paleobiology* 27: 189-205.

(5) Millener, P.R. 1982. "And then there were twelve: the taxonomic status of *Anomalopteryx oweni* (Aves: Dinornithiformes)." *Notornis* 29: 165-170.

(6) Currie, P.J. 1991. *The Flying Dinosaurs.* (Red Deer, Alberta: Red Deer College Press).

(7) Gill, B. 1991. *New Zealand's Extinct Birds.* (Auckland: Random Century).

(8) Feduccia, A. 1991. "Extinct New Zealanders." *Science* 252: 1005-1006.

(9) Cooper, A., *et al.* 1993. *op. cit.*, p. 433.

(10) Naish, D.W. 1997. "The diversity and history of New Zealand's giant flightless birds." *Mainly About Animals* 32: 6-10.

(11) Silverberg, R. 1967. *The Dodo, the Auk and the Oryx.* (Harmondsworth, England: Puffin Books).

(12) Archey, G. 1941. "The Moa: A Study of the Dinornithiformes." *Bulletin of the Auckland Institute and Museum* 1: 1-145.

(13) Oliver, W.R.B. 1949. "The moas of New Zealand and Australia." *Dominion Museum Bulletin* 15: 1-206.

(14) Feduccia, A. 1989. *The Age of Birds.* (Cambridge, Mass.: Harvard University Press).

(15) Trotter, M.M. and McCulloch, B. 1984. "Moas, men, and middens." In Martin, P.S. and Klein, R. (eds.) *Quaternary Extinctions: A Prehistoric Revolution.* (Tucson: University of Arizona Press), pp. 708-727.

(16) Anderson, A. 1989. *Prodigious Birds: Moas and Moa-hunting in Prehistoric New Zealand.* (Cambridge, Mass.: Harvard University Press).

(17) McCulloch, B. 1992. *Moas: Lost Giants of New Zealand.* (Auckland: Harper-Collins)

(18) Heuvelmans, B. 1958. *On the Track of Unknown Animals.* (New York: Hill and Wang).

(19) Gill, B. 1991. *op. cit.*, p. 35.

(20) Anderson, A. 1984. "The extinction of moa in southern New Zealand." In Martin, P.S. and Klein, R. (eds.) *Quaternary Extinctions: A Prehistoric Revolution.* (Tucson: University of Arizona Press), pp. 728-740.

(21) Hamilton, A. 1904. "Notes on the southern Maori." In Bathgate, A. (ed.) In *Dunedin and its Neighbourhood.* (Dunedin, New Zealand: Otago Daily Times and Witness).

(22) Trotter, M.M. and McCulloch, B. 1984. *op. cit.*, pp. 715-717.

(23) *Ibid.*, p. 716.

(24) McCulloch, B. 1992. *op. cit.*, p. 58.

(25) Anderson, A. 1984. op. cit., p. 737.

(26) *Ibid.*, p. 731.

(27) Green, R.C. 1975. "Adaptation and change in Maori culture." *Monographiae Biologicae* 27: 591-641.

(28) Williams, G.R. 1973. "Birds." In Williams, G.R. (ed.) *The Natural History of New Zealand.* (Wellington: Reed), pp. 304-333.

(29) Anderson, A. 1981. "Pre-European hunting dogs in the South Island, New Zealand." *New Zealand Journal of Archaeology* 3: 15-20.

(30) Fleming, C.A. 1969. "Rats and moa extinction." *Notornis* 16: 210-211.

(31) Anon. 1993. "Polynesian rat eats kakapo chick." *Oryx* 27: 212.

(32) Holdaway, R.N. 1996. "Arrival of rats in New Zealand." *Nature* 384: 225-226.

(33) Naish, D.W. 1997. "News from New Zealand." *Animals and Men* 12: 11-12.

(34) Atkinson, I.A.E. and Cameron, E.K. 1993. "Human influence on the terrestrial biota and biotic communities of New Zealand." *Trends in Ecology and Evolution* 8: 445-451.

(35) Martin, P.S. 1973. "The discovery of America." *Science* 179: 969-974.

(36) Martin, P.S. 1974. "Paleolithic players on the American stage: man's impact on the late Pleistocene megafauna." In Ives, J.D. and Barry, R.G. (eds.) *Arctic and Alpine Regions.* (London: Methuen & Co.), pp. 669-700.

(37) Olson, S.L. and James, H.F. 1991. "Descriptions of 32 new species of Hawaiian birds. Part I. Non-passerines." *Ornithological Monographs* 45: 1-88.

(38) Atkinson, I.A.E. and Cameron, E.K. 1993. *op. cit.*, p. 447.

(39) Cassels, R. 1984. "The role of prehistoric man in the faunal extinctions of New Zealand and other Pacific islands." In Martin, P.S. and Klein, R. (eds.) *Quaternary Extinctions: A Prehistoric Revolution.* (Tucson: University of Arizona Press), pp. 741-767.

(40) Gill, B. 1991. *op. cit.*, p. 32.

(41) Heuvelmans, B. 1958. *op. cit.*, p. 237.

(42) Blythe, R. 1977. *Fabulous Beasts.* (London: Macdonald Educational).

(43) Swinton, W.E. 1975. *Fossil Birds.* (London: British Museum of Natural History).

(44) Trotter, M.M. and McCulloch, B. 1984. *op. cit.*, p. 712.

(45) Gill, B. 1991. *op. cit.*, p. 37-38.

(46) Forrest, R.M. 1987. "A partially mummified skeleton of *Anomalopteryx didiformis* from Southland." *Journal of the Royal Society of New Zealand* 17: 399-408.

(47) *Pers. obs.* from photo supplied by Dr. James Farlow.

