New *Zuiyo Maru* Cryptid Observations: Strong Indications It Was a Marine Tetrapod

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Abstract

Inspection of the *Zuiyo Maru* pictures reveals that the aquatic cryptid had a *symmetrical pair* of small upper fins on each side above the anterior flippers. If this observation is correct, then the identification of this animal as a basking shark is false. Previously, the fin of just one side was observed and wrongly identified as a shark's dorsal fin that had slid sideways from the mid-dorsal ridge. Examination of the original scientific report reveals that Yano, along with all the fishermen, observed a *pair* of upper fins. They specifically stated there was not a shark's dorsal fin. That statement caused considerable discussion among the scientists who questioned them. Besides that, some archaeological representations of marine tetrapods display the small symmetrical upper fin(s). Their appearance is like Yano's pictures, tending to provide confirmation for this feature. Another confirmation for the marine reptile understanding, and falsification of the shark idea, is a picture revealing the nare at the lower front of the skull. It is right where Yano sketched it, though that is not where it should be for sharks. Although this cryptid may not currently be identified with either living creatures or specific known fossils, it possessed characteristics like those of marine reptiles, perhaps similar to the Sauropterygia.

Introduction

On the morning of April 25, 1977, about 50 km. east of Christchurch, New Zealand, the Japanese fishing boat *Zuiyo Maru* brought up a large animal from a depth of about 300 meters. Mr. Michihiko Yano, a section chief for the Taiyo Fishery Company, was present. He took pictures, got measurements, and also sketched the cryptid. A team of scientists met later, and their findings were published in July, 1978, by La Societe Franco-Japonaise D'oceanographie, (Tokyo) as *Collected Papers on the Carcass (CPC)*. The committee did *not* reach an unanimous verdict about the identity of the creature, though a significant amount of data was considered (see *CPC*, 1978, Foreword).

Since then some have claimed the cryptid was *Cetorhinus maximus*—a basking shark. The strongest shark proponent has probably been Kuban (1997–98) who said, "Several lines of evidence strongly indicate that the *Zuiyo Maru* carcass was a large shark, and most likely a basking shark." Kuban also suggested that scientists should "refrain from any further suggestions that the carcass was a likely plesiosaur." Kuban likewise (1997-8) criticized the 15 or so scientists who have presented the *Zuiyo Maru* cryptid as a "living fossil" because Kuban believes with certainty it was a shark. Since then, certain creation scientists have retreated from the marine reptile idea (Jerlstrom, 1998; Jerlstrom and Elliot, 1999). Some prominent cryptozoologists had already decided that the cryptid was a basking shark (e.g., Ellis, 1994, pp. 68-69). That led to Todd Wood's *CRSQ* letter (1997) presenting some arguments for the shark identification. There is no reason for creation scientists to adopt the basking shark hypothesis because evidence is strong that this creature was a tetrapod. The question is directly relevant for creation science since it supports a recent inception for all living kinds, including marine tetrapods possibly still alive.

A Pair of Symmetrical Upper Fins

The primary morphological reasons justifying the basking shark identification for Omura et al., 1978, were 1) the myocommata in the dorsal muscles, and 2) what is thought to be a dorsal fin visible above the front right pectoral flipper. (Myocommata, Figure 3A, also Figure 2, are strong connective tissue embedded between muscle segments present in some sharks, though not in known reptiles.) Figure 2 is a figure looking at the animal from the backside of Figure 1. Figure 3 is an interpretive sketch of Figure 2,

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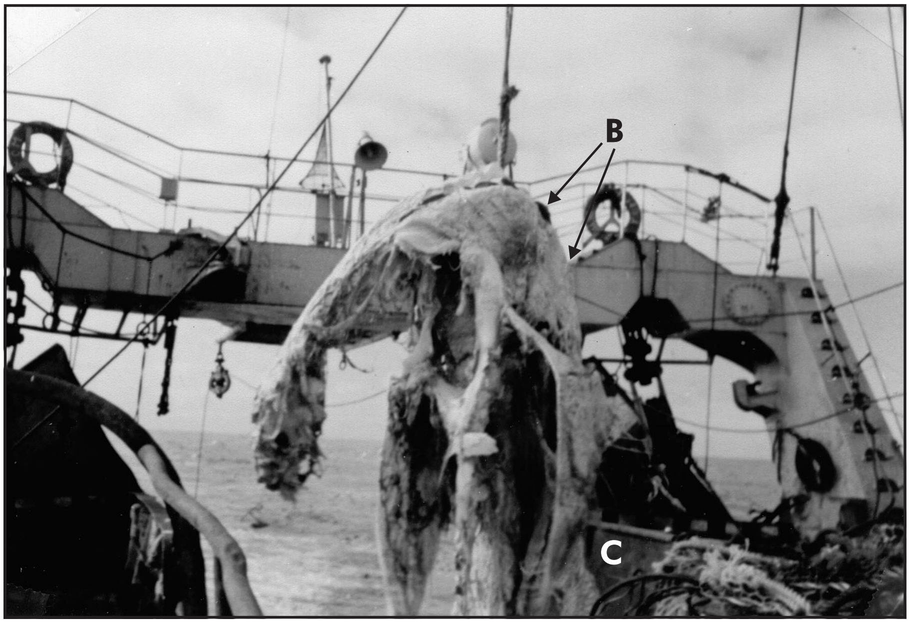

Figure 1. Photograph of the front of the carcass. Taken by Michihiko Yano, April 25, 1977. One of the paired upper fins is visible just above the front flipper (arrows are pointing at the upper fin's edges).

identifying the small upper fin B (or a dorsal fin that slid according to Wood, 1997). Hereafter this object will be referred to as the "upper fin," or simply as "B" (Figure 2B or 3B) however it is to be explained. For Hasegawa and Uyeno (1978, p. 65), this upper fin is to be interpreted as a shark's dorsal fin that slid sideways. This was "the decisive factor" for their conclusion that the cryptid was a shark.

