



# In *Flight* with the WEATHER GODS

**In Ancient Greece four gods were said to rule the winds. Boreas was god of the north wind, Notos the south and Euros the east. The west wind was ruled by Zephyros, who was also god of Spring.**

**Were they watching, earlier this year, when Aris Koliacos and Nasos Marconis set off on a 10-hour flight around Greece's Peloponnese peninsula? The pilots were hunting for records – a 500 km closed tandem trike triangle – but at the same time found themselves on a flight of a lifetime. Alex Koliacos tells the tale...**

Three things converged to help spark the idea of a world record flight in Greece. First, I discovered reflex paragliders. Second, I met Haris Christopoulos, an inspirational figure in the Greek paramotoring world. And third, I met Nasos Marconis, an experienced paramotor and ultralight pilot. From all this, the idea of a big flight with a double paratrike was born.

The flight we decided on was from the city of Agrinion in southern Greece across the Mediterranean Sea to Heraklion, the capital of Crete. The flight would be 500 km in a straight line and 550 km cross country. The world record is 291 km.

However, paramotoring in Greece is not so simple. Greek regulations classify paramotors in the same category as aeroplanes. We also need to be registered, have an ultralight pilot's license, fly with licensed radios and can only take off and land at authorised airports. In February 2008 a friend, Aristides Mitaras, offered us the use of a Simonine 150 paratrike. We paired it with a Dudek

Synthesis wing, made the necessary adjustments, and started out on our first trials, which included flights of 100 – 200 km. All went well.

However, our first attempt at a really big flight was cancelled because the sea was too rough for our marine support crew. On our second attempt, after taking off from Agrinion airport, we found we couldn't climb high enough to cross the Patras Gulf. Excessive humidity meant the carburetor had frozen. We had to cancel again. The next day the weather was not suitable to fly to Crete, so we chose to try our alternative plan from Aktio to Kithira – a distance of 340 km. We went to Aktio, a port town, and handed in our papers and flight plan. The airport master rather reluctantly agreed to pull the Boeings aside and make way for take-off. However, at the last minute we were stopped because of problems over a certificate for our transponder – another instrument that we have to carry, and one that allows international airports to see you. Disappointed we promised to try again in 2009.



## PERFECT WINDS

Over winter I began building a new paratrike. Things were not, however, that simple. For example, we had to take into account the weight of the trike combined with the weight of the fuel we would have to carry: from full to empty the weight changes by 120 litres, some 83kg.

We also had to think about the thrust of the 172 triple-propeller with 120 kg force. Moreover, equipping the craft with instruments required by law for the flight transformed it from a paratrike to a proper aircraft.

We ended up with a total take off weight of 350 kg, fitted with seats suitable for 10 hours of flight. The construction demanded three months of exhausting work in the lab of the ppg.gr. After that, the time finally came to try it out.

The third weekend in March found us at the castle of Beotia in central Greece ready for our first trial. However, it was raining, and within ten minutes of taking off we were forced to land. Later in the afternoon though, we managed a perfect flight of 35 minutes.

Our brief test showed us the trike had an ascent rate of 3-4 m/s at 6,000 revolutions, with 115 kg of propelling force. The exhaust fumes temperature measured between 500 OC to 620 OC. However, we still needed more trials.

We didn't get them. Good weather proved too attractive and in late March a perfect forecast in the week running up to Saturday 28 March found me measuring out a monster triangle that covered much of the Peloponnese peninsula in southern Greece. The winds were the thing. I was amazed. The forecast for the Saturday showed north winds in the south east of the country, which would help our first leg, south west winds in the south of the country, which should help our second leg, and finally in the afternoon west winds were forecast for central Greece, which would be ideal for our third leg.

I measured the triangle: Castle to Kalamata to Agrinion to Castle. It was 520 km. I phoned Nasos and told him what I was thinking. A flight in a closed triangle which seemed feasible, without much cost, and would bag three world records.

He was enthusiastic about the idea and the weather forecast, but it was tempered by our lack of trials. However, as the forecast got even better during the week, we decided to go for it. Take off would be 7 am Saturday morning.

## BOREAS, GOD OF THE NORTH

Six o'clock in the morning and we couldn't find any Castrol TTS. So instead we used a similar oil in the petrol. This proved to be a mistake and caused us a serious problem, increasing the temperature of the exhaust fumes and our fuel consumption by 25 %. However, that still lay several hours in the future.

