

γ -GUANIDINO-*n*-BUTYRIC ACID FROM *ARCTIUM LAPPA*

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(Received 5 June 1974)

Key Word Index—*Arctium lappa* L.; Compositae; γ -guanidino-*n*-butyric acid.

Plant. *Arctium lappa* L. (Compositae), great edible burdock, collected in Tokyo. Voucher Specimen is deposited in Tokyo Dietetic Institute, Tokyo. **Previous work.** Arctiin [1], chlorogenic acid [2], germacrolide [3] and arctic acid [4]. **Uses.** food (root), medicinal, skin disease (fruit).

Present work. The roots (8 kg) were ground and extracted with 60% MeOH. The amino acid fraction, isolated using Amberlite IR-120 resin, was treated with picric acid, giving a crystalline picrate (200 mg). Liberation of picric acid from the compound afforded colourless needles, m.p. 265–267° (decomp.). Elemental analysis ($C_5H_{11}N_3O_2$), the presence of guanidino group (+ve Sakaguchi reaction), IR bands at 3400–2900, 1665, 1620, 1545, 1395 cm^{-1} and NMR peaks at 3.18 (2H, *t*, *J* 6.0 Hz) 2.22 (2H, *t*, *J* 6.0 Hz), 1.83 (2H, *m*) indicated that the compound was γ -guanidino-*n*-butyric acid. This was further confirmed by synthesis [5].

γ -Guanidino-*n*-butyric acid has been isolated from *Musa sapientum* (Musaceae) [6], *Fragaria chiloensis* (Rosaceae) [6], *Mangifera indica* (Anacardiaceae) [6], and *Trichosanthes cucumeroides* (Cucurbitaceae) [7]. Its presence now in the Compositae indicates that it may be widely distributed in the Angiosperms.

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