The idea that a dorsal fin existed, however, is disputed by eyewitness testimony as well as the pictorial evidence. M. Yano, who conducted the primary examination of the carcass, insisted that there was no (shark's) dorsal fin (Omura et al., 1978). No one else present on the ship's crew thought there was a (shark's) dorsal fin either (Obata and Tomoda, 1978; Omura et al., 1978). Evidently Yano's testimony (along with that of the other fishermen) was rejected in favor of the dorsal fin theory for item B.

Yano was questioned by Obata and Tomoda (1978, p. 45) regarding the upper fin(s) (B). Obata and Tomoda observed that the fin was considerably smaller than the anterior ventral propulsion flippers, and suggested that it was somehow the broken *posterior ventral flipper* (a hypothetical break accounting for its smaller size; B of Figures 2 and 3) overlaying an almost complete right anterior ventral flipper (C) of Figures 2 and 3). That judgment was denied by Yano, who stated that the supposed broken posterior ventral flipper of Obata and Tomoda was actually one of the *paired upper fins* which had an unusual array of exposed rays near its base as well as on its edge. This fin (B) is the same fin that other scientists thought was the dorsal fin of a shark that had slid sideways from the center. Those scientists correctly stated that it was located too far forward on the body to be the *posterior ventral flipper*.

As stated earlier, eyewitnesses specified that there was a *pair* of anterior fins on the creature (B of Figures 2 and 3 is the one on the cryptid's right side). Obata and Tomoda (p. 49), referring to the testimony of Yano and the other crew members say, "it is also strange that the carcass had paired fins [B] but no dorsal fin." Since they had already mentioned the flippers (C), it appears they were speaking of the small symmetrical fins on the anterior dorsal area (B). Yasuda and Taki (1978, p. 62) saw the incompatibility of these observations with the shark identification saying that among other assumptions for the shark idea to be true it had to be as-

Figure 2. Photograph of the back of the carcass. Taken by M. Yano, April 25, 1977. One of the paired upper fins is visible along with prominent myocommata.

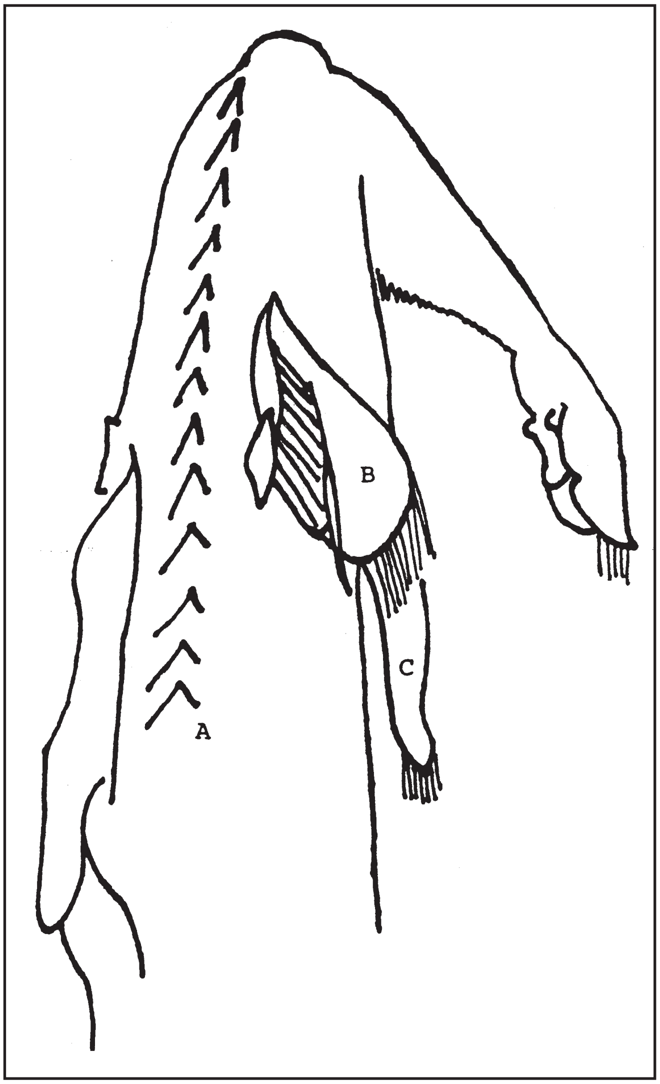

Figure 3. Interpretive sketch of the photograph in Figure 2 (from Wood, 1997). A. Myocommata. B. One of the paired upper fins. C. Front right flipper.

sumed "M. Yano counted by mistake a single lobe of a fin [B] as two." Therefore the unanimous eyewitness testimony was that there was a pair of upper fins and no dorsal fin. These claims were maintained during the skeptical cross examination by certain scientists. Three ideas were advanced to explain B: a broken posterior flipper, a shark's dorsal fin that slid, or one of a pair of upper fins.

The pictorial evidence now reveals that M. Yano's testimony—as well as that of the other fishermen—was correct. A pair of upper fins may be observed in the pictures. A careful look at Figure 1 (a picture taken from the front of the creature) reveals a small triangular fin (B) on the creature's body above the left anterior flipper (C). (It is easier to observe it on a clear print enlargement, see Taylor, 1987, p. 47. I have prepared Figure 4 as an interpretive sketch of Figure 1 to help the reader.) There is a thicker vertical line at the front edge of the upper fin (see

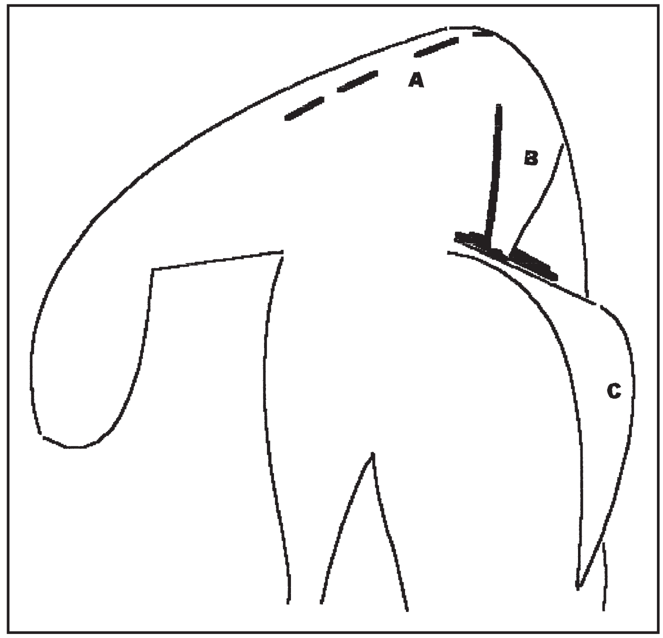

Figure 4. Interpretive sketch of the photograph for Figure 1. A. Myocommata. B. One of the paired upper fins. C. Front left flipper.