(48) McCulloch, B. 1992. *op. cit.*, p. 50.

(49) Cracraft, J. 1976. "The hindlimb elements of the moas (Aves, Dinornithidae): a multivariate assessment of size and shape." *Journal of Morphology* 150: 495-526.

(50) Alexander, R.M. 1983. "On the massive legs of a moa (Pachyornis elephantopus, Dinornithes)." *Journal of Zoology* 201: 363-376.

(51) Alexander, R.M. and Pond, C. 1992. "Locomotion and bone strength of the white rhinoceros, *Ceratotherium simum.*" *Journal of Zoology* 227: 63-69.

(52) Farlow, J. pers. comm., 1996.

(53) Naish, D.W. in press. *Fortean Times.*

(54) Orenstein, R. pers. comm., 1996.

(55) Spinar, K.V. 1972. *Life Before Man.* (London: Thames and Hudson).

(56) Best, E. 1942. "Forest Lore of the Maori." *Dominion Museum Bulletin* 14: 225.

(57) Anderson, A. 1989. *op. cit.*, pp. 88, 94.

(58) Colenso, W. 1846. "Account of some enormous fossil bones, of an unknown species of the Class Aves, lately discovered in New Zealand." *Tasmanian Journal of Natural Science* 2 (7): 81-107.

(59) Silverberg, R. 1967. *op. cit.*, pp. 117-118.

(60) Shuker, K.P.N. 1995. *In Search of Prehistoric Survivors.* (London: Blandford).

(61) Anderson, A. 1990. "The beast without: the moa as a colonial fronteir myth in New Zealand." In Willis, R.G. (ed.) *Signifying Animals: Human Meanings in the Natural World.* (London: Unwin Hyman), pp. 236-245.

(62) Gill, B. 1991. *op. cit.*, pp. 32-33.

(63) Halliday, T. 1978. *Vanishing Birds: Their Natural History and Conservation.* (London: Sidgwick and Jackson).

(64) Bertram, B.C.R. 1985. "Ostriches and their relatives--the ratites." In Perrins, C.M. and Middleton, A.L.A. (eds.) *The Encyclopaedia of Birds.* (Oxford: Equinox), pp. 18-21.

(65) Wilson, D. 1993. "Three claim sighting of moa." *The Press* (Christchurch, New Zealand), January 25.

(66) Anon. 1992. "New Zealand moa sighting reported by three witnesses." *The ISC Newsletter* 11 (4): 1-5.

(67) Hochstetter, F. Von. Quoted on pp. 284-285 of ref. 18.

(68) Shuker, K.P.N. 1991. *Extraordinary Animals Worldwide.* (London: Robert Hale).

(69) Shuker, K.P.N. pers. comm., 1997.

(70) McLennan, J.A. 1990. "The Great spotted kiwi." In Fuller, E. (ed.) *Kiwis.* (Shrewsbury, England: Swan Hill Press), pp. 73-85.

(71) Ranson, J. 1863. "The moa." *Zoologist* 21: 8560.

A Review of Alleged Sea Serpent Carcasses Worldwide (Part Two -- 1881-1896)

By Ben S. Roesch

This article is the second part of a continuing series examining all alleged sea serpent carcasses that have been reported in the literature. The first part appeared in the last issue of *The Cryptozoology Review* (2 [2]: 6-27), covering reports from 1648 to 1880. This second part continues where the first part left off, covering reports from 1881 to 1921, and is written in the same format.

A Fossil "Sea Serpent" (early December, 1881)

The December 14, 1881 issue of the *New York Times* featured a strange item about two "sea serpents" found in the Marl Pits near Marlboro, New Jersey. The article described reptilian beasts not unlike plesiosaurs or mosasaurs, and mentioned that they were "somewhat decomposed." This, along with the overall tone of the article, suggests that the "sea serpents" were found rotting on a beach, like all of the other alleged sea serpent carcasses this series has dealt with. However, a few major facts conflict with this idea. First, Marlboro, New Jersey, is about 15 km (9 miles) from the Atlantic Ocean. Second, the Marl Pits are composed, of course, of marl--a calcareous soil consisting of clay and lime. Lastly, many marl pits in New Jersey (including those in Monmouth county, where Marlboro is located) date from the Cretaceous; they have turned up fossils of numerous types of ancient marine reptiles, including mosasaurs. The discovery of mosasaur fossils could easily account for the "sea serpents" found in Marlboro.

1881 (early December) - Marlboro, New Jersey, USA - ? = Fossil remains (mosasaur?)

Source: Anon. 1881. "An Unnamed Sea Monster." *New York Times*, December 14. // Gallagher, William B. 1997. *When Dinosaurs Roamed New Jersey.* (New Brunswick, New Jersey: Rutgers University Press).

An Oarfish near Otago (March, 1883)

Presumedly, this oarfish (*Regalecus glesne*), washed up in March, 1883 at Moeraki (near Otago, New Zealand), was at first called a sea serpent. It was 12.5 ft (3.8 m) long, 15.25 inches (39 cm) deep and 3.5 inches (8.9 cm) thick.

1883 (March) - Moeraki, near Otago, South Island, New Zealand - ? = Oarfish

Source: Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents.* (New York: Hill and Wang), p. 85.

A Whale in Queensland? (March, 1883)

One of the stranger alleged sea serpent carcasses is one that washed ashore at an unspecified location in Queensland, Australia, in March 1883. Charles Fort (1931) summarized the find:

In the *New Zealand Times*, March 19, 1883, it is said that bones of an unknown monster, about

Roesch, Ben S. 1998. "A Review of Alleged Sea Serpent Carcasses Worldwide (Part Two--1881-1896)." *The Cryptozoology Review* 2 (2): 25-35.

