HEDYOTIS LINNAEUS VERSUS OLDENLANDIA LINNAEUS AND THE STATUS OF HEDYOTIS LANCEA THUNBERG IN RELATION TO H. CONSANGUINEA HANCE

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With one plate

ALL botanists familiar with any considerable number of species placed under the generic names *Hedyotis* and *Oldenlandia* realize that, because of intergrading forms, or because certain specimens lack either flowers or fruits, it is often very difficult to separate the two genera with any degree of certainty. Many still recognize both generic names, while some would solve the problem by raising minor groups of both *Hedyotis* and *Oldenlandia* to generic status. Thus, if Bremekamp's criteria as to the delimination of rubiaceous genera be applied to the group under discussion, it is not improbable that both *Hedyotis* and *Oldenlandia* might be retained, with, perhaps, a rather limited series of species in each, and many species now currently placed under one or the other transferred to other generic names. This being a possible contingency, while we believe that *Hedyotis* should be retained and *Oldenlandia* treated as a synonym, and that in this case a more or less "collective" genus is preferable to numerous smaller and often weak genera, we do not feel that the time has come to make wholesale transfers of *Oldenlandia* species to *Hedyotis*.

In 1891, both Otto Kuntze and K. Schumann accepted *Oldenlandia* as the proper generic name and transferred to the former many species originally described under *Hedyotis*. They, however, were working under the rule of strict priority, *Oldenlandia* having been described in 1737 while *Hedyotis* was not proposed until ten years later, both, of course, previous to the establishment of the binomial system in 1753. In 1753, Linnaeus recognized *Oldenlandia* with four and *Hedyotis* with three species. The present provisions of the International Code appertaining to the case were not in force in 1891.

It is suspected that a considerable number of botanists concerned with species in this group have more or less automatically accepted Kuntze's and Schumann's conclusions, for currently many species of *Hedyotis* are still being transferred to *Oldenlandia*. However, the provisions of the International Code of Botanical Nomenclature are clear that in cases of this kind, where two genera are united, the name that should be accepted is that selected by the individual who first combined the two groups. Lamarck and Sir James E. Smith both combined the two genera long before similar action was taken by Kuntze and by Schumann, and both selected *Hedyotis* in preference to *Oldenlandia*. In discussing the case in 1811, Smith (Rees Cyclop. **17**: 1811) states: "Schreber advises their union, Gen. Pl. 820

[1791], and Lamarck, although he had previously described and figured them as distinct, finally in the letter-press to his plates, sinks *Oldenlandia* in *Hedyotis*." Lamarck is thus the first botanist to combine the two genera (Tabl. Encycl. **1**: 262–272. 1791), and he, as did Smith in 1811, accepted *Hedyotis* and transferred all the Linnean species of *Oldenlandia* to the former. He states: "Nous reunissons ici les Oldenlandes & les Hédyotes, parce qu'elles nous paroissent véritablement congéneres," and before his conspectus of the species adds: "Huc Oldenlandias & Hedyotides Linnaei conjungimus; nobis enim videntur omnino congeneres." We have, thus, a very clear case, for those who elect to follow the spirit and provisions of the International Code, in that if the two genera be combined *Hedyotis* Linn. *must* be accepted in preference to *Oldenlandia* Linn.

Through the kindness of Dr. C. G. Alm of the Botanical Garden and University Museum, Upsala, Sweden, we have been fortunate in obtaining photographs of the types of *Hedyotis lancea* Thunb. β and *Hedyotis lancea* Thunb. α; the former, from Macao, is the holotype of *Hedyotis lancea* Thunb. ex Maxim. as described in 1883. The latter is represented by a Madagascar specimen collected by Oldenburg, which was not cited by Maximowicz, as it represents a different species with which students of the Chinese flora are not concerned.

It seems to be apparent that the Kwangtung *Hedyotis lancea* Thunb. ex Maxim., described from a Macao specimen collected by *Bladh*, has been misinterpreted. We believe that the material referred here by Dunn and Tutcher, other than the original Macao specimen which they did not see, does not represent Thunberg's species.

