Essential oils from single Thymus sipyleus plants growing wild in Central Turkish Province of Tokat were analyzed for major constituents using gas chromatography. This area of Turkey is known for its richness of medicinal and aromatic plants. Twenty-five specimens mens collected from different areas of Tokat were subjected to essential oil content analyses. Essential oils were studied for eight major components (1,8-cineol, linalool, borneol, alpha-pinen, beta-pinen, carvone, camphor, carvacrol). Essential oil contents varied from 0.08 to 0.82%. Eight components studied generally constitute more than 80% of the essential oils, 1,8-cineol being the predominant constituent followed by linalool and carvone. Some specimens contained about 10% of alpha-pinen and 15-20% camphor. beta-pinen and carvacrol contents were 5-6% in essential oils of some specimens. Chemical compositions of our specimens were considerably different from specimens of the same species collected from western part of Turkey.