

## **Abstract**

Since the earliest recorded history, humans have shared a nearly universal desire for the freedom of flight. This obsession with escaping gravity's unblinking gaze to somehow slip aloft, even for a fleeting moment, has inspired many to wax poetic about the dream of flight. Looking to nature's design, man for years attempted to replicate the flight of the bird, and even its predecessor, the pteranodon, in many a bid to break free of his earthly bonds. Though science eventually shifted its focus to balloons, and then to fixed-wing flight, as a means of sustaining flight, the freedom and effortless grace of birds is as captivating now as it ever was. From the earliest days of man's dreams of launching himself skyward to today's advanced designs, flapping-wing craft, known generally as ornithopters, have held a constant place in the quest to achieve the flowing elegance of flight so easily mastered by nature's own aeronauts. In the past several years, aircraft which capitalize on the mechanics of bird flight have enjoyed a renaissance of sorts. From the recent first flight of a human-powered ornithopter, to flapping-wing designs incorporated in nano-scale unmanned vehicles, aviation design has in many ways come full circle. This paper examines the history of, and influences on, ornithopters and their design, and investigates developments and future trends of this uniquely inspired aircraft.