The aerial parts of *Crotalaria emarginella* Vatke (Leguminosae) have afforded a new steroid-iridoid, characterized as 1’-hydroxy-isoiridomyrmecinyl- 1’-O-β-3-O-α-stigmast-5-ene, designated as crotasteroiridocin (1), which shows a unique combination of iridoid and sterol units, found very rarely in nature. Furthermore, a rare iridoid glucoside namely, *bis*-desoxy-dihydro-monotropein (2) has also been isolated from the aerial parts of the plant. The structures of the isolated products were elucidated on the basis of spectral and chemical studies. The anti-inflammatory activity has also been screened, wherein compounds 1 and 2 have shown 25.92% and 28.39% activity respectively, with respect to phenyl butazone against carrageenan employing the rat paw method.

**Key words:** *Crotalaria emarginella* Vatke, Sterol-Iridoid, Crotasteroiridocin, Iridoid Glucoside