B of Figures 1 and 4). A thin line, pointing at 1 o'clock, denotes the trailing edge of the same fin. The fin's (B's) front border is thicker since the camera angle is toward its oblique front edge while that angle just passes over the fin's trailing edge. There is an arrow on Figure 1 pointing in line with each edge of the fin (B) to help the reader see them. This fin, on the creature's left side, would correspond in size and location to the other fin on its right side, indicating that the tetrapod had a matching symmetrical pair of small fins (B) located above its anterior ventral flippers (C)—see Figures 1, 2, 3, and 4.

Indeed, the symmetrical fin is visible on both pictures Yano took of the front of the creature (Figures 1 and 8) although not as clear for Figure 8 because of the camera angle. While the presence of the extra fin seems fairly certain, it would be good if photography experts could examine the original photographs to verify it. Kuban wrongly said that Yano overlooked the upper fin. In fact, he mentioned both of them.

It appears that Yano outlined the symmetrical upper fin(s) [which is labeled B for Figures 1–4] for his sketch for the cryptid. It is just above the front flipper where it connects to the body (see Figures 5B and 5A). There are three dashed lines on each side of the first rib apparently representing the front and back edges of the fin. For Figure 5A, Yano's sketch of the fin outline has been filled in. Figure 5B shows the enlargement where Yano's dashes may be observed. Yano also sketched dashed lines for the cryptid's lower mandible, that was missing, and the ventral abdominal cavity (between the flippers).

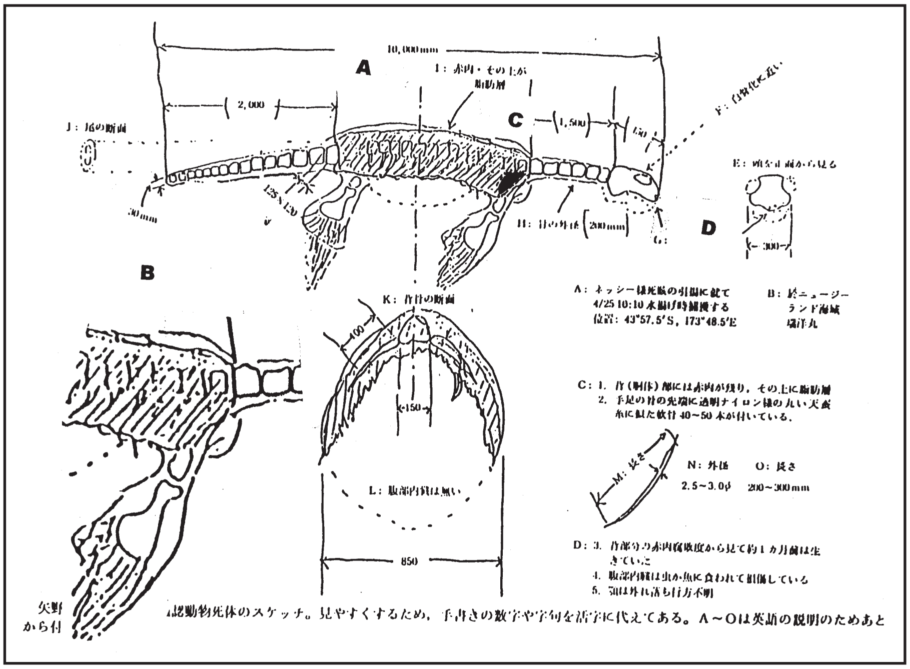

Figure 5. A. Sketch and measurements of the carcass made by M. Yano, April 25, 1977. Upper fin outline filled in. B. Detail for upper fin outline, above front flipper. C. Shoulder hump. D. Nare.

It is possible that some marine tetrapods could have had soft-tissue, cartilage fins, that were not preserved with the fossil record. If these were not preserved with the fossil record, then the original scientific researchers would not have expected Sauropterygia-like creatures to have "unexpected" fins. Also, the fossil record regarding these creatures may be incomplete.

Another problem for the shark hypothesis is that for sharks the dorsal fin is attached to the body by muscle tissue. But the myocommata are also embedded in the muscle (Obata and Tomoda). It is hard to believe that the myocommata remain perfectly in place on the creature when the dorsal fin has slid somewhat to the side. It appears more reasonable to accept the eyewitness testimony of M. Yano and his colleagues that there was no dorsal fin but instead an upper pair of fins. The pictorial evidence strongly suggests there was a symmetrical pair of fins above the anterior flippers.

Other Possible Evidence for the Paired Fins

Some interesting evidence supporting the upper symmetrical fin idea is found with the *Yarru* painting by the Kuku Yalanji tribes people of North Queensland, Australia (Figure 6 from Driver, 1999, p. 345). In this artwork, a number of hunters with spears flank a long-necked Sauropterygia-like animal. On the creature's lower side there are the anterior and posterior flippers (C) of a Sauropterygian. However, on the top of the creature there is a much narrower fin (B) not bent in the middle like the flippers (C) on the ventral side. The fin's (B's) position would correspond to those of the symmetrical upper fins of the *Zuiyo Maru* creature, above the anterior flippers. There is no posterior fin illustrated for the right side of the *Yarru* sketch, though it should be there if the ventral flippers for its right side were being considered. Often classical animal depictions display just one feature for a symmetrical pair, like just one horn for an animal with a matching pair of horns. For the *Yarru* sketch it appears the artist's perspective observes the ventral flippers just for the creature's left side, then the upper fin for just the right side.

