Given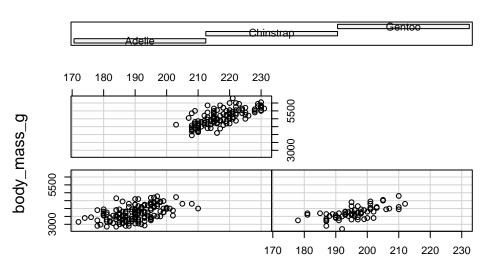 : species