Judging from the photograph of the holotype and the characters as given in the original description, *Hedyotis lancea* Thunb. ex Maxim. seems to be identical with *Hedyotis consanguinea* Hance. There are two authentic specimens of *Hance 978* from Whampoa available for study, one in the Gray Herbarium and the other in the Britton Herbarium, New York Botanical Garden. Neither of these represents the actual type collection, for the one in the Britton Herbarium was collected in April 1862, and the one in the Gray Herbarium was collected in April 1866, four years after Hance's description was published. Hance's type, the original of his no. *978*, was collected at Whampoa in May, the year not indicated by him, but clearly earlier than 1862; thus the specimens of *Hance 978* in the Gray and Britton herbaria represent re-collections of the species from the type locality. The description was actually published in Paris in the latter part of 1862. From these specimens of *Hance 978* we are unable to distinguish *Hedyotis lancea* Thunb. ex Maxim. The latter may have been named before the close of the eighteenth century, but no description of it was published until 1883 when Maximowicz examined Bladh's Macao specimen in Thunberg's herbarium on which his description is wholly based.

Numerous southern China specimens formerly placed as representing *Hedyotis lancea* Thunb. ex Maxim. apparently represent undescribed forms, which are considered below.

1. **Hedyotis consanguinea** Hance, Ann. Sci. Nat. IV. Bot. **18**: 221. 1862; Maxim. Bull. Acad. Sci. St. Pétersb. **29**: 162. 1883; Mél. Biol. **11**: 782. 1883; Dunn & Tutcher, Kew Bull. Add. Ser. **10**: 127. 1912 (Fl. Kwangtung and Hongkong).
Oldenlandia consanguinea O. Kuntze, Rev. Gen. Pl. **1**: 292. 1891.
Hedyotis lancea Thunberg ex Maxim. Bull. Acad. Sci. St. Pétersb. **29**: 161. 1883, Mél. Biol. **11**: 780. 1883, syn. nov.
Oldenlandia lancea O. Kuntze, Rev. Gen. Pl. **1**: 292. 1891, syn. nov.

KWANGTUNG: Whampoa, *Hance 978*, April 1862, topotype of *H. consanguinea* Hance (N); same locality, *Hance 978*, April 1866 (G) and *Hance s.n.* (N); Macao, *Bladh* in herb. Thunberg, type of *H. lancea* Thunberg ex Maxim. (photograph A); China, "Rec'd. from *Mr. Baird*, Oct. 1829" (G).

2. **Hedyotis caudatifolia** sp. nov.
Hedyotis lancea sensu Dunn & Tutcher, Kew Bull. Add. Ser. **10**: 127. 1912, *pro parte*, non Thunberg ex Maxim.

Frutex erectus, glaber, circiter 0.5 m. altus, caudex lignosus; ramis cinereis vel albido-cinereis, teretibus, internodiis brevibus, ramulis viridibus, glabris, leviter striatis, ultimis circiter 1 mm. diametro; foliis plerumque lanceolatis, glabris, coriaceis, supra viridibus, subtus pallidioribus, 8–15 cm. longis, 1.5–2.5 cm. latis, sursum gradatim angustatis, caudato-acuminatis, basi cuneatis vel decurrento-acuminatis; nervis primariis utrinque circiter 4, gracilibus, acute adscendentibus, obscuris; petiolo 10–15 mm. longo, glabro; stipulis late ovatis, acutis vel abrupte acuminatis, margine minute glanduloso-serratis, haud laciniatis; inflorescentiis terminalibus, elongatis, paniculatis, glabris, multifloris, 7–15 cm. longis, deorsum plus minusque foliatis, ramis inferioribus 3–5 cm. longis, superioribus brevioribus; floribus cymosim dispositis, plerumque in triadibus in ramulis ultimis dispositis, breviter pedicellatis; calycis tubo ovoideo, 1.5 mm. longo, glabro, lobis 5, anguste lanceolatis, 0.5–0.75 mm. longis; corollae tubo cylindrico 4–5 mm. longo, extus glabro, intus puberulo, ore leviter barbato, lobis oblongo-lanceolatis, 1.5 mm. longis; staminibus 4, exsertis; capsulis septicide dehiscentibus, glabris, cum lobis calycinis persistentibus 4 mm. longis, et 2 mm. diametro.

