Answers in Depth, Vol. 2(2007), pp. 1–2.
https://assets.answersingenesis.org/doc/articles/aid/v2/microraptor-gui-invent-biplane.pdf

Did *Microraptor gui* Invent the Biplane Before the Wright Brothers?

David Menton, Ph.D., Answers in Genesis

Keywords
Microraptor gui, biplane, feathered dinosaurs, fossils, flight, feathers, protofeathers

Once again, the media is abuzz with feathered dinosaurs busily "experimenting" with flight. This time the presumed dinosaur, Microraptor gui, is claimed to be a double-winger just like the biplane the Wright brothers flew at Kitty Hawk! This is an exciting turn of events for evolutionists who have often attempted to make evolution more plausible to the layman by likening the process of evolution to the progressive development of air travel from the Wright brothers to the space shuttle. Never mind that the process of evolution is without goal or purpose, while the progressive development of aircraft involved a vast amount of intelligent design.

Evolution Can Employ "Strategy" and "Figuring"—But Not Intelligent Design

Playing on the same theme as the rest of the popular media, the *Cincinnati Enquirer* (page 4, January 2007) reported that "flying dinosaurs employed the same strategy that the Wright brothers used 125 million years later" and that "like the Wright brothers, prehistoric animals had to figure out how to glide before they were capable of powered flight." But are we to conclude that evolution actually "employed strategy" in its effort to "figure out" how to fly? Isn't it interesting that biology teachers are forbidden to use the expression "intelligent design" when referring to the integrated complexity of biological systems but they apparently can use words like "invent," "experiment," "strategy" and "figure out" when referring to the chance evolution of these same systems.

Did *Microraptor gui* Have a Second Pair of Wings?

M. gui is not a new find. Six specimens of *M. gui* were discovered four years ago by Xu et al.[1] in the famous Cretaceous fossil beds of Liaoning Province in northeastern China. These creatures were about the size of a small hawk and had a long tail (with several vertebrae) that was covered with feathers much like the extinct bird *Archaeopteryx*. The most distinctive feature of *M. gui* is the presence of six-inch-long pennaceous feathers on its legs and feet (metatarsals). When first reported, the feathered legs were pictured as being spread out laterally just behind the wings, similar to the fore and aft arrangement of the four wings of a dragonfly. But a reconsideration of the fossil evidence by Chatterjee and Templin[2] now views the wings as arranged in an over-and-under configuration, like that of a biplane.

Chatterjee and Templin insist that having one set of wings behind another would be aerodynamically inefficient (though the dragonfly seems unaware of this). More importantly they show that the hip of *M. gui* is anatomically unsuited to hold the legs out laterally in the manner suggested by Xu. They propose instead that *M. gui* held its legs under its body in flight much like the pouncing position of a modern raptor such as an eagle or hawk, and that it was only the feathers that jutted out to the side.

They imagine that the long feathers of the legs and metatarsals were oriented in life in a transverse horizontal plane, effectively producing a second pair of "wings" (consisting only of feathers) under the upper wings. It is difficult to imagine that six-inch-long feathers could stand out perpendicular to the skin and yet help support the weight of the bird in flight. In fact, the fossil evidence does not directly support such an unusual feather orientation. In the six fossils of *M. gui* discovered so far, the leg and metatarsal feathers do not jut out to the side but rather project backwards from the leg, much as do the relatively long leg feathers of many living raptors. To support their interpretation, the authors speculate that the leg feathers collapsed backward during fossilization.

M. gui and the Origin of Flight

Evolutionists are particularly keen to explain the origin of flight in birds or dinosaurs. Historically, there have been two theories: the cursorial theory, which claims that flight evolved from the ground up and the arboreal theory, which claims flight evolved from the trees down. Since most evolutionists prefer to believe that dinosaurs/birds first learned to glide before they engaged in more complex powered flight, the arboreal theory is currently the prevailing view.

Most evolutionists prefer to think of *M. gui* as a glider that was incapable of powered flight. Chatterjee and Templin speculate that *M. gui*'s biplane arrangement of wings resulted in an undulating glide between trees. Presumably when this creature finally reached the ground it would have to climb back up into the trees again—a task not made easy by the six-inch-long trailing feathers on its feet and legs. In the interest of evolution, the authors downplay any possibility that it could fly without gliding.

