WHY IS IT CALLED ''BEAUTIFUL LADY''? A NOTE ON BELLADONNA*

THOMAS R. FORBES, Ph.D.

Section of Gross Anatomy, Department of Surgery Yale University School of Medicine New Haven. Conn.

Aropa belladonna is the imaginative scientific name given to the deadly nightshade. This poisonous plant, widely distributed in the United States and Europe and well known as a source of atropine, is a member of the Solanaceae, a large family that also includes henbane and Jimson weed (both toxic), the petunia, the genus of plants from which cayenne pepper is made, the potato, tomato, and eggplant; and tobacco. In Greek mythology one of the three fates was Atropos, the unyielding one. She was the sister who cut the thread of life when man's course was run. It was fitting that eventually her name was to be given by Linné to a group of plants known even in classical times to contain a deadly poison.

The origin of the term belladonna, however, is uncertain. In Italian it means beautiful lady, as does belle-dame, a French name for the plant. Pliny² and Pedacius Dioscorides ³ wrote about the nightshade family in the first century A.D. The name belladonna seems to have been introduced into scientific literature by Pietro Andrea Mattioli in his remarkable commentary on Dioscorides, first printed in 1554.³ Mattioli spoke of Solatrum maius, apparently the nightshade (the taxonomy was disputed for centuries), which "the Venetians popularly call the Herba bella donna." The term was also used in Tuscany.⁴ The botanical texts of Herbarius,⁵ Brunfels,⁶ and Braunschweig¹ that had appeared a few years earlier discuss the nightshade family and give numerous Latin and vernacular names for its members, but belladonna does not appear among them. Similarly, the word is not found in some herbals published later in the 16th century.¹¹¹ However, belladonna does appear during the same period in the herbals of L'Écluse,¹² Gerard,¹³ and

^{*}This research was supported in part by Public Health Service Research Grant LM 02494 from the National Library of Medicine, Bethesda, Md.

Durante¹⁴ and in a work on poisons by Ramesey.¹⁵ Gerard introduced the term into the English medical nomenclature.

Uncertainty persists as to how the plant was used to enhance feminine beauty. The usual explanation is that the juices or distilled extract of belladonna were used by Venetian ladies as a cosmetic. 4,16-20 Some authors claimed that the preparation whitened the complexion—"women compound a cosmetic which they smear on the face, and in place of a redish complexion produce a pallor by the power of [belladonna's] coldness." Others, like Tournefort, 17 spoke of the herb "which they [the Italians] use as a rouge." The red juice of the berries was alleged to provide the coloring. 14 However, the learned physicist, botanist, cryptographer, mathematician, dramatist, and natural philosopher Giovanni Baptista della Porta did not include belladonna among the cosmetics described in his Magiae naturalis. 15 Thomas Green believed that the plant may have been used to make a wash "to take off pimples and other excrescences from the skin."

It also has been suggested^{19,24} that designing ladies made their eyes seem more alluring by inducing pupillary dilation with locally applied belladonna juice or extract. Indeed, Pultney in 1757²⁵ described a case reported by Percival Willughby, a male midwife, involving mydriasis accidentally produced by the plant.

Its relaxing quality is very surprising, as appears by that memorable case...of a lady's applying a leaf of it to a little ulcer, suspected to be of the cancerous kind, a little below her eye, which rendered the pupil so paralytic, that it lost all its motion for some time afterward: and that this event was really owing to that application, appears from the experiment's being repeated with the same effect three times.

But Pultney does not refer to the use of belladonna as a cosmetic.

A quotation in the Oxford English Dictionary²⁶ suggests still another derivation: "Belladonna, because it was employed by Leucota, a famous poisoner of Italy, to destroy the beautiful women." However, I have been unable to locate a copy of the source of the quotation to identify Leucota (should it have been Locusta, Roman poisoner of the first century A.D.?) or to find supporting evidence for this interesting derivation, which also is mentioned by Wootton.²⁴ Poisoning was widely practiced in Italy and other parts of Europe in the 16th and 17th centuries and belladonna was one of the agents employed.^{4,27,28}