KWANGTUNG: Ting Wu Shan, *W. Y. Chun 6361, 6368, 6385* (TYPE), May 5, 1928 (all A), *Mell 209*, March 1918 (A), *CCC 6379* (*Buswell, Levine & To*), April 15, 1921 (N), *S. Y. Lau 20188*, July 1932 (N); Sun-wui district, *Tso & Tsiang 2001*, April 11, 1928 (A, N); Loh Fau Mt., *Merrill 10689*, Aug. 9–27, 1917 (N); *T. M. Tsui 29*, March–April 1932 (A, N); Chung Shan, Nga Iu Mt., *LU 19253* (*Tsang*), April 25, 1931 (N); Ah P'o Kai Shan, Sin-fung district, *Y. W. Taam 628*, May 1938 (A); Naam Kwan Shan, Lung-moon district, *W. T. Tsang 25321*, June 1935 (A); Sam Kok Shan, Ts'ung-hua district, *W. T. Tsang 25096*, May 1935 (A); Nam Shan, Ho-yuen district, *W. T. Tsang 28645, 28727, 28747A*, April-May 1938 (A). KWANGSI: Shap Man Taai Shan, Shangsze district, *W. T. Tsang 22033, 22389, 22465*, April, May and June 1933, 2nd Kwangsi expedition (all A); *W. T. Tsang 24170*, Sept. 1934, 4th Kwangsi expedition (A, N); Tong Shan, Waitsap district, *W. T. Tsang 22712*, Sept. 5, 1933, 3rd Kwangsi expedition (G); Seh-feng Dar Shan, S. Nanning, *R. C. Ching 8101*, Oct. 21, 1928 (A); Yao-shan, Ping Nan, *C. Wang 39134*, May 8, 1936 (A).

These specimens were for the most part determined and distributed as representing *Hedyotis lancea* Thunberg. As noted above, true *Hedyotis lancea* Thunberg is a synonym of the distinctly different and apparently rare *Hedyotis consanguinea* Hance. Our species is decidedly woody at the base, and is a much larger and more vigorous plant with distinctly petioled and larger leaves than typical *H. consanguinea* Hance; it is not very closely related to the latter, from which it can readily be distinguished also by its large and more abundantly flowered terminal inflorescences.

3. **Hedyotis minutopuberula** sp. nov.

Hedyotis lancea sensu Tanaka & Odashima, Jour. Soc. Trop. Agric. **10**: 382. 1938 (Contrib. Hort. Inst. Taihoku Imp. Univ. No. 24) non Thunb. ex Maxim.

Herbacea vel suffruticosa ad 0.5 m. alta; ramis et ramulis et inflorescentiis obscurissime minute puberulis, ramis teretibus; foliis submembranaceis utrinque viridibus, plerumque ovatis vel oblongo-ovatis, 3.5–5 cm. longis, 1.5–2 cm. latis, acutis vel obscure acuminatis, basi cuneatis vel decurrento-acuminatis, supra glabris, subtus subglabris vel minute puberulis; nervis primariis utrinque 3, gracilibus, acute adscendentibus, obscuris; petiolo 4–8 mm. longo, minute puberulo; stipulis ovatis vel lanceolatis, minute puberulis, caudatis vel attenuatis, 2–5 mm. longis, margine minute glanduloso-serratis; inflorescentiis terminalibus, cymoso-paniculatis, minute puberulis glabrescentibus, e basi ramosis, ramis primariis paucis, inferioribus ad 4 cm. longis; floribus numerosis in ramis primariis secondariisque racemoso-cymosim dispositis, pedicellatis; calycis tubo obovoideo, 1 mm. longo, minute puberulo, lobis acuminatis, lanceolatis, 1.5 mm. longis, persistentibus sub fructu ad 2.5 mm. longis; corollae tubo extus glabro, intus puberulo, ore barbato, lobis subovatis, 1 mm. longis; staminibus ad basim tubi corollae insertis; capsulis subglobosis vel obovoideis, minute puberulis vel glabris, 2 mm. longis, 1.5 mm. latis, septicide dehiscentibus.