Shortly before 7 am we reached Papadopoulos airport and started to prepare. By 7.40 am we were ready and waiting for permission to take off. Ten minutes later we taxied along the runway for a short 20 m before gently lifting off. Once at the required altitude I opened the trims and we turned south, towards the southeastern side of the 1,749 m Mount Helicon.

But flying over Ikaros airport I noticed that the fuel temperature had reached 700 OC. I promptly reduced revs until the temperature dropped to 620 OC, which is the highest permissible limit for good motor performance.

We made a circuit of the airport to evaluate the situation and decide what to do. It was obvious something was wrong with the fuel, and although the motor was operating quite smoothly we knew we wouldn't be able to get more than 80% of its performance. We thought of turning back and changing the fuel, but that would delay us for at least an hour and by then it would be too late to fly



the mountains of the Peloponnese.

While discussing the situation I turned the trike towards Mount Helicon, and suggested to Nasos we fly towards the Gulf of Korinthiakos in order to re-evaluate things. At worst we would have had a fine trip.

We had a steady climb rate of 0.5 m/s and a speed of 55 km/h. We reached the Gulf of Korinthiakos at 1,150 m – a fine height for cruising over the sea even without a motor. In front of us lay the mountains of Kalanisa and Gerania.

We had to make a difficult decision. Should we go back and cancel the flight on such a perfect day? That decision was never taken – we simply continued on our course. Before we even realised it we had left Kalanisa behind and were approaching Gerania.

We scudded along, past Lake Vouliagmeni and the blue waters of the Korinthiakos, and our speed reached 70 km/h. Far better than anticipated. There was no doubt: everything was in our favour and too attractive to be ignored. The only thing against us was that we had lost that 20 % of performance.

We went over the city of Corinth at 1,000 m and clearly saw the village of Artemision in the distance at 1,240 m, like a castle surrounded by mountains. The first text was sent to our support team: "Korinthos."

Beneath us the national highway to Tripolis wandered along the Corinthian plain until it entered the Artemision Tunnel. As we approached the ancient site of Nemea the breeze from Argolicos bay reduced our speed to 57 km/h. We turned inland towards the mountain slopes to exploit the morning lift.

By the time we reached the tunnel we had gained another 400 m and now we were able to fly over the edge. Artemision is a natural boundary separating Korinthia from the fertile plains of Tripolis, and from our perspective we

had a magnificent view of Tripolis in the distance and the national highway cutting through the plain.

We were motoring along, at 65 km/h, and as we flew over the local airport at 300 m we sent our second text to our support crew: "Tripolis."

### NOTOS, GOD OF THE SOUTH

After two-and-a-half hours the view started to change. Lawns with almond trees ran across the slopes of the mountains, while on our right was Megalopolis, once one of Ancient Greece's biggest cities and now scarred with an enormous power station and imposing chimneys. I looked at the trim to see if I could get a bit more speed.

In the distance we could see Kalamata, the second-largest city of the Peloponnese. A surge of emotion ran through us. "What a fantastic flight," I thought to myself. "How close we were to not even coming."

In accordance with our flight plan I reduced the revs to gradually descend to 300 m. As we got closer we contacted the local airport control tower, which already knew we were coming. The wind was south westerly 20 to 25 km/h, it was 11.30 am and we'd used 40 litres of fuel. We sent our third text of the day: "Kalamata."

Above the airport we changed course and headed towards Meligala. Our speed increased to 80 km/h at 300 m, but dropped off as we approached the town. It dropped lower, to 40 km/h and it became evident we were fighting our way through turbulence. We were in the lee of a north-west wind, flying behind mountains as it rolled over them towards us. I pulled the trims to gain height but it didn't work, and our speed fell further to 30 km/h.

I let the trims go and headed towards the southwesterly slopes north of Meligala. Approaching with only 50 m height, the turbulence stopped and we started to gain



height gradually. Our speed however remained hopelessly low. The motor was consuming fuel and we were stuck at 35 to 40 km/h.

The northwest wind was coming in from the direction of the small town of Kyparissia and heading to Meligalas, where it collided with the southern breeze from Kalamata. Evidently it had been a mistake to descend so low. After an hour of disappointing flying we reached Zaharo, but without our airforce GPS or the VHF radio, both of which had burnt out due to overcharging.