The Yarru painting was done c.1990 by an aboriginal artist who had no knowledge of plesiosaurs or dinosaurs. The picture is based on memories of a past event when a marine reptile swallowed a tribesperson. It was, in fact, from the *Yarru* picture that I got the idea for where to look for the upper fin on the *Zuiyo Maru* creature. I was not able to determine if any eyewitnesses are still living who observed Yarru (Wieland, personal communication 06/20/00; Driver, 1999).

Jerlstrom and Elliot's recent arguments (1999) against *Yarru's* symmetrical pair of upper fins are not persuasive. Jerlstrom (1998) suggested that the upper *fin* (B) is "just the matching right pectoral flipper." He says, "It [B] is at the same angle," as the left flipper (C) and smaller because it is on the far side of the body. However, both left-side flip-

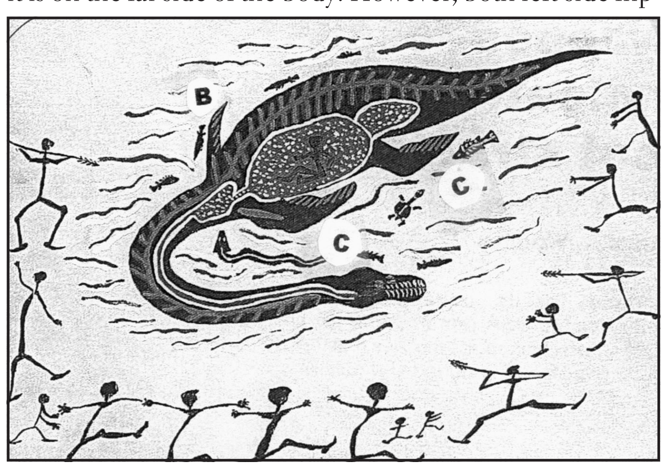

Figure 6. Painting of the plesiosaur-like creature, 'Yarru,' by the Kuku Yalanji tribespeople of North Queensland, Australia (from Driver, 1999, used with permission). B. One of the paired upper fins. C. One each of the paired posterior and anterior flippers.

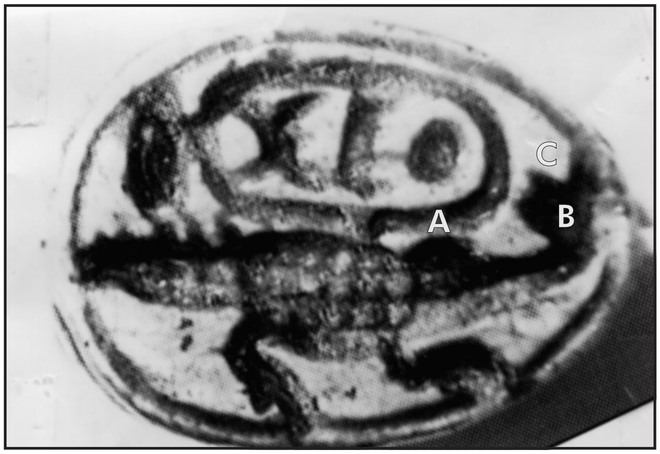

Figure 7. Egyptian seal depicting a plesiosaur-like creature with Tutmosis III's cartouche from the Mitry Collection. A. One of the paired upper fins, above front flipper. B. Creature's head, pointing up. C. Horns on top of creature's head.

Figure 8. Photograph of the front of the carcass. Taken by M. Yano, April 25, 1977. *Minimum* length of creature's trunk before posterior fins (not pictured) is too great for known big fish species.

pers (C) have a connecting stem, then the wider propulsion area at an angle to that connecting stem. The upper *fin* is considerably thinner, also shorter, than the flippers. The *fin* (B) is slightly bent near the distal tip, though it is not bent near the body (the *flippers* (C) are). Therefore it is not a flipper at a different locomotor angle as Jerlstrom (1998) suggested.

Jerlstrom and Elliot's suggestion (1999) that the body shields the posterior flipper gives no reason why the anterior flipper is not also shielded by the body (Figure 6). An Egyptian seal, for a longneck, Figure 7 mentioned later, also displays just one upper fin with front and back flippers for a long-neck. Since shielding just one flipper for the right side pair is not likely and the fin's (B) morphology is not like the left-side flippers (that are like each other), Jerlstrom's (1998) suggestions are not persuasive.

Jerlstrom and Elliot (1999) suggested that the gray strokes seen on the front and rear flippers (Figure 6C) are bones including phalanges at the extremities of the fins. This is not possible for four reasons. First, the 9–10 thin lines on the flippers do not at all look like a marine reptile's flipper phalanges that actually are parallel. Second, if they were phalanges, there should be only five not nine or ten. Third, the lines are perpendicular to the long edge of the flipper; if they were phalanges they should be parallel to that edge. And fourth, the "bone" for the upper fin (B) (that Jerlstrom (1998) suggests is a flipper) is attached to the center line (which is the vertebrae if they are bones), unlike those below. Since plesiosaur flippers were not attached to the spine, this is further disproof of the flipper idea. If we are to consider this an upper fin, it is not clear if the line is a stem bone or just a longer transverse process of the vertebrae (if the lines are bones). Another problem for Jerlstrom's *flipper* idea is that for the left side flippers (C) there are no parallel gray strokes on the connecting stem to the body (see especially the posterior flipper). For the right side *fin* (B), though, the gray strokes reach right up to where it's attached to the body, unlike the flippers. The light lines are not necessarily bones, but if they are it does not help Jerlstrom's (1998) interpretation.

Figure 9. Photograph of the carcass on deck. Taken by M. Yano, April 25, 1977. Arrow points at the circular nare at the front of the head.

