COLLISIONS OF BULGARIAN CIVIL AVIATION AIRCRAFT WITH BIRDS

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70 birds strikes with Bulgarian civil aviation aircraft were registered from I974 to I98I (I9 strikes occured abroad, that is Sudan, France and Vietnam). Most of bird strikes take place in the area of large cities with heavy air traffic, namely Burgas, Sofia, Varna.

The amount of bird strikes registered from I974 to I98I is constantly growing. This is caused primarily by the growth of air traffic intensity and by the more wide application of civil aviation in agriculture and forestry. The use of jet aircraft and the increase of speed also lead to a higher rate of bird strikes on aircraft.

Most often collisions of birds and aircraft occur in autumn, from September to November, when large masses of migrating birds from Europe and Asia fly over Bulgaria on their way to the wintering areas. The main percentage of individuals in flocks consists of young inexperienced yearlings which in most cases concentrate at airdromes and often cause accidents. The growth of aircraft accidents in July is also explained by the appearance of young birds of local origin which have just begun to fly and are busy with post-nesting movements.

In spring birds strikes are registered less often. This is due to more intensive spring movement when birds hurry to the breeding areas and have less delays enroute. In spring the migration is performed in a shorter time than in autumn.

The smallest amount of birds strikes is observed in summer during the breeding period when the local nest population of birds is more static than in other seasons.

Bird strikes occur mainly in the airdrome area in the lower I00 metres layer. About 47 per cent of events happen at the height of from I to I0 metres. More than a half of these occured at the height up to 2 metres. About 64.3 per cent of bird strikes were registered at landing ober the runway, I8.6 per cent - at run and take-off and I7.I per cent - enroute and sometimes at a small height. At the height of I200 metres one birds strike was registered and at the height of I000 metres - three.

Only in I8 cases birds were identified, namely white stork - 6 times, herring gull - 4, jackdaw (Corvus Monedula) - 2, rock dove (Columba Livia L.), wood pegion (C. Palumbus L.), pheasant (Phasianus Colchicus), partridge (Perdix Perdix L.), duck (Anas Sp.) and sparrow (Passer). In the last case the sparrow broke the windscreen of the aircraft AN-2. The pheasant and the partridge were ingested by the rotor of the helicopter engaged in agricultural works.

During the period of 8 years passed the following aircraft and helicopter types suffered bird strikes: aircraft TU-I54 (3 bird-strikes), TU-I36 (6), IL-I8 (5), AN-I2 (I), AN-24 (I8), AN-2 (24), YAK-40 (2), Z-37 (6), helicopters - KA-26 (3) and MI-2 (2). It can be easily seen that most frequently bird collisions happen to AN-2 which performs flights over the fields at low height and to AN-24 which is used for passenger transportation .

Bird strikes caused engine failures, skin disintegration, damage to wings, nose lights, etc., wind screens were broken and cockpits were depressurized.

At some airports of the country certain measures depending on local conditions are taken with the aim of bird strikes on aircraft reduction. If possible the airport area is made unattractive for birds, garbage dumps are moved away, small water pools are drained, the grass is cut, cattle and poultry farms are removed, plants to be cultivated at the neighbouring fields are carefully selected, etc. Active bird scaring by means of pyrotechnical devices, particularly by conventional shell-crackers is performed at some airports. In future this scaring method will be used together with acoustic devices, playing back distress calls of birds which are most numerous in the airport area recorded on magnetic tape.