My assessment of the material provided by Mr Neil Waters and TMAG reference material that Neil, Catherine Byrne and I viewed at TMAG on 12/2/21 follows.

The material consisted of

1) A reference print cast (pink silicon) that Neil said was from a fossilised thylacine footprint reportedly confirmed as such by a paleontologist

2) A variety of plaster casts of 'unknown animals' several of which Neil claimed to be of thylacine and most of which Neil claimed to have been found and cast in the field in Tasmania.

3) Two consecutive still photos (0863 and 0864) taken by trail camera in northeast Tasmania that Neil claimed were of thylacine. Electronic copies of these photos were kindly supplied to me via TMAG for more timely analysis at home.

Reference material TMAG had available for examination was:

a) Resin copies of print casts variously labelled Thylacine taken in 1938

b) Photos of plaster casts taken from a recently dead thylacine (died in 1920) in captivity in Victoria.

c) Plaster casts of known footprints of a variety of Tasmanian wildlife.

My following comments presume that all of Neil's material were sourced as he described. In making comment I consider only the characteristics of the material and make no presumption of extinction or existence of the thylacine.

1). The silicon copy of a cast had little detail but was of the configuration and size consistent with a small thylacine as we know it (I do not know how old the fossil was and therefore which thylacine species was involved). The key configuration aspect is the large plantar (central) pad compared to small digital (toe) pads essentially eliminating it being a canid or felid (not that they would be fossilised). This ratio of area of plantar to a toe is about 7:1 with quadruped marsupial carnivores I have examined. Both dogs and cats have ratio of 2-4:1 depending on species and foot.

The print was reasonably deep and if of wombat, claws should have showed (in a live animal). Of Australian species I am familiar with, aside from the thylacine the print was most similar to that of a fore foot of a very large Tasmanian devil. It is useful reference material.

2) I think all of the plaster casts of Neil's I viewed are of dogs.

All appeared to have plantar: toe ratios of 2-3:1 consistent with canids/felids and inconsistent with marsupial carnivores.

Some of the smaller casts had excellent definition and were consistent with a dog of about 30kg.

Some of the larger casts represented a foot with a spread width of 11cm (casts are very slightly larger than the actual feet). Definition detail was poor to moderate and because I could not see these prints in context I could not confidently judge if they were of fore or hind prints but the very wide foot implying flexible toes suggest a fore (hinds are comparatively rigid). This represents a very

large dog I suggest over 45kg (if normally proportioned and fit), far too large for a thylacine as we know it.

Neil pointed out what appear to be a 5th toe well back from the plantar on some large prints. Thylacine fore feet have their 5th toe as part of the plantar crescent. Most dogs however have dew claws set well away from the plantar and I suggest the apparent 5th was indeed a dog dew claw (eg below) showing as the dog braced its feet in front, perhaps as a crash-stop.

It is remotely possible the apparent 5th is part of an overlayed print which, if of the same animal, means the main print would have to be a hind. Because of the toe spread I doubt this.

It is very hard to make more than these generalisations not having seen the prints in context.

3). Trail camera photos.

I think the first photo (0863) is of a Tasmanian pademelon.

The animal is dark brown with dark guard hairs (see below) and has a very wide rump typical of a macropod. I think the wide stance (only back legs can be seen) is because of a slow hop amongst

obstacles the legs spread for placement and/or stability. In open ground at speed the feet land close together (as speed increases straddle typically decreases in mammals).

The right hind leg is shaggy above the ankle but relatively bare below, typical of pademelons and atypical of thylacine.

There are no visible bands on the tail, rump or flanks. Even with dark thylacine skins bands are very plainly visible and I have seen no photos of actual live thylacines (ie in captivity) or fresh dead (eg as trophy pictures) at angles where bands might be seen where the bands could not be clearly seen. I would expect to clearly see bands at the animal's angle in the photo if it were a thylacine.

I have the impression that the tail is slightly curved up and pointing toward the cameras right of centre

There is nothing about this photo that suggests thylacine to me.

Trimmed 0863

The second, subsequent photo (0864) is more complex but again I think is a Tasmanian Pademelon albeit a very small young-at-foot. The animal is in much the same place as the proceeding one and appears to be following the same route (as typically would a young-at-foot). The photo data as shown gives no clue as to the time in between but the very similar shadowing suggests a very short time interval.

The animal I believe to be a pademelon in 0863 is likely an adult female (the relatively large shoulders of males often show even from behind and they usually have fur missing on their rumps from fighting) and would likely be about 7-10kg. That makes the smaller animal (in 0864) very small, likely about 1kg in my opinion (many pademelon young-at-foot are <1kg when they are first out finally).

Trimmed 0864

The complexity in the picture (0864) comes from the animal's size and its position apparently mid stride. The animal also appears to be going away from the camera. The bottom of a substantial bare tarsus of the right hind leg is visible and although the left is not clearly visible my impression (arrowed above) is of a left leg in the same position – that is, it is pulling both **together** over a stick while leaning forward on its forelegs its tail pointing out toward the camera angled sightly to the camera's right. Such locomotion is usual for macropods and unusual for quadrupeds. I believe the back of the left ear can be seen, the right ear being obscured by vegetation. Such young animals have relatively large ears.

The leg immediately above the bare tarsus appears shaggy. I have not seen that in any thylacine photos nor skins. Young Tasmanian devils and quolls are no shaggier than adults and usually look very 'neat and tidy'. I would expect the same of thylacine.

The apparent banding is important. However, I believe it is a combination of narrow shadows (from sticks and cutting grass) and natural parts in the fur, the latter something common when well furred animals stretch out. The banding is irregular in both frequency and width, far more irregular and variable than in any thylacine photos I have seen. Very narrow bands appear to continue well up the tail which is also not normal for thylacine. I suspect they are hair lines along the tail, the hair pointing toward the camera. The banding is also lower contrast than I would expect even at that angle, lower than in any photos I have seen.

In summary there is little about this photo to suggest thylacine and I believe it (0864) to be a pademelon young-at-foot probably following its mother (0863).

Nick Mooney

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22/2/21