There is a good bit of corroborative evidence regarding the matching pair of upper fins which may be found from Loch Ness monster eyewitness observers Mr. & Mrs. George Spicer (Shuker, 1995, pp. 89–90). On July 22, 1933, between 3–4 PM, they observed Nessie on land. The interesting facet of their observation for our purposes is that "something protruded from the area of its shoulder." That could have been a symmetrical upper fin like the Yano pictures and the *Yarru* sketch. Later the Spicers suggested that the shoulder feature could have been the tip of its tail, curling forwards along the side of its body that was facing away from them. I suspect that idea may have been influenced by the idea that Nessie did not have a shoulder fin so that another explanation for the shoulder feature was sought. The Spicers' Nessie observation had some verification by William McCulloch, a cyclist whom they had spoken to just after seeing the reptile. He pedaled "back to the spot where the creature had emerged, and confirmed that bushes on both sides of the road and leading down to the Loch were extensively flattened, as if a steam roller had been driven over them" (Shuker, 1995, p. 90).

Bowden (2000) observed that for the full length of the spine, visible in Figue 2, the pattern of red flesh and fat is uniform. There are no tear marks, no remaining flesh around the assumed base of the fin at the mid-dorsal ridge from where it is thought to have slid.

The eyewitness testimony, pictorial evidence, and archaeological data all point to a pair of upper symmetrical fins. Since sharks do not have them, the interpretation of the *Zuiyo Maru* cryptid as a shark is false. It was the incorrect perception of a dorsal fin which led to the shark idea in the first place, therefore there is now no reason to continue with that idea for the cryptid's identity.

Are Myocommata Inconsistent with a Plesiosaur?

Myocommata are strong connective tissue embedded between muscle segments present in some sharks, though not in known reptiles. The myocommata, appearing as ridges on the dorsal ridge, may be seen in Figures 2 and 3(A), and to some extent in Figure 1. The presence of myocommata suggests a basking shark for some workers. There may be good evidence, however, that Sauropterygians also had myocommata. An Egyptian seal with the cartouche of Tutmosis III (c. 1100–1400 B.C.), depicts a Sauropterygia-like creature with myocommata on the dorsal portion of its tail (Figure 7). A majority of Egyptologists would say c.1400, though I think David Rohl's new chronology (Pharaohs and Kings), c.1100 is correct. The anterior and posterior flippers for the creature are distinctively represented with the narrow proximal stem connected to the body and the broader area positioned for forward propulsion. That morphology could not represent a crocodile's squat legs. The Egyptians knew about the appearance of the crocodile, ably representing it; this seal is not a crocodile. The appearance is somewhat similar to the flippers of Yano's sketch (Figure 5), also the pictures for Nessie's flippers taken underwater by the submersible at Loch Ness (Shuker, 1995, p. 89, and p. 96).

The Egyptians are known for their accurate zoological depictions. Although they were occasionally creative, combining human with zoomorphic features, much of their animal artwork may be recognized. Houlihan (1996, p. 129) claims that twenty-six species of Nile fish may be readily identified from Egyptian art/hieroglyphs, not including wonderful exotic species that may also be identified. Swords (1985, p. 18), in a study of the zoological idea for the Egyptian god 'Set' says, "*All* other theriomorphic deities of Set's antiquity have been clearly associated with known animals. And all of these 'contemporaries' of Set display coherent behavioral characteristics of such animals in their myths, a display apparently also true of Set." Set has probably not been identified because the creature it portrayed is now extinct. The Egyptians clearly had keen powers of observation and their representations were usually accurate.

There are some good parallels between the Egyptian seal and Yano's sketch (Figure 5). At the distal ventral point of the flippers there are concave indentations, best seen on the posterior flipper on the seal (Figure 7). This is not like the Loch Ness flipper pictures; or similar to known fossils. However, the lower portion of the cryptid's front right flipper that is seen in Figure 8, with the straight-line front edge, appears to be consistent with Yano's sketch. There is a small convex bump on the cryptid's front shoulder on both the seal (Figure 7A) and Yano's sketch (Figure 5C); there is also on both, a longer convex hump behind it. The body types for the seal and sketch are similar, including the measurements of the neck and tail, as well as the rounded abdomen. The head of the tetrapod on the seal points straight up (see B, Figure 7). There appears to be a pair of 'horns' on the top and back of the head (see C, Figure 7).

The N. Queensland (*Yarru*) longneck (Figure 6) also has a sketch of what may be myocommata running down the dorsal line, matching the Egyptian seal and the *Zuiyo Maru* cryptid. Jerlstrom and Elliot(1999) suggested these lines may be the vertebrae. Since the lines on the flippers (and fin) are not bones, however, it is possible that the dorsal lines are soft tissue also. The Egyptian (Figure 7) seal has the upper anterior fin; it is not easy to see since it impinges on Tutmosis's cartouche just above the creature. Inspection with a magnifying glass revealed that it is a deliberate design feature on the seal (directly above the point where the anterior flipper connects to the body; just behind A of Figure 7).

The seal is from the Mitry collection (1D, 96.351HD); it is unquestionably authentic. It was obtained by Mr. Philip Mitry when working at the Anglo-American bookstore at Cairo, Egypt during the 1920s–1950s. Mitry was licensed by the government to deal with antiquities and often conferred with archaeological experts including professionals at the Cairo Museum. He returned to the United States in the early 1960's, with his seals being sold in the last couple years. The seal could be from later than 1100/1400 B.C. since use of the cartouche may have been remembering a former ruler, not necessarily the current ruler.

Hebrew Mention of a Marine Reptile?