> 40 feet [12 m] long, had been found upon the coast of Queensland, and had been taken to Rockhampton, Queensland.
>
> There are the remains of what must have been an enormous snout, 8 feet [2.4 m] long, in which the respiratory passages are yet tracable.
>
> These could not have been the remains of a beaked whale. In a sperm whale, 55 feet [17 m] long, the hip bones are detached and atrophied relics of former uses, each about one foot [30 cm] long. A hip bone of the Queensland monster is described as enormous.

What are we to make of this trunked sea serpent? Personally, I agree with Heuvelmans (1968), who included the case in his list of alleged sea serpent carcasses (but did not discuss it in the text) and gave its identity as "?Whale." Certainly, decomposed whales can take on very strange forms, and Bright (1989) notes that "humpback whales, which migrate along the outer edge of the Great Barrier Reef, sometimes strand in this area." Possibly then, the Queensland trunked monster was really a dead humpback, which had been decomposing at sea for some time before being tossed up on shore. The "trunk" may not have been a long nose (as in elephants), but instead a result of the whale's skin and blubber decomposing and peeling off. This could form rolls of rotting flesh that might be interpreted as a "trunk".

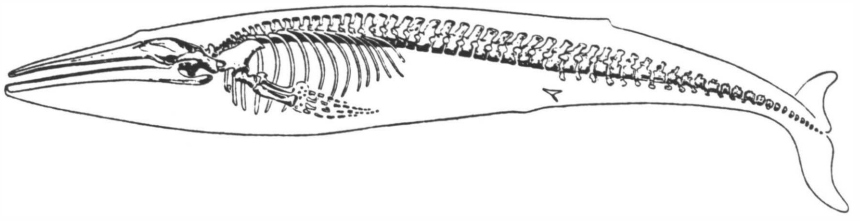

Fig. 1 - The skeleton of the blue whale (*Balaenoptera musculus*). From Slijper (1962).

As for the sea serpent's enormous "hip bone," it is hard to say what part of a whale might be responsible. It is possible that the observers were mistaking other bones (such as ribs or vertebrae) for a hip bone. It should also be noted that very few aquatic vertebrates have very large hip bones (the pelvic girdle). (Fig. 1 shows the skeleton of the blue whale (*Balaenoptera musculus*); the pelvis is a tiny vestigial structure "floating" separate form all other bones.)

Given the lack of conclusive details in this case, a (questionable) whale identity seems a safe bet.

1883 - Queensland, Australia - ? = ?Whale

Sources: Bright, Michael. 1989. *There are Giants in the Sea.* (London: Robson), p. 208. // Fort, Charles. 1931. *Lo!* Repr. 1974 as pp. 539-839 of *The Complete Books of Charles Fort*. (New York: Dover). // Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents*. (New York: Hill and Wang). // Slijper, E.J. 1962. *Whales*. (New York: Basic Books).

A Reptilian Sea Serpent (early September, 1883)

On September 15, 1883, the *New York Times* printed an item originally from the September 7, 1883 issue of the *San Francisco Bulletin*:

> Messrs. L. Laveosa & Co., at the California Market, think that they have a veritable sea-serpent, but it is not so large as the specimens seen at various watering-places just at the opening of the

> season. It is 3 feet [1 m] long, 4 1/2 inches [11 cm] in circumference, copper-colored on top, with dark brown spots which extend from the head to the tail, and with a pale brown belly. It has no gills nor dorsal fin, and its tail tapers to a point like that of an ordinary snake. The mouth is 2 inches [5 cm] long, armed with two rows of sharp and retentive teeth, but devoid of fangs. It looks like a reptile, and proved to be so vicious when caught in a net by Italian fishermen off the Marin County shore last Tuesday that they clubbed it into quiet. It was alive and still ferocious Wednesday, which day it died. Naturalists may view it with interest, but it would have been a better study if alive.

This "marine reptile" certainly sounds ferocious, but what was it? Its supposed lack of gills suggests that the creature was not a fish, but it is more likely that it simply did not have externally visible gills. Some fishes, such as eels, have two greatly reduced gill openings behind the head, one on each side of the body. They use these paired openings, called spiracles, to suck in water to pass over their gills. Marine biologist Richard Martin has suggested to me that based on the description of the creature (including size, shape, teeth, capture locality, behaviour on capture, and coloration pattern), it might have been a California moray (*Gymnothorax mordax*) (Fig. 2). While the creature might not have been that exact species, I think Martin's suggestion is a good one, and the details concur with a moray (family Muraenidae) identity.

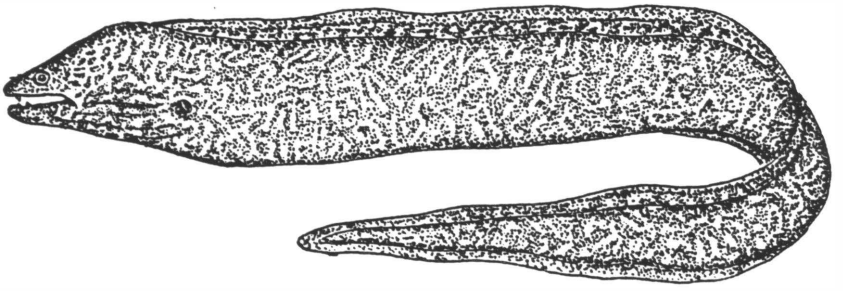

Fig. 2 - The California moray (*Gymnothorax mordax*). From Barnhart (1936).

1883 (early September) - San Francisco, California, USA - L. Laveosa & Co. = Moray eel (*Gymnothorax mordax*?)

