

## THE SILVER BUTTERFLY



The Silver Butterfly (*argyrophrus argenteus*) is a biomimicry star because it presents a beautiful silver hue but does it in a way that can teach us ways of providing color without dye.

“Its unusual colour appearance arises from a sub-micron thickness scale design that creates broadband diffuse silver reflectivity by multi-colour addition. This is achieved by incorporation of a unique design variation into its constituent multilayer reflector, one in which required range of periodicities lies in the direction that is parallel to the surface rather than perpendicular to it as is the case with the much more common forms of natural broadband reflectors. Biomimetically, this *A. argenteus* scale design offers the basis for ultra-thin synthetic broadband reflectors, across a range of wavelength bands not limited only to visible wavelengths.” (Vukusic 2009:S200)