The Bible mentions a marine reptile in connection with Egypt—a *Tannin*. The Hebrew word *'Tannin'* is from a root that means "to extend," perhaps referring to a long neck or reptilian tail. The word could designate any one of a number of marine or terrestrial quadrupeds. Ezekiel 32:2–8 may be referring to a Sauropterygian, "a monster in the seas" who "bursts forth in your [Egypt's] rivers." What is being mentioned seems to be a marine reptile swimming up the Nile delta from the Mediterranean, who "muddies the water with his feet (or flippers)." The muddying of the water could easily be caused by the powerful flippers of a big marine reptile trying to move in a limited amount of water. It is also reminiscent of the sightings of Champ (the Lake Champlain, NY/Vermont, cryptid) on land. Then "a company of many people catches it in a net," which is not the way a crocodile was/is hunted. Ezekiel was clearly presenting a big animal, perhaps like that pictured on the seal. A scenario like Ezekiel described may also shed light on the question of how the Egyptians knew the appearance of a marine reptile like the *Zuiyo Maru* animal.

In Ezekiel 29:3, there is another reptile allusion: "Behold, I am against you, Pharaoh, king of Egypt, The great *Tannin* that crouches in the midst of his rivers. ... And I shall put hooks in your jaws, and I shall make the fish of your rivers cling to your scales and I shall bring you up out of the midst of your rivers and all the fish of your rivers will cling to your scales." In this passage the creature could be a crocodile with a "crouching" stance on his squat legs that was caught with hooks in the jaws (according to Herodotus, II, 70) and has scales (no scales are mentioned for the Ezekiel 32 *Tannin*). Because the Hebrew word *'Tannin'* is not specific in its meaning, it may be everything from a crocodile to a marine reptile or terrestrial reptile like a *Baryonyx*. It should be understood that the great *Tannin* of Ezekiel 29 does not come from the sea, unlike the Ezekiel 32 marine reptile, permitting the crocodile suggestion.

Rarely, the Hebrew Bible uses the word sea, *Yam*, for a bigger river: like the Nile or Euphrates. However, that could not be true of Ezekiel 32:2, since the creature is in the seas, then bursts into the rivers. (The use of the word for "rivers" stands in apposition to the word for "seas" in the same verse. Also, the *plural* for "seas" is used in Ezekiel 32:2; that is not used for even the biggest river.) As mentioned, the Hebrews used *Tannin* for a variety of animals. Specifically, the Leviathan is also a *Tannin* (Isaiah 27:1). The Leviathan swam in the open sea, a salt water ecosystem (Psalm 104:26, Is. 27:1). I concur with Shuker (1995, p. 128) that the identity of Leviathan may be "more likely to be a living mosasaur." The mosasaur is an extinct marine tetrapod, within the Sauropterygia, with large jaws.

Reexamination of Evidence Against a Plesiosaur Identification

It is well known that the amino acids of the cryptid's horny fibers were somewhat similar to those of the basking shark (Kimura, et.al., 1978). Therefore, it was concluded that the *Zuiyo Maru* cryptid was a basking shark. However, it should be noted that no one knows for sure the amino acid profile of extinct animals. Another reason the cryptid was identified as a shark was because a special type of protein—elastodin—found only in sharks, was detected. But again, we have no idea whether or not 'extinct' marine reptiles had elastodin. There has been an assumption, perhaps unwarranted, that the marine reptiles did not possess the elastodin or the myocommata which we see in sharks today.

From the evolutionary perspective of descent from common ancestry this reasoning may be valid. An anonymous reviewer from the University of Florida, at Gainesville, wrote:

> Marine tetrapods evolved from terrestrial tetrapods, and are therefore not closely related to sharks. Therefore, unless elastodin is so functionally relevant that it is the only protein of its kind that large marine critters are likely to use, then I would expect marine tetrapods to possess proteins derived from those present in their terrestrial ancestors (Anon., 2000).

Another perspective, from Tokio Shikama, a professor of paleontology is, "Even if the tissue contains the same protein as the shark's, it is rash to say that the monster is a shark. The finding is not enough to refute a speculation that the monster is a plesiosaur" (Koster, 1977). The creation perspective is that analogous features suggest a design for a similar purpose. There may be a reason why 'extinct' marine tetrapods were created with elastodin but since they are not known to science as yet, it is impossible to be certain.

The same University of Florida reviewer said, "the anterior fins [of the cryptid] attach to the middle of the elongate pectoral girdle exactly as in every shark I ever cut open. (The pectoral girdles on reptiles were usually large, plate-like structures on the underside of the animal.)" Disputing that, the original researchers Yasuda and Taki (p. 61) observe that "there is a large bone element [for the cryptid] which seems to be the pectoral girdle." If the vertebrae did not have transverse processes (Yano did not sketch them), then the cryptid would not match any known fossil plesiosaur. However, that may represent a simplification, not an explicit denial for their presence.

Another problem with the plesiosaur-like identification is that the measurements of the cryptid did not match those of fossil plesiosaurs that have been found. The *Zuiyo Maru* cryptid could have been a species not yet found in the fossil record. That could explain the problem of the 'wrong' number of neck vertebrae; though Yano's estimate for them may have been incorrect, especially since he did not directly observe them. Perhaps the distinct morphology pictured for the flippers (that Yano sketched too) could suggest a species unknown from the fossil record. The same phenomenon is found with the Egyptian seal, which also has somewhat equal neck/tail proportions with the Yano sketch (though his measurements are not in precise accordance with his sketch). Professor Ozaki, of Japan's National Science Museum, said, "if this is a long-necked monster it may be a new kind," (see Jang, 1998, p. 256). Dr. Douglas Dean, late professor of biology at Pepperdine, had the same idea, (Jang, 1998, p. 257).

There were other problems with the basking shark identification. One of them lay with trying to identify the cryptid's horny fibers with those of the basking shark. An examination of the original report reveals that the cryptid's horny fiber had only "1/7 of the specific radioactivity of the [shark's] elastodin." Kimura, et. al. (1978, pp. 72–73) explain that this suggests the cryptid had considerably less "reducible cross-links" compared to the shark's elastodin. They speculate that the effect of "age related changes" or destruction by NaClO "conceivably" could have caused the exceptionally "low content" and particular composition of the cryptid's horny fibers. However, Bowden (2000) observed that the radioactivity measurement for chemical "E" for the longneck's horny fibers was higher than that of the shark's elastodin. Therefore, the idea that sea water or Sodium Chloride caused the lower values for the other chemicals is unlikely. Kimura, et. al. admit their premise, "judging from the present knowledge of comparative biochemistry of collagenous protein," when they suggest a shark identification for the cryptid because of the amino acids. However, if the cryptid was a creature unknown to science, then their premise—the *present* knowledge of comparative biochemistry—is not a sufficient basis for their conclusion. Jang (1998, p. 257) had already recognized that problem and observed that "for reptiles, there was not relevant data, even abroad that could be used as a basis for [the *CPC*] comparison."

