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TWO EXCEPTIONAL BALL LIGHTNING CASES

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Abstract: Two exceptional ball lightning cases reported to the author, both from northern Lower Austria, are presented. In case one, a toroidal, long-time object was observed. In case two, BL exploded near the witness and scorched a cornfield.

CASE ONE: GMUEND, LOWER AUSTRIA

In the summer of 1998, Mrs. Aurelia Reisinger, 85 years, from Gmuend at the northern border of Austria, wrote a first report: "It was at Corpus Christi Day 1996 [June 6 - AGK], about 3 P.M. [CEST, Central European Summer Time - AGK], at Gmuend, Lower Austria. I was in my garden, when I suddenly heard a strong rushing sound. I turned around and saw a luminous ring about the size of a truck tire hovering above my apple tree. Countless sparkling objects hung from it downwards, like Christmas sparklers from a Christmas tree. The whole spectacle lasted for about *10 minutes*, then the 'sparklers' went out one after the other. After half of the ring had vanished in this way, the rest went out suddenly. Inspecting my apple tree for possible damage afterwards, I found not a single leaf or a grass-leaf on the ground damaged in any way. The natural spectacle came together with a short, violent thunderstorm which damaged switched-on electrical appliances in the vicinity, and also the telephone grid."

The author phoned back the witness on October 10, 1998, asking additional questions. The location of the observation was a one-family house between the town center and the railway station, about 500 meters above sea level, situated near a lake. The witness worked in a shed adjacent to the garden, 15 meters from the apple tree. When first seen, the object looked like a full torus with clear outlines and moved horizontally into a position just over the tree. The underside of the torus sparkled with an almost blinding red, yellow and other colours. A rushing, hissing sound was heard all the time. The object did not move before dissolving after 10 minutes. No electrical cable was nearby, no damage was found. The thunderstorm was short and heavy, causing cloud-to-ground flashes at a distance, not near the house. The witness is a pensioner with good eyesight, she only needs reading-glasses. She said other people had seen the ring approaching. She had first heard about ball lightning from her father, a forester. Remaining "surprisingly quiet" during the observation, she got nervous afterwards and her eyes hurt, "burnt by the light". From her physician she received a sedative which she took for a week. An ophthalmologist examined her eyes and said "it's OK". Because of its outstanding properties, the case will be field-investigated and matched with ALDIS (lightning detection) in 1999.

CASE TWO: OTTENSCHLAG, LOWER AUSTRIA

The case was first documented by Oliver Stummer, a student researcher from Vienna, Austria, in 1997. Together with him, the author visited the main witness at his home on October 4, 1998, and asked him for his full account. In May or June of 1988 or 1989 around 2 P.M. CEST, Mr. Alois Fuehrer, a farmer of 38 years from Jungschlag, a small village south of Ottenschlag, northern Lower Austria, 850 meters above sea level, returned early from fieldwork because a heavy thunderstorm moved in from the northwest. Fuehrer stood in the open on a wooden plank at the rear end of the Diesel tractor driven by his father. The vehicle had passed the last Ottenschlag houses southbound, when he noticed a falling object. It was round, 20 centimeters across, and "seemed to come down like a toy balloon", vertical, soundless, without rotation. It was brilliant white, a steady light, and had "something like a smoke trail". Only 20 to 30 meters to the right of the tractor and of the road, after 4 to 6 seconds, the object hit the surface of a green summer barley field, flashed up and "exploded with a loud, very high-pitched bang". Mr. Fuehrer said "this was no thunder", noticed no heat or pressure wave. However, *what* he felt caused panic - a tingling, and his hairs stood on end on his head, neck, even on his hands. He urged his father: "Get out of here, the next one will kill us!", who also felt the electrostatic effect in the driver's cab. The Diesel tractor continued to function normally.

Arriving home, the Fuehrers still wondered what had happened and they went back to have a look on the same evening. They found a circular patch about 6 meters across in the impact area where green barley plants had been reduced to ashes and smoke, "as with a cutting torch". The burn effect was strongest in the center. The soil had not been moved. No power or phone cables cross the event area. No cloud-ground-flash and no precipitation was associated with the BL event. It rained in the west during the event and at the location after the event. The BL explosion bang was also heard by people in a nearby local inn. The farmer who gave this report has normal eyesight and likes to fly model airplanes in his free time. The author visited the event location together with Oliver Stummer. It has been changed by recent building activities.