Source: Anon. 1883. "A Diminutive Sea-Serpent." *New York Times*, September 15. // Barnhart, Percy S. 1936. *Marine Fishes of Southern California*. (Berkeley, California: University of California Press). // Martin, Richard. 1997. Pers. comm, October 26.

The Enigmatic *Con Rit* (1883)

The carcass that reportedly washed ashore at Hongay in Vietnam's Along Bay in 1883 is one of the strangest alleged sea serpent carcasses ever found. It was first reported by Dr. A. Krempf in 1921, then Director of the Oceanographic and Fisheries Service of Indo-China, in a letter he sent to Prof. Abel Gruvel (at the time, the Director of the Marine Labratory of the Museum at Dinard, France):

> Here is some information which although it smacks of the marvellous, cannot fail to interest you. I recieved it at sea from the coxswain of a Customs launch, a 56-year-old native called Tran Van Con.
>
> 38 years ago (that is to say in 1883 ...), this Annamite saw and touched the so-called sea-serpent. Here is his account, faithfully translated: the animal was washed up and dead: it was a carcase in a

very advanced state of putrefaction. The head was gone. The body alone was 60 feet [18 m] long by 3 feet [0.9 m] wide.

The animal was formed of successive segments almost all alike one another. Each segment was 2 feet [0.6 m] long and 3 feet [0.9 m] wide and had a pair of appendages 2 feet 4 inches [0.71 m] long. [From a diagram of the segments prepared by Dr. Krempf--Fig. 3--it appears that one end of the creature, presumedly the posterior one, has two additional appendages pointing distally.]

The teguments were of a remarkable consistency and rang like sheet-metal when hit with a stick. The colour of this tegumentary envelope was dark brown on the dorsal surface and light yellow on the ventral surface [1] .

The stench that arose from this prodigious animal was such that even the Annamites would not go near it, and it was decided to tow the remains out to sea and sink them.

The name given to this animal by my informant is *con rit*, or "millipede". It is thus, according to its name and from all the description that I have given you, an Arthropod ... unless it is all a dream, and certainly it is very detailed, and as another theory about the sea-serpent can do no harm, I have thought fit to send you this information, but ask you to await further details before doing anything about it.

This event occurred at Hongay in Along Bay 38 years ago, and I had confirmation of it from a 30-year-old Chinese who had heard the tale from his father.

A few years later, in 1924, Krempf further verified the story by having Saigon Immigration authorities question several other Chinese fishermen about the con rit. They all described the *con rit* much as Tran Van Con did.

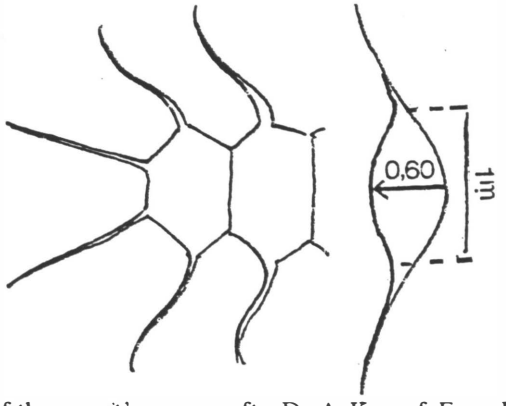

Fig. 3 - The segments of the *con rit*'s armour, after Dr. A. Krempf. From Heuvelmans (1968).

Another interesting detail about the *con rit* was unearthed around 1924, when Krempf was questioning Tran Van

[1] Richard Martin (1997) has suggested to me that the colour difference between the dorsal and ventral sides of the *con rit* might have been caused by decomposition. The dorsal side, exposed to the air, may have been darkened by the effects of air drying and aerobic bacteria. The lighter ventral side, pressed against the sand, and possibly below the high tide mark, may have been free of the discolouring effects of aerobic bacteria and the air. Instead, the ventral side was probably scoured clean by various microscopic decomposers such as nematodes, isopods, and ciliates, as well as anaerobic bacteria, which usually liquify organic material rather than discolour it in place. I have seen this pattern of decomposition several times, where the exposed side of a fish carcass lying on a beach was much darker than the underlying side.

Con. In the course of his interview, Krempf took hold of the shell of a horseshoe crab (Fig. 4) (probably one of the two southeast Asian genera, *Tachypleus* sp. or *Carcinoscorpius* sp.) that was at hand and struck it. When asked if the noise it produced was similar to that made by the *con rit*'s armour, Tran Van Con remarked "Exactly." Personally, it seems unusual that the shell of a horsheshoe crab (which are usually small; no more than 0.6 m [2 ft] long) could ring like sheet-metal when struck, but it is an interesting comparison if correct.

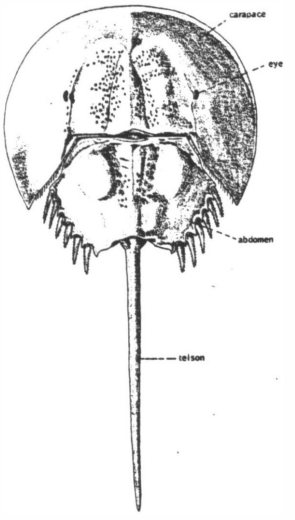

Fig. 4 - A horseshoe crab (*Limulus polyphemus*), dorsal view.
From Barnes (1974).