Snelling, the previous editor of the *Creation Ex Nihilo Technical Journal*, had the same idea:

> ...even though the horny fiber was almost identical to that of a basking shark ... this in no way proves that the carcass was that of a shark, simply because no one has ever studied the horny fibre of a plesiosaur to know whether it too is almost identical to that of a basking shark, etc. In the absence of a proven living plesiosaur for comparison, this carcass found off New Zealand still cannot be discounted as possibly having been that of a recently alive plesiosaur. (1994, p. 103, fn. 71).

Longnecks with "Horns" on the Head

In 1975, an underwater submersible in Loch Ness took pictures of what appears to be an aquatic cryptid. On its head there appear to be something like 'horns' (Shuker, 1995, pp. 85, 96). There are also pictures of Nessie's flippers (mentioned earlier). What look like 'horns' are also present on the longneck depictions of the Roman Nodens mosaic at Lydney Park constructed during the second century A.D. (see Costello, 1975, p. 75; Taylor, 1987, p. 38) The 'horns' are found at the top posterior portion of the marine reptile's head on the Egyptian seal also (C of Figure 7).

Reports of big marine cryptids, at Tasek Bera, Malaysia, relate "another strange feature was that the monsters had two horns on the top of the head, very small and soft horns" (Costello, 1975, p. 219). Caddy, the marine cryptid of the Pacific Northwest is also reported to have horns, though some say ears (LeBlond and Bousfield, 1995, pp. 32–35). If the *Zuiyo Maru* cryptid had 'soft horns,' they may have been eaten by parasites, as the skin evidently was, or decayed away, as its lower jaw had been.

The use of ancient/tribal art for cryptozoological leads is somewhat new, and has not yet been used to its full potential. Shuker (1995), a well-regarded zoologist, has explored the idea. Classicist Mayor (1989) suggested an interdisciplinary collaboration of classicists (those studying ancient texts), cryptozoologists, and students of archaeological representations of animals. A look at cryptids of Anglo-Saxon records, examining two archaeological representations, may be found in Cooper (1995), chapters 10–11. I presented an enthusiastically received study at the International Conference on Creationism for the form of the cranial crest of the rhamphorhynchoid pterosaur, *Scaphognathus*, utilizing classical depictions of the creature (Goertzen, 1998). LeBlond and Bousfield (1995, pp. 4–7) explore American Indian representations of Caddy. There are undoubtedly additional studies of this type that may be examined.

Additional *CPC* Data Challenging a Shark Identification

Obata and Tomoda (1978, pp. 46–48) said that the picture of the animal taken on the *Zuiyo Maru* deck, "shows the slender neck part connected to the high, strong built trunk [see Figure 9] and the thin, long tail bending forward. This aspect of the body is somewhat suggestive of the body structure of a tetrapod. ... The actual state of the carcass when it was being laid down is not to be disregarded in studying the character of this animal." [see Figure 9.] Another observation was that "the putrefactive smell was not like that of teleostean fishes or sharks, but resembled that of marine mammals" (p. 49). Again, "the surface of the body was whitish and covered by dermal fibers which were intersecting each other like whales and other mammals but were not weak like fish."

Yasuda and Taki state "... the animal has an extraordinarily long trunk. In no fish species attaining a large size is the trunk so elongate." They are assuming the posterior flippers were on the cryptid, according to testimony. Figure 8 reveals the *minimum* length for the trunk above where the posterior flippers would have been visible. Yasuda and Taki are saying if the cryptid was a known big fish species, the posterior fins should have been placed forward enough to be seen on Figure 8. Since they are not seen, on a trunk that long, the cryptid does not match any known large fish species. Yasuda and Taki also declared (p. 48), "Unlike sharks in which the nares are situated in the lower surface of the skull, the carcass had nares at the front end of what remained of the cranium" and the head was "not shark-like." In fact, a nare may be seen in Figure 9 (see arrow) at the lower front edge of the skull right where Yano sketched it (D of Figure 5).

Yasuda and Taki (1978, p. 62) indicated that if the cryptid was a basking or whale shark, we must assume three things: (1) that the pectoral fins and the lower lobe of the caudal fin had remained attached to the body, while the two dorsal fins, pelvic fins, anal fin and the upper lobe of the caudal fin had all been lost or otherwise overlooked by the observers, (2) that anterior parts of the skull were lost, and (3) that M. Yano counted by mistake a single lobe of a fin as two [number (3) appears to have reference to the symmetrical pair of anterior upper fins]. They concluded, "We consider it difficult to arrive at a conclusion based on so many assumptions." They further observe that the *C. maximus* (basking shark) "has a larger head than the [cryptid]." Finally Yasuda and Taki noted that if it is a species of shark, it may represent a species unknown to science.

Prof. Kasuya, Tokyo University, observed that if it were a shark the spine would be smaller. Furthermore the neck is too long, as shown in the picture (Koster, 1977). Koster (1977) said the small size of the examined head does not fit the morphological features of a shark. Obata and Tomoda (1978) record that another biologist was initially inclined to accept the shark identification. However when he compared the *Zuiyo Maru* photographs with a large specimen of a basking shark he had recently seen, he stated the animal in question was not a basking shark. Thus a number of the experts conducting the initial investigation had doubts about the shark identification for specific reasons, even though some thought it was a shark.