Feathers May Provide Evidence for Powered Flight

If one looks at birds today, it is possible to distinguish flying birds from non-flying birds by the shape of the primary feathers in the wing. The large wing feathers of flying birds have asymmetric feather vanes. That is, the vane on the leading edge of the feather is slender while that on the trailing edge is broad. This produces an airfoil and stability essential for flight. Nonflying birds, or even birds that do not fly well, such as chickens, have symmetric feather vanes.

What Kind of Feathers Did *M. gui* Have?

All six specimens of *M. gui* fossils now known to exist have beautifully preserved feathers. In all specimens the large feathers of the wing are highly asymmetrical as one might expect of a good flyer. We should recall that evolutionists were once reluctant to view *Archaeopteryx* (also bearing asymmetrical wing feathers) as being either a bird or capable of powered flight. At least most ornithologists now agree that *Archaeopteryx* was both a bird and a capable flyer.

But Was *M. gui* a Dinosaur?

The most interesting question about *M. gui* is not if it had wings like a biplane or even if it were a glider or powerful flyer. The real question is, was *M. gui* really a flying/gliding feathered dinosaur?

There is no question that *M. gui* had true pennaceous feathers essentially identical to those of modern birds. These feathers are not to be confused with the so-called "protofeathers" reported on early Cretaceous theropods of China such as *Sinosauropteryx*[3] or the herring bone patterns found in the skin of other theropod dinosaurs such as *Sinornithosaurus*.[4] These structures bear no real resemblance to feathers and may be better interpreted as interwoven collagen fibers in the dermis of these animals.[5]

Feduccia and coworkers have presented a substantial body of evidence to support their view that there are, in fact, no known dinosaurs with feathers.[6] They further point out that the three digits of the theropod hand are 1, 2, and 3 (digits 4 and 5 being reduced during embryonic development), while the three digits of the bird hand are 2, 3, and 4 (digits 1 and 5 being reduced or resorbed during embryonic development). Perhaps the biggest problem is that *Archaeopteryx*, a true bird with true feathers, is believed by evolutionists to occur in the fossil record 60–80 million years earlier than the Chinese theropod dinosaurs that are presumed to be the ancestors of birds.[7]

Finally, several unquestioned birds with unquestioned feathers have been found in the early Cretaceous in China including the modern looking aquatic bird *Gansus yumenensis*.[8] The microraptors themselves, including *M. gui*, are more like birds than theropod dinosaurs. If we compare the hands of *Microraptor* to *Archaeopteryx*, for example, we find the same bird-like phalangeal formula for their digits (2-3-4).[9] Feduccia et al.[10] have concluded that "the microraptors of China are birds, regardless of their ancestry" (p. 162).

The story that emerges then is not as charming as that presented in the popular media of feathered dinosaurs "experimenting" with flight using the same biplane "strategy" as the Wright brothers used, in an effort to "figure out" how to fly. A critical assessment of the data by evolutionists themselves reveals that, regardless of how it flew, *M. gui* was a bird, not a dinosaur. The evidence supports the conclusion that birds give rise to birds, and that they reproduce after their kind. But this is a story unlikely to be embraced by evolutionists or the popular media.

Footnotes

1. Xu, X., et al., 2003. *Nature* **421**:335–340.
2. Chatterjee, S. and R.J. Templin, 2007. *Proceedings of the National Academy of Science USA* **104**(5):1576–1580.
3. Currie, P.J. and P.-J. Chen, 2001. *Canadian Journal of Earth Sciences* **38**:1705–1727.
4. Xu, X., et al., 2004. *Nature* **431**:680–684.
5. Feduccia, A., T. Lingham-Soliar, and J.R. Hinchliffe, 2005. *Journal of Morphology* **266**:125–166.
6. Feduccia et al., Ref. 5.
7. Feduccia, A., 1999. *The Origin and Evolution of Birds*. New Haven: Yale University Press.
8. You, H.L., et al., 2006. *Science* **312**:1640–1643.
9. Zhou, Z., 2004. *Naturwissenschaften* **91**:455–471.
10. Feduccia et al., Ref. 5.