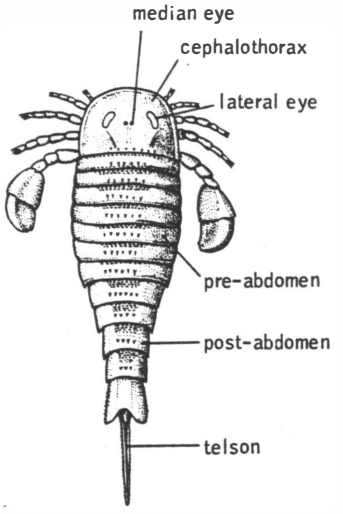

Fig. 5 - A eurypterid, dorsal view.
From Barnes (1974).

Undoubtedly, the description of the *con rit* is quite strange. Heuvelmans (1968) considered and rejected a couple of possible identities. The first was a sea scorpion (eurypterid) (Fig. 5), a group of long extinct predatory marine and freshwater arthropods that lived from the Ordovician to the end of the Permian (about 500 to 250 mya). The second possibility was an unknown, giant form of crustacean, an arthropod group that contains lobsters, shrimp, copepods and other similar creatures. Heuvelmans' rejection of the eurypterid identity is very rational and sensible, considering how long they have been extinct and the fact that morphologically they are very dissimilar to the *con rit*. The crustacean identification is more probable, and many of the details of the *con rit* suggest such a classification, but in my mind the idea is still highly unlikely (Heuvelmans also rejected the idea). Shuker (1995), on the other hand, argued that a giant crustacean is the only identity that could possibly explain the *con rit*. He also commented that some of the sea serpent sightings that Heuvelmans (1968) classified as a "many-finned" archaeocete whale (which Heuvelmans provisionally named *Cetioscolopendra aeliani*) could not possibly be of mammals. Instead, Shuker thought they may be sightings of the giant crustacean responsible for the *con rit*. Among the more prominent of these reports, according to Shuker, is the 150 ft (46 m) long sea serpent sighted by the HMS Narcissus on May 21, 1899, off the coast of Algeria:

> The monster seemed to be propelled by an immense number of fins. You could see the fins propelling it along at about the same rate as the ship was going. The fins were on both sides, and appeared to be turning over and over. There were fins right down to the tail. Another curious thing was that it spouted up water like a whale, only the spouts were very small and came from various parts of the body.

From this report, Shuker concluded:

> Unless the numerous fins are in reality a pair of undulating lateral membranes extending the entire length of the creature's body--which does not seem likely from the above description [the *Narcissus* report]--then the *Narcissus* sea serpent is neither a mammal nor any other form of vertebrate. Clearly, its fins were locomotory organs ... , not rigid spines like those reported from the carcass of the *con rit*. Consequently, my own feeling is that, in life, each pair of the con rit's spines had sheltered a pair of soft-bodied limbs beneath--but which, togethor with the remainder of this beast's soft tissues, had rotted away during decomposition, leaving behind only the hard dorsal cuticle. All of which is totally in accord with what one would expect from a crustacean: multiple locomotory limbs, hard dorsal armour that does not rot once the creature has died, and a soft body that very rapidly (and odiferously!) rots upon death.
>
> The only major problem is the *con rit*'s immense length--far beyond anything recorded so far by science from a known modern-day (or fossil) crustacean. It is well known that the spiracular system of respiration utitlized by insects (involving a vast internal ramification of minute breathing tubes) prevents them from attaining the gigantic proportions beloved by directors of science-fiction movies. However, crustaceans breathe via gills, and their bodies are buoyed by the surrounding water. Hence the evolution of a giant aquatic crustacean is not wholly beyond the realms of possibility and, to my mind, offers the only remotely feasible explanation to Vietnam's anomalous *con rit* or sea millipede.

This is an appealing and exciting idea. However, I would still be hard pressed to suggest the existence of a 60 ft long crustacean existing undiscovered in the depths of the sea! The largest crustacean alive today is the giant spider crab (*Macrocheira kaempferi*) (Fig. 6), which can attain a leg span of 12 ft (3.7 m)--though the actual body is not more than 45 cm (1.5 ft) long [2]. It is found solely off Japan's Pacific coast, at depths of up to 1200 ft (365 m). Ambling along the bottom on its spindly legs, it feeds on mollusks, fish, other crustaceans, and carrion. The giant spider crab certainly is large, but it is still much smaller than the hypothetical crustacean that would explain the *con rit*. Also, there is no evidence that such a creature has ever existed, and it is possible that crustaceans cannot physiologically attain lengths of more than those recorded for eurypterids (the largest of which was 3 m [10 ft] long). The *con rit*'s

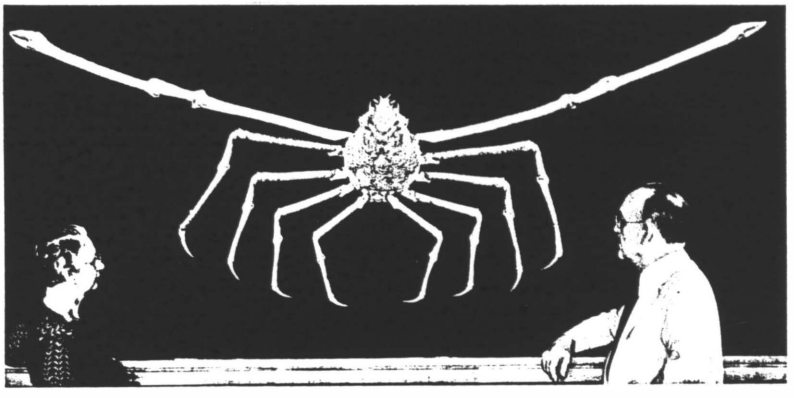

Fig. 6 - The giant spider crab (*Macrocheira kaempferi*). From Pearse (1987).