The 300 m. depth the creature was found at may suggest a marine tetrapod, thought to be extinct. Heuvelmans (1968, pp. 213–214) said that "among fossil plesiosaur remains we often find large polished rounded stones. It was thought that, as they have no molars to chew their food, they swallowed these stones to act like those in a birds crop. Crocodiles share this habit with plesiosaurs, and Dr. Hugh Cott, who studied them in Uganda, has shown that crocodiles really swallow stones to ballast themselves and make it easier for them to dive, just as a frogman wears a lead belt. This incidentally proves that sauropterygians would sink as soon as they died." These observations work well for the idea that the creature found at 300 m. was a sauropterygian. However, it may not be plausible that a dead basking shark sunk to 300 m. especially as they're occasionally found on the beach. Bowden (2000) hypothesized that density may take such mammalian creatures quickly to the bottom.

Conclusion

The fin on the upper right anterior portion of the cryptid has always been recognized, although it is usually regarded as a displaced dorsal fin of a shark. Now it appears fairly certain that there was also a fin on the upper left anterior portion of the creature. Among two dozen scientists who examined the picture some were initially skeptical and others unbiased. *All of them have concurred that the upper left fin is there*, when looking at the Taylor (1987) enlargement (Figures 1 and 4). Another three dozen non-scientists have observed it too. No one, so far, looking at the Taylor enlargement, has denied the presence of the fin when it was pointed out to them. Therefore the idea that there was a shark's displaced dorsal fin should be dismissed because known shark species do not have a matching pair of upper anterior fins.

The eyewitness testimony of Yano with all the other fishermen also verified the presence of a pair of upper fins. During their questioning, they explicitly stated there was no dorsal fin such as a shark would have. Archaeological evidence and photographic documentation both support the testimony for the *Zuiyo Maru* fishermen. Additional falsification of the shark identification is the nare at the front of the head (the picture matching Yano's sketch). Close photographic examination might be able to confirm or deny its presence. In light of all the evidence, the basking shark identification should be abandoned.

Summary of New Reasons Against a Basking Shark Identification

1. Unanimous eyewitness testimony for a pair of upper fins and against a dorsal fin.
2. Matching pictorial confirmation for the pair of upper fins.
3. Archaeological and cryptozoological support for these upper fins
4. Pictorial confirmation for nares at front of skull, matching eyewitness testimony.
5. Only 1/7 the radiation in the horny fibers that sharks possess suggesting fewer crosslinks.
6. Cryptid's trunk is longer than any known large fish species.

A Sauropterygia identification thus remains viable. Finding this cryptid again, whether alive or as a fossil specimen, would confirm or deny that possibility. At present, it is possible that the cryptid may be unknown from the fossil record, in part because the measurements do not match any known fossil, and in part because of the variant shape of the flippers, corroborated by the matching appearance on the Egyptian seal. The Sauropterygia are usually believed by to have become extinct at the close of the supposed Cretaceous geological era, 63 million years ago. Kuban (1997–1998) criticized creation scientists for suggesting the cryptid may have been a marine reptile. It now appears he was wrong, and that the creation scientists are vindicated.

Perhaps a marine biologist and/or paleobiologist could investigate the function of the upper fins. Based on their placement, it is possible that the upper fins helped stabilize the creature during propulsion by its flippers. Indeed, the right side upper fin was still articulated at a right angle to the body when the creature was found, which would have been a proper position to accomplish such stabilization for the creature (Obata and Tomoda, 1978, p. 46) [see Figures 2 and 3].

Two decades after the discovery, the *Zuiyo Maru* creature still fascinates researchers. Perhaps continued study will reveal further information about this cryptid. If any of the horny fibers remain, a DNA profile would be of considerable value. Considering all the available evidence, it seems that pursuing identification of the creature as a marine tetrapod is the wisest course.

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Book Review

***Icons of Evolution: Science or Myth* by Jonathan Wells**
Regnery Publishing Inc. Washington, DC. 2000, 338 pages, $28

Reading this volume was an experience I never could forget. I do not recall ever pondering a Darwinism-challenging book that was so authoritative, clear, poignant, and thorough in hitting the center of its target. Even the conclusions of paragraphs whisked me right into their following paragraphs. The central theme was clear throughout—Darwinian evolution usually is supported by 10 pillars (icons) which are faulty.

In the Introduction Wells presents science as "the search for truth", distinguishing it from myth (non-truth). He emphasizes here and through the book that we must examine Darwinism in the light of the *evidence*. Then Wells shows how the icons of Darwinism are supported by misrepresentation of the evidence. In his own summary he says:

One icon (the Miller-Urey experiment) gives the false impression that scientists have demonstrated an important first step in the origin of life. One (the four-winged fruit fly) is portrayed as though it were raw materials for evolution, but it is actually a hopeless cripple—an evolutionary dead end. Three icons (vertebrate limbs [homology], *Archaeopteryx*, and Darwin's finches) show actual evidence but are typically used to conceal fundamental problems in its interpretation. Three (the tree of life, fossil horses, and human origins) are incarnations of concepts masquerading as neutral descriptions of nature. And two icons (Haeckel's embryos, and peppered moths on tree trunks) are fakes (pp. 229–230).

It is interesting to notice, as Wells reveals at different sections throughout the book, that specialists in various fields recognize the serious problems with supporting evolution in their own disciplines, but they continue to maintain belief in the general theory because they think the facts from other fields are impressive enough to confirm evolution.

Darwin himself though he was not an embryologist considered evidence from embryology second to none in favoring his theory. I, as one formally trained in embryology, judge Well's chapter on this subject to be the best in the whole book; for he showed in no uncertain ways that developmental pathways do not support an evolutionary interpretation. His point could have been made slightly stronger by emphasizing that human pharyngeal pouches do not normally open and become slits. Regrettably, many recent biology texts continue to uphold evolution using embryological information which specialists have known to be false for more than 100 years. Interestingly, creationists have helped significantly in alerting scientists to correct these misrepresentations.

Wells primarily is writing as a scientist but in a non-technical way so that academicians and non-professionals alike can appreciate the force of his arguments. Step by