What's all the flap in Oklahoma City?

By Larry Kruse

Delightfully different: those intriguing ornithopters.

As a highly competitive indoor free flight club, Oklahoma City's Sooner Free Flight Society (SFPS) has been the site of what Charlie Brown is to kites: a free flight event. As SFPS leader Bill Baker says: "We're just a bunch of outdoor flyers waiting for better weather."

Despite their avowed lack of tooth-and-nail competitive drive in indoor, the SFPSers do stage several indoor fun-flies and a minimum of one sizable indoor contest each year, usually just prior to the start of outdoor flying. An integral part, indeed, the highlight of these late winter contests for the past few years has been the inclusion of an ornithopter event, one of few in the entire nation, outside of those held in conjunction with major national contests.

For those who have never seen an ornithopter in flight, Ron Williams probably describes it as poetically as possible in his definitive, "Building and Flying Indoor Model Airplanes."

"This type of aircraft generates a great deal of excitement when flown. The sight and sound of an aircraft flying by its flapping wings is so powerfully evocative of the flight of birds (or bats) that one is drawn into rapt attention as the flight begins. As the flapping mechanism is seen into a state of imbalance, the resultant eccentric forces tend to wind the plane up on itself."

Not to disparage Ron's description in the slightest, we should note, however, that there have been some major advances in ornithopter flight in the last few years. The "short effort" has now become a commonplace four to six minutes plus for several flyers, including the focal point of this piece, Roy White of Catawissa, MO. As a multiple National Record holder (Cat I—3.25; Cat II Outdoors—658; Cat I1 Outdoors—600) Roy flies fully loaded the machines that barely seem to oscillate as they climb toward the ceiling. Weighing as little as .024 ounce and using small sections of hypodermic needles as the bearings for each flapping surface, Roy's Rara Avis design is an extremely smooth flying craft of relatively simple construction, easily trained.

Hopefully, the photos will relay a bit of the spellbinding and intriguing qualities intrinsic in the nature of this altogether different form of flight. For those readers who wish to learn much more about the finer points of building and flying the elusive ornithopter, there is a national organization called the Ornithopter Modelers Society (OMS), devoted entirely to that segment of our hobby. More information about OMS can be obtained by writing to Roy White, Rt. 1, Box 241, Catawissa, MO 63015.
This maze of balsa sticks is really the flapping mechanism (above left) of an ornithopter. As the crankwire rotates, the controles move around with it causing the wing spars to move up and down. Simple, isn't it? To give you an idea of the range of wing movement up and down, compare this photo (above right) to the photo to the left which shows the wings about halfway through their upward motion. Normal movement is about 44°. Bill Baker and an unidentified helper prepare Bill's ornithopter for flight (below left). It's from a kit of Japanese origin called the Hummingbird being distributed by Hobby House. A closer view (below right) of the cabane assembly and flapping mechanism of Baker's Hummingbird. Mechanism primarily made of pre-formed plastic and music wire. Flight was extremely fast, with aerobatic darting tendencies. Wing covering was tissue paper as was the stabilizer.

Shirley White uses a calculator (above) wired to her husband Roy's winder to keep track of the number of winds put into his Para-Avis. Holder of multiple national ornithopter records, Roy (at left) posess with an indoor version of his Para-Avis.