What is claimed is

1. A new use of a reaction between ammonium sulfate and solid calcium carbonate in ammonia-nitrogen treatment of a water body, wherein river revetments are built with calcium carbonate stones, and during a long period of water flowing, ammonia ions and sulfate ions in the water react with the calcium carbonate stones under alternate drying and wetting conditions to release ammonia gas, thus achieving the purpose of purifying water;

wherein the calcium carbonate stones are selected from solid and new blocky stones containing calcium carbonate as the main component and having no weathered exfoliation with a center thickness of no less than 15 cm, and other stones with a center thickness of less than 15 cm are used for stuffing up gaps, but accounts for not more than 10% of the total stone consumption.