Abstract

Silk fibers and cocoon shells from four African wild silkmoths Gonometa postica, Anaphe panda, Argema mimosae and Epiphora bauhiniae-were studied to gain insight into the structure-property-function relations and potential commercial application. The surface and cross-section of cocoon shells and fibers revealed the presence of prominent structural variations. Cocoon shells were multilayered and porous structures constructed from highly cross-linked fibers that are densely packed within the sericin/gum. Fibers had fibrillar sub-structures running along the fiber axis and with greater number and size of voids. The ecological significance and implication of these structures for further application are discussed.