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Taxonomic note: the fossil clawed lobster, *Metanephrops elongatus* Hu & Tao, 2000 (Nephropidae), is a *nomen dubium* but definitely not a *Metanephrops*

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Metanephrops is an extant, clawed lobster genus (Family Nephropidae) with a very distinctive, carinate and spiny cephalothorax. It is the most speciose extant genus of clawed lobster, with 18 Recent species known. It is a deepwater genus with very large eyes; most species are known from deeper than 150 meters. Some species, nonetheless, are of commercial importance and marketed as “scampi”.

Here, we report that the fossil species, *Metanephrops elongatus* Hu and Tao, 2000, does not belong to *Metanephrops* and is a *nomen dubium*. *Metanephrops elongatus* was erected based on a single, fragmentary fossil specimen from Pliocene rocks of Central Taiwan. Its validity has not been questioned previously in the literature and, thus, it has been included in recent compilations of lobster species (e.g. De Grave *et al.* 2009; Schweitzer *et al.* 2010).

This sole specimen and holotype is deposited in the private collections of the Land Fossils and Minerals Museum, Tainan, Taiwan, where we examined and photographed it in May, 2013. It was not possible to borrow the specimen, or to whiten it with ammonium chloride prior to photographing. The specimen was described (Hu & Tao 2000: 113) as “the anterior half of the carapace only” but, in actuality, it cannot be determined that this is any part of a carapace of any lobster. We agree with Hu and Tao that the fossil specimen is a decapod, this because the thickness, color, and texture of the fossil material are all very typical of fossil decapod cuticle. However, we are unable to identify the specimen even to the level of infraorder. In fact, the specimen might well be a very large crab claw or other.

Most diagnostic of the *Metanephrops* cephalothorax are the very prominent, paired, spinose, supraorbital carinae (Tshudy *et al.* 2007), as well as the very large antennal spine (one per side), both on the cephalic region. The thoracic region is also very distinctive in bearing three carinae on each side: the intermediate, branchial and lateral carinae. If the holotype of *M. elongatus* is a carapace at all, none of these features is evident on the specimen, even though the authors did make reference to the supraorbital carinae (as “dorsal ridges”), noting “a pair of faint dorsal ridges elevated along the dorsal margin” and that “the dorsal ridges were possibly provided with 5 pairs of saw-teeth, since the teeth bases are observed”. It is unclear whether or not the “dorsal ridges” (the supraorbital ridges on *Metanephrops*) are real anatomical features or simply creases in a damaged exoskeleton, or both. Regardless, we cannot support the authors’ interpretations. Moreover, the supraorbital carinae on *Metanephrops* extend anteriorly well beyond the orbits and onto the lateral margins of a moderately broad rostrum. However, in the holotype of *M. elongatus*, this pair of “supraorbital carinae” (if interpreted correctly) converge anteriorly above the “orbit” (if it is indeed an orbit there).

The authors state that “the orbicular ring is elevated and located in front of the postorbital spine”. We cannot identify either of these features on the specimen. It is likely that what Hu and Tao consider the orbit is the inflated “anterior” margin observed on the specimen’s left side, and, according to their figure B, the hole in the cuticle observed on the right side. Neither of these can be confirmed as an orbit. In fact, the inflated “anterior” margin more closely resembles what is observed on the distal end of the propodus of some decapod chelipeds, where the propodus meets the dactylus. This suggests the possibility that the specimen in question is a large crab claw.

Also characteristic of the *Metanephrops* cephalothorax is the deep postcervical groove. The specimen shows nothing that can be identified as such. There is a crease on both sides of the specimen posterior to midlength, but it simply is not convincing. We agree with the authors only in that the “carapace surface (sic) is faintly granulose”.

In summary, if the holotype of *M. elongatus* is an “anterior carapace”, it should not be a *Metanephrops*. There is no basis for identifying this specimen as *Metanephrops*, or even as a lobster. Thus, we propose herein that *Metanephrops elongatus* does not belong to *Metanephrops* and is a *nomen dubium*.

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