A fourth derivation was proposed by the botanist Bodaeus in 1644 in his important commentary²⁹ on the *De historia plantarum* of Theophrastus (370-287 B.C.). According to this theory, the plant received its name because, as Pliny had pointed out long before, when an extract was administered internally it aroused sexual fantasies of beautiful women. Greek authors, said Bodaeus, spoke jestingly of the "vain sights and strange imaginings" induced by the herb. He quotes the description, written by Theophrastus more than 22 centuries ago, of the hallucinogenic effect of *Solanum*, believed to be either what is now called belladonna or a related plant. "Drug trips," it is clear, are hardly new. If one takes one dram of the preparation, said the Greek physician-botanist,

he will be afflicted with merriment and laughter as in a kind of madness but thus far only to the point where he sees something beautiful and well formed. If you drink two drams, you will induce a greater madness; mind and eyes will see apparitions and startling fantasies. If you give the subject three drams, he will labor under a madness from which he cannot free himself and ceaseless rages will ensue. Four drams swallowed will destroy the man.

REFERENCES

- Flückiger, F. A. and D. Hanbury: Pharmacographia. London, Macmillan, 1874, pp. 409-11.
- Listré, M. E.: Histoire naturelle de Pline. Paris, Didot, 1865, book XI, chap. 105.
- 3. Matthiolus, P. A.: Commentarii Pedacii Dioscoridis Anazarbei De materia medica. Venetiis, Valgrisiana, 1565, p. 1074.
- 4. Battisti, C. and G. Alessio: *Dizionario etimologico Italiano*. Firenze, Barbera, 1950, vol. 1, p. 478.
- Herbarius: Herbolario volgare. [Vinegia, Bindone, and Pasini], 1536 (no pagination).
- Brunfels, O.: Herbarum vivae eicones ad naturae. Argentorati, Schottum, 1532, book II, p. 33.
- Braunschweig, H.: Distillierbuch. [Franckfurt am Mayn, Gülferichen], 1551, fol. 116r.
- 8. Bock, H.: Kreüter Buch. Strasburg, [Rihel], 1560, fol. 112r.v.

- Fuchsius, L.: De historia stirpium. Lugduni, Tornaesium, and Gazeium, 1555, p. 750.
- 10. Linocier, G.: L'histoire des plantes. Paris, Mace, 1584, p. 514.
- 11. Parkinson, J.: *Theatrum botanicum*. London, Cotes, 1640, pp. 347-48.
- Clusius, C.: Rariorum aliquot stirpium. Antverpiae, Plantinus, 1583, p. 504.
- Johnson, T.: Gerard's herball. London, Howe, 1636, p. 74. (First ed., 1597.)
- Durante, C.: Hortulus sanitatis. Franckfort am Mäyn, Hoffmann, 1609, p. 957.
- 15. Ramesey, W.: Tractatus de venenis. London, Pakeman, 1661, p. 92.
- 16. Ray, J.: Catalogus plantarum Angliae. London, Martyn, 1670, p. 287.
- 17. Tournefort, J. P.: Institutiones rei herbariae. Paris, Typographia Regia, 1719, vol. 1, p. 77.
- 18. Pedrotti, G. and Bertoldi, V. Nomi

- dialettali. Trento, Monauni [1930], p. 48.
- 19. Pepper, O. H. P.: *Medical Etymology*. Philadelphia, Saunders, 1957, p. 100.
- Prati, A.: Vocabolario etimologico Italiano. Rome, Multigrafica Editrice, 1969, p. 121.
- 21. Pabst, G.: Köhler's Medizinal-Pflanzen. Gera-Untermhaus, Köhler, 1887 (no pagination).
- 22. Porta, I. B.: Magiae naturalis. Francofurtus, Wechelus, 1597, lib. IX.
- Green, T.: The Universal Herbal. London, Caxton [1824], Vol 1, p. 150.
- Wootton, A. C.: Chronicles of Pharmacy. London, Macmillan, 1910, pp. 24-25.

- Pultney, R.: A brief botanical and medical history of the Solanum lethale, Bella-donna, or deadly nightshade. Phil. Trans. Roy. Soc. 50: 62-80, 1757.
- The Compact Edition of the Oxford English Dictionary. Oxford, Oxford University Press, 1971, vol. 1, p. 197.
- 27. Level, C. F.: *The Magic of Herbs*. London, Cope [1926], pp. 134-40.
- 28. Wheelwright, E. G.: Medicinal Plants and their History. New York, Dover, 1974, p. 120.
- Bodaeus, I.: Theophrastus De historia plantarum. Amstelodami, Laurentius, 1644, lib. VI, pp. 586, 1078.