"Polychlorinated Biphenyls in Britian and their Avian Toxicity", Ian Prestt, D.J. Jeffries and N.W. Moore.

SUMMARY

The amounts of polychlorinated biphenyl (PCB) compounds present in the livers and eggs of wild birds in Britain were determined by gas-liquid chromatography. Most of the 559 specimens came from predatory birds obtained between April 1966 and August 1968. PCB was found in terrestrial species from most regions of Britain, in all the seabird eggs examined from one west coast and two east coast colonies and in most of the freshwater species collected from the midlands, east and south of England. The highest liver residues were found in freshwater fish-feeding birds (up to ca. 900 ppm) and bird-feeding raptors (up to 70 ppm). The levels present are similar to those of pp'-DDE. An indication of the avian toxicity of one PCB was obtained by feeding Aroclor 1254 to Bengalese Finches. The estimated dose rate for 50 mortality at 56 days was 254 mg/kg/day. At this dose rate the calculated mean liver content was 549 ppm. It has only 1/15 the toxicity of DDT, but could be more toxic at low doses because it appears to have a more gradual mortality curve than DDT. All birds dying from PCB had enlarged kidneys and before death some displayed apparent leg paralysis or body and wing trembling. It was concluded that PCB was unlikely to have caused widespread lethal toxicity in wild predator birds in Britain, but could be a component cause of the present breeding failures reported in several species.

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