[2] The heaviest extant crustacean is the American lobster (*Homarus americanus*). The record holder is a 44 pound, 6 ounce (20.1 kg) specimen that measured 3.5 feet (1.07 m) from claw-tip to the end of the tail. This monster was caught off Nova Scotia on February 11,1977, and was later sold to a New York restauranteur.

morphometrics may also present a problem in considering it as a real animal; it is extremely narrow, with a body length/width ratio of 20:1. The *con rit*, if it existed, would probably swim in an anguilliform undulating motion, which would be quite inefficient for such a skinny creature (Martin, 1998). It is hard to imagine that such a design would appear in a real marine animal the size of the *con rit*. Finally, what would a 18 m long crustacean eat in its hypothetical deep sea habitat? Such a creature could only really exist on the eutrophic (food-rich) continental shelf, in which case it certainly would have been discovered by now. All of the facts outlined above largely denounce the biological feasibility of a hypothetical giant crustacean as the *con rit*.

Another possible explanation for the *con rit* was put forward by Heuvelmans (1968), and was the one he favoured. He suggested that the *con rit* might have been the remains of an unknown species of evolved armoured archaeocete. The idea of whales with scales or scutes arose in the late 19th century, after bony plates were found associated with archaeocete remains. By the 1920s, however, it was shown that most of these bony plates were actually the shells of ancient marine turtles, thus disproving the idea of armoured archaeocetes. Heuvelmans was aware of this fact, but still thought the armoured archaeocete concept was possible because not all of the bony plates had been explained as those of other animals. Today, however, the notion of armoured archaeocetes has been completely rejected.

Clearly, none of the propositions discussed thusfar satisfactorily explain the *con rit*. The one that fits best morphologically is undoubtedly the hypothetical giant crustacean, but as mentioned before, the existence of such an animal would be very unlikely and unprecedented. What else might explain the *con rit*?

One possible solution is that the *con rit* was really the backbone of a whale, which, during decomposition (Tran Van Con noted that it had been rotting for some time), had lost all associated structures such as the head, pectoral girdle and ribs. A closer examination, however, discounts this identity. One would expect that the villagers who witnessed the *con rit* would be quite familiar with the bones of mammals (and would have probably mentioned this). Also, there is no mention in the description (nor is there depiction in the drawings of the segments) of neural arches or spinous processes (Fig. 7). These are very solid structures, and usually survive undamaged during decomposition. Given these two points, the whale backbone theory does not fit very well after all.

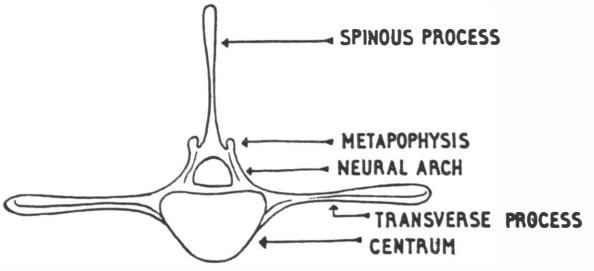

Fig. 7 - Front view of thoracic vertebra of a typical mysticete, the minke whale (*Balaenoptera acutorostrata*). From Slijper (1962).

Another solution that sounds promising--but is also actually unlikely--is that the *con rit* was the caudal vertebrae (behind the anus) of an oarfish (see Fig. 8). The caudal vertebrae of all "bony" fishes (class Actinopterygii) possess neural and haemal spines, on the dorsal and ventral sides of the vertebrae, respectively. If the articulated caudal vertebrae of an oarfish (which make up most of the animal's length) were lying on their side on a beach, it might appear similar to the *con rit*'s remains. In reality, however, this scenario is unlikely. First, oarfish caudal vertebrae are not very symmetrical; the neural and haemal spines are differently shaped. Secondly, the neural spines are much too slender to account for the con rit's lateral processes, and too delicate to survive intact. Finally, the largest official length recorded for an oarfish is about 8 m (26 ft), with some unconfirmed reports of individuals as long as 15 m (50 ft). These lengths are evidently smaller than the 60 ft given for the *con rit*.

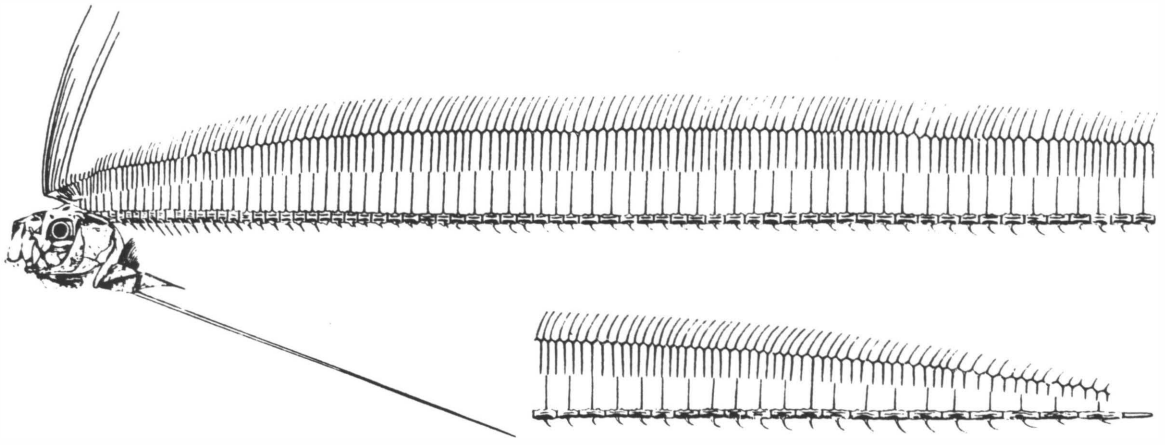

Fig. 8 - The skeleton of the oarfish (*Regalecus glesne*). From Parker (1890).

