

Cases of poisoning through grayanotoxins in rhododendron honey originating from the Turkish Black Sea Region

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Honey originating from the Turkish Black Sea Region may contain high concentrations of grayanotoxins. These can lead to symptoms of acute poisoning such as dizziness, fall in blood pressure, slow heart rate, paralysis, nausea, vomiting and diarrhoea. Grayanotoxins are phytotoxins that are found especially in species of rhododendron that are very common in the Turkish Black Sea Region. If consumed by humans, such honey can lead to symptoms of acute poisoning that require emergency medical care. As a result of a case of poisoning reported to the Hessian ministry of consumer protection, the Federal Institute for Risk Assessment (BfR) has assessed the health risk of honeys that contain grayanotoxins.

The effects of honey originating from certain rhododendron blossoms – also referred to as Turkish wild honey, Pontic honey, bitter honey or mad honey – have been documented extensively in scientific literature. Inhabitants of the Turkish Black Sea coast are familiar with the symptoms of poisoning. In some cases, they use the honey as alternative medicine. Results of animal testing have confirmed the toxic effects of grayanotoxins. The evaluation of human data of cases of poisoning due to honeys containing grayanotoxins has revealed that information on the intake amounts that have led to poisoning varies considerably. According to Turkish physicians, this is related to the fact that the honeys vary in their components. The honey is often produced by local beekeepers and is not mixed with other honey.

The species of rhododendron that contain grayanotoxins also occur in North America and Asia. However, poisoning through honey is only expected in regions where such plants dominate the vegetation. In regions where this is not the case – such as in Germany where such plants are cultivated as ornamental plants – BfR does not consider possible concentrations of grayanotoxins in honey from rhododendron blossoms to pose a risk.

BfR recommends that consumers do not consume rhododendron honey from regions of the Turkish Black Sea coast since these could contain concentrations of grayanotoxins that are harmful to human health. BfR has no information regarding the sale of such honeys on the German market.

The full version of this BfR Opinion is available in German on http://www.bfr.bund.de/cm/208/vergiftungsfaele_durch_grayanotoxine_in_rhododendron_honigen_aus_der_tuerkischen_schwarzmeerregion.pdf