The VHF was replaced with a spare one and the MLR kept recording the flight. Without our main GPS we were now flying under VFR only, which was fine, but we knew it would cost us some kilometres.

From the beach of Zaharo to Lake Kayafa we relaxed a bit because of the south-west breeze at 300 m and a speed of 63 km/h. We pulled ourselves together, made a rough check of the paratrike, ate some sweets, relieved ourselves and calculated a conceivable straight-line course back across the sea to Mesolongi.

It was noon by the time we reached the mountain slopes of Pyrgos, in the northern part of the peninsula, and the warm anabatic breezes that we needed to gain height. We ascended from one thermal to another as if climbing a giant staircase. As we approached Pinios dam, one of the largest earth dams in Europe, we had risen to 450 m. The view of the lake was magnificent, while in front of us were the last mountains before reaching lower Achaia. The trike was stable and the thermic air buoyant and in one particularly well organised thermal I couldn't resist it, and went round at a speed of 55 km/h. Nasos brought me back on course in a hurry. We kept rising straight over the slopes to the top, from where we could see the Gulf of Patras. Once over this inlet of the Ionian Sea we would be on our home leg.

### ZEPHYROS, GOD OF THE WEST

At a height of 1,100 m we entered the plain and left behind the dangers of low flying. We had two empty fuel tanks and the light showing we had 40 litres left came on. We felt like we were on a flying carpet as we flew across the sea towards Mesolongi, zipping along at 65 km/h.

Above the imposing salt-works at Mesolongi we lost height until we reached the small town of Aitolikon with only 500 m. But here we had the most beautiful slopes on our right, old acquaintances, which were waiting to escort us to the city of Agrinio. We turned slightly and the 'elevator' started working perfectly. We rose, on course, gaining height for free until we were at 750 m before leaving the mountain behind and aiming for the military airport of Agrinio. We arrived back at 500 m, suffered a communication problem with our spare VHF radio, but still we sent our fourth text of the day: "Agrinio."

From there we turned east, past the hospitable airport of the Air Club of Agrinion and a little while later passed over Lake Trihionida at 60 km/h.

We headed further south where northwestern slopes could offer us



height and we could increase our speed. Indeed, as soon as we got near, the 'elevator' started to work. Soon we were flying at 800 m at a speed of 63 km/h north of Nafpaktos.

With good height and speed we crossed the river Evinos, its waters dotted with small boats. Ahead a wind farm, its generators rising high into the sky. Our speed was 83 km/h and we were at 1,200 m. We were doing fine, but were anxious: the lack of fuel was a concern.

Ahead and to our left was 2,510 m Mount Giona. As we approached our speed dropped to 53 km/h. A little further on, at 4.40 pm, a light came on: we were down to our last five litres. The flight was over.

With the wind against us and only five litres of bad quality fuel left, the chances of flying over the last mountain range that separated us from Kopaida were nil. As we approached the city of Itea in the shadow of Mount Parnassos, we scouted two or three possible places for emergency landing. We were at 1,150 m, high enough, and kept flying towards the village of Desfina to avoid leeward sites in Itea. We stretched our arms, hands and legs in preparation for landing, and checked again the nearest possible landing. It would be a golf course on a small hill.

At 250 m we were almost directly above it and were ready to enter emergency landing procedures when we finally ran out of fuel. The motor stopped. I pulled the trims: rate of descent 2 m/s, speed 33 km/h. We got closer. Our golf course was full of stones.

The trike taxied very briefly until the front wheel struck a rock and we tumbled. It could have been worse. A bit bruised but otherwise unhurt we had landed, after a record flight of 463 km and nine hours 10 minutes. The weather gods had been kind. 🍷

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## FLIGHT CHECK

**Total distance:** 463 km  
**Date and time:** Saturday 28 March 2009, 9hr 10 mins  
**Area flown:** Peloponnese peninsula, Greece  
**Equipment:** Dudek Synthesis wing, custom-built trike  
**Pilots:** Aris Koliacos and Nasos Marconis  
**Pilot notes:** A mere 30 km more and we would have had two world records: the speed record with a double paratrike and distance record for a closed triangle of 500 km. Both records are still unclaimed.