HAINAN: Po-ting, *F. C. How 73014* (TYPE, A), June 28, 1935, in thickets, the flowers said to be purplish red.

This specimen was tentatively referred to *Hedyotis lancea* Thunberg, but it is easily separated from both *Hedyotis consanguinea* Hance (*H. lancea* Thunberg ex Maxim.) and *Hedyotis caudatifolia* Merr. & Metc. by the minutely puberulent and obscure indumentum, the differently shaped leaves, very different inflorescences and different floral and fruit characters.

4. **Hedyotis longiexserta** sp. nov.

Herbacea vel suffruticosa e basi lignosa, stricte erecta, eramosa, glabra, ad 0.5 m. alta; caulibus teretibus, laevibus, deorsum 2.5 mm. diametro, sursum gracilioribus, internodiis inferioribus 2.5–4 cm., intermediis ad 15 cm. longis; foliis paucis, lanceolatis vel oblongo-lanceolatis, 5–7 cm. longis, 1–1.5 cm. latis, acuminatis vel acutis, basi late cuneatis vel obtusis, supra viridibus, subtus paullo pallidioribus; nervis primariis utrinque 3, obscurissimis vel cum reticulis subobsoletis; petiolo 3–5 mm. longo; stipulis late ovatis, inter foliis plus minusve connatis, circiter 3 mm. longis, abrupte et breviter apiculatis, margine integris, admodum obscure glandulosis; inflorescentiis terminalibus longissime exsertis, paniculatis, ad 20 cm. longis et 7 cm. latis, ramulis primariis racemosim dispositis, oppositis, distantibus, inferioribus ad 4 cm. longis, omnibus deorsum nudis, sursum cymosim ramulosis, bracteis linearibus, inferioribus ad 12 mm. longis, subpatulis; floribus albis, pedicellatis vel subsessilibus, calycis tubo ovoideo, glabro, 1 mm. longo, lobis triangulari-ovatis, acutis, vix 0.5 mm. longis; corollae tubo 1.5 mm. longo, extus glabro, intus dense barbellato, lobis late ovatis, rotundatis; capsulis plerumque oblongo-obovoideis, 2–2.5 mm. longis, 1.5 mm. diametro, septicide dehiscentibus.

KWANGSI: Shap Man Taai Shan, near Hoh Lung village, Shangsze district, *W. T. Tsang 22574* (TYPE, A), June 27, 1933, 2nd Kwangsi Expedition, in meadows, flowers white, local name, *Tsak Ve Tan*.

The specimen on which this description is based was originally referred

to *Hedyotis lancea* Thunberg ex Maxim. but is totally unrelated to that species, being characterized by its very few leaves, these mostly two or three pairs near the basal parts of the stems, the upper pair or few pairs being separated by very long internodes, and its long exserted panicles composed of few, distant, somewhat spreading, primary branches which are naked for two-thirds to three-fourths of their length, the flowers being cymosely arranged at the ends of these primary branches.

EXPLANATION OF PLATE

Fig. A. Portion of the holotype of *Hedyotis lancea* Thunb. ex Maxim. in herb. Thunberg; i.e. the *Bladh* specimen from Macao labelled by Thunberg *Hedyotis lancea*.

Fig. B. Topotype of *Hedyotis consanguinea* Hance, *Hance 978* in herb. Gray, Whampoa, April 1866 (this is not the type collection, which was made in or before 1862, but merely represents a re-collection of the species by Hance from the type locality four years after his description was published).

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A. HEDYOTIS LANCEA Thunberg

B. HEDYOTIS CONSANGUINEA Hance