It has probably become obvious by now that there is no adequate explanation for the *con rit*. None of the explanations offered above really come even close to explaining it. The closest fit is probably an enormous form of crustacean, but an equally enormous strech of the imagination--and scientific fact--is required to believe that such a creature actually exists. Truly, the con rit is a total mystery, and will likely remain that way for quite a long time.

1883 - Hongay, Along Bay, Vietnam - Tran Van Con = ?

Sources: Barnes, Robert D. 1974. *Invertebrate Zoology*, 3rd edition. (Philadelphia: W.B. Saunders). // Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents.* (New York: Hill and Wang), pp. 416-418. // Martin, Richard. 1997. Pers. comm., October 29. // Martin, Richard. 1998. Pers. comm., March 6. // Parker, T. Jeffrey. 1890. "On the skeleton of *Regalecus argenteus*." *Transactions of the Zoological Society of London* 12: 5-33. // Pearse, V. *et al.* 1987. *Living Invertebrates.* (Palo Alto, California: Blackwell Scientific Publications). // Shuker, Karl. 1995. *In Search of Prehistoric Survivors*. (London: Blandford), pp. 126-127. // Slijper, E.J. 1962. *Whales.* (New York: Basic Books).

The New River Inlet Carcass (1885)

In an article in the June 1892 issue of *Century Magazine*, J.B. Holder wrote:

> In the spring of 1885 the Rev. Mr. Gordon of Milwaukee, President of the United States Humane Society, chanced to visit, in the course of his duties, a remote and obscure portion of the Atlantic shores of Florida. While lying at anchor in New River Inlet the flukes of the anchor became foul with what proved to be a carcass of considerable length. Mr. Gordon quickly observed that it was a vertebrate, and at first thought it was probably a cetacean. But, on examination, it was seen to have features more suggestive of saurians. Its total length was forty-two feet [12.8 m]. Its girth was six feet [1.8 m]. The head was absent; two flippers, or fore-limbs, were noticed, and a somewhat slender neck, which measured six feet [1.8 m] in length. The carcass was in a state of decomposition; the abdomen was open, and the intestines protruded.

> The striking slenderness of the thorax as compared with the great length of body and tail very naturally suggested to Mr. Gordon, whose reading served him well, the form of some of the great saurians whose bones have so frequently been found in several localities along the Atlantic coast. No cetacean known to science has such a slender body and such a well-marked and slender neck ... Appreciating the great importance of securing the entire carcase, Mr. Gordon had it hauled above the high-water mark, and took all possible precautions to preserve the bones until they could be removed ... He counted without the possible treachorous hurricance; the waters of the "still-vexed Bermoothes", envious of their own, recalled the strange waif.

Heuvelmans (1968) conscientiously stated that not much can be ascertained from the details in the above account, and that the alleged sea serpent was probably a rotting shark. The details given, as well as the sketch of the creature (Fig. 9), agree with this interpretation.

Fig. 9 - The New River Inlet carcass. From Heuvelmans (1968).

As for its exact identity, Heuvelmans noted that the waters where it was found were too warm to be inhabited by the basking shark (*Cetorhinus maximus*), and that the whale shark might be the culprit. In any case, he listed the carcass as being an "unidentified selachian." I think it is safe to say that the New River Inlet carcass was indeed either a basking shark or a whale shark, with the former being more likely (as mentioned in Roesch [1997], the branchial region of the whale shark is bridged by triangular masses of tough, spongy tissue, suggesting that a rotted whale shark would not create the typical long neck and small head seen in decomposed basking sharks). As for the basking shark being out of range, it is possible that the shark had merely drifted to New River Inlet--it had been, after all, rotting for some time. It should also be noted that the basking shark's range extends along the Atlantic coast to northern Florida; this is not so far from New River Inlet, which is situated around Ft. Pierce (about three-quarters down the coast).

1885 - New River Inlet, Florida, USA - Gordon = ?Basking shark or whale shark.

Sources: Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents*. (New York: Hill and Wang), p. 131. // Holder, J.B. 1892. "The Great Unknown." *Century Magazine* 44: 247-253. // Robins, C. Richard and G. C. Ray. 1986. *Atlantic Coast Fishes*. (Boston: Houghton Mifflin). // Roesch, Ben S. 1997. "A Review of Alleged Sea Serpent Carcasses Worldwide (Part One -- 1648-1880)." *The Cryptozoology Review* 2 (2): 6-27.

The Cape May Carcass (November, 1887)

This carcass was included in Heuvelmans' (1968) list of sea serpent carcasses, but unfortunately he does not discuss it in the text. He does, however, include a reference on it: an article on it in an unspecified November, 1887 issue of the *Boston Courier*. I was unable to obtain any *Boston Courier* issues, so I could not obtain the original report. Until I am able to do so, this carcass remains a literal unknown.

1887 - Cape May, New Jersey, USA - ? = ?

Source: Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents.* (New York: Hill and Wang).

