

S34-3 Isolation, structure elucidation, and total syntheses of novel alkaloids in *Lycopodium serratum* Thunb

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The genus *Lycopodium* is known as one of biological source of alkaloids having highly diverse, complex structures and a variety of biological activities, such as acetylcholine esterase inhibition. This has inspired many groups including ours to investigate the alkaloidal constituents in this genus and to synthesize structurally unique *Lycopodium* alkaloids. By exhaustive chemical investigation on *Lycopodium serratum* Thunb. (Japanese name: Tohge-shiba), more than 60 alkaloids including ca. 30 novel natural products have been isolated. The structures including the absolute configuration of these alkaloids were elucidated by spectroscopic analysis and/or asymmetric total syntheses. From these studies, structure determination of lycoposerramines-B, -C, -V, -W, -X, -Z, and cernuine and results of their biological evaluation would be introduced in the symposium.