The Coffin Bay Hoax (early November, 1891)

The case of the Coffin Bay "sea serpent" is somewhat of a humorous misadventure. The story begins with the supposed death of Bishop of Adelaide (South Australia), the Very Rev. G.W. Kennion, reported in the *Times* of London of November 6, 1891. In fact, the Bishop was alive and well, and the error--which the *Times* retracted three days later--was caused accidently by Dalziel's Press Agency, who recieved this telegram from an Australian correspondent:

> INFLUENZA EXTENSIVELY PREVALENT WALES VICTORIA NUMEROUS DEATHS BISHOP ADELAIDE FOUND DEAD SEA SERPENT SIXTY FEET COFFIN BAY

Reading this, one can see where the mistake was made. The agency reported the Bishop's "death" to the *Times*, who then printed the story, much to the amusement of the competing *Saturday Review*. In fact, the real message in the telegram seems to be that the Bishop of Adelaide found a dead 60 ft (18.3 m) long sea serpent in Coffin Bay. Heuvelmans noted that Antoon Oudemans wrote in his book *The Great Sea-Serpent* (1892) that one Gilbert Bogle (of Newcastle-upon-Tyne, England) had written to the Bishop for further details, upon which the Bishop responded, saying that there was no truth to the story. While Oudemans suggested it might have been a Mr. Bishop that had found the carcass (therefore suggesting it might be real after all), he was cautious about the whole story and recorded it as a hoax. Heuvelmans followed suit, and I do too. It should be noted, however, that my colleague John Moore discovered the following in a later issue of the *Times*:

> Yesterday's Australian mail brought news of the finding by the Bishop of Adelaide of the carcase of a sea serpent at Avoid Point, near Coffin Bay, South Australia. The Bishop, in writing to an Adelaide friend, states that while riding along the sea beach he came across a dead sea serpent about 60 ft. [18.3 m] in length. It had a head 5 ft. [1.5 m] long, like that of an immense snake, with two blow holes on the top. There were no teeth in the jaws. The body was round, and the tail resembled that of a whale. The Bishop describes his "find" as the most peculiar animal he has ever seen.

This obviously suggests that the case was real after all. But since the Bishop claimed in his letter to Bogle that there was no truth to the story, it is more likely that the above report was just a hoax influenced by the original telegram from Dalziel's and the news story in the *London Times*. Even if the account was real, I am tempted to call the creature a mysticete whale (the only whale with two blowholes), considering the details given. Either way, it does not appear to be anything especially noteworthy.

1891 (beginning November) - Coffin Bay, Australia - Bishop Kennion? = ?HOAX or whale

Sources: Anon. 1891. "The Bishop of Adelaide and the Sea Monster." *Times* (London), December 16. // Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents.* (New York: Hill and Wang), pp. 112-113.

A Basking Shark in the Orkneys (1894)

Heuvelmans (1968) includes this carcass in his list of sea serpent carcasses, but does not discuss it in the text. In his list, Heuvelmans states that it turned out to be a basking shark, and I am sure that is what it was.

1894 - Kirkwall, Orkneys, Scotland - ? = Basking shark

Source: Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents*. (New York: Hill and Wang).

The *Crescent City* Catches a Sea Serpent (August, 1896)

The only source for this case is a short item in an issue of *Shipping Gazette* from 1896, quoted by Heuvelmans (Heuvelmans says in the text of his book that the account took place in 1886, but in his bibliography and his list of sea serpent carcasses he gives 1896, so the latter date is probably the correct one):

> A sea-serpent is reported to have been captured at Carabelle, Florida, by a fishing steamer named the *Crescent City*, which it towed wildly for some time before it was killed. The thing measures 49 feet [15 m] long and 6 feet [1.8 m] in circumference. It is eel shaped, with a shark-like head and a tail armed with formidable fins. It was caught with a shark hook, but after being tired out it had to be shot.

Heuvelmans considered this account to be of a large unknown species of eel-like shark, and discussed it along with Capt. Hanna's fish (see Roesch [1997]). I am much less optimistic that the *Crescent City*'s is anything unusual. It could have been a large shark such as a whale shark or basking shark, though such an identity might not account for the *Crescent City* monster's eel-like shape.

In fact, it is hard to make any conclusions from the details given. While it is appealing to think that the *Crescent City*'s creature might be the same as Capt. Hanna's fish, this comparison can only remain speculation.

1896 (August) - Carabelle, Florida, U.S.A. - *Crescent City* = ?Whale shark or basking shark

Sources: Heuvelmans, Bernard. 1968. *In the Wake of the Sea-Serpents*. (New York: Hill and Wang), p. 140. // Roesch, Ben S. 1997. "A Review of Alleged Sea Serpent Carcasses Worldwide (Part One -- 1648-1880)." *The Cryptozoology Review* 2 (2): 6-27.

Summary Listing

Legend: Date - Location - Witness(es) - Length (meters, rounded off) = Probable Identity

1881 (early December) - Marlboro, New Jersey, USA - ? - ? = Fossil remains (mosasaur?)
1883 (March) - Moeraki, near Otago, South Island, New Zealand - ? - 4 m = Oarfish
1883 - Queensland, Australia - ? - 12 m = ?Whale
1883 (early September) - San Francisco, California, USA - L. Laveosa & Co. - 1 m = Moray eel (*Gymnothorax mordax*?)
1883 - Hongay, Along Bay, Vietnam - Tran Van Con - 18 m = ?
1885 - New River Inlet, Florida, USA - Rev. Mr. Gordon - 13 m = ?Basking shark or whale shark
1887 - Cape May, New Jersey, USA - ? - ? = ?
1891 (beginning November) - Coffin Bay, Australia - Bishop Kennion? - 18 m = ?HOAX or whale
1894 - Kirkwall, Orkneys, Scotland - ? - ? = Basking shark
1896 (August) - Carabelle, Florida, U.S.A. - *Crescent City* - 15 m = ?Whale shark or basking shark

Acknowledgements

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End Page

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Coming Soon in *TCR*: Further instalments of a review of alleged sea serpent carcasses (by Ben S. Roesch); a review of the piasa (by John Moore); the case against the survival of *Carcharodonmegalodon* (by Ben S. Roesch); further instalments of cryptozoology of the moa (by Darren Naish); great news coverage and much more! The next issue will be out in June.