Most Ananas are Cultivars

Derek Butcher¹ & Eric Gouda²

Smith and Downs

The naming of cultivated plants had its origins in 1862 when Alphonse de Candolle wrote a letter which was subsequently placed before the International Horticultural Congress of Brussels, 1864. De Candolle wished to reserve Latin names for species and varieties and to use only non-Latin 'fancy' names such as 'Bijou', 'Rainbow', etc., for garden forms. He suggested that this common, traditional and ancient practice should be made the only practice. It was not until 1952 for the ICNCP (International Code of Nomenclature of Cultivated Plants) to be born. It was not until 1979 that the Bromeliad Society produced its first Check-list of hybrids entitled 'International Checklist of Bromeliad Hybrids'. The following year they were appointed International Cultivar Registration Authority for Bromeliaceae but it was not until 1998 did we see the first Bromeliad Cultivar Register (BCR) published, closely followed by the on-line register in 2000 with as many photographs as we could find. It has been totally renewed in 2010 (http://registry.bsi.org/), see Lawn, Butcher & Gouda (cont.upd.).

Registration is easy and costs nothing but time. It is voluntary and if you have a hybrid that is distinct and you have several asexual plants then consider giving your progeny a name and register it. You would need a couple of photos and all you need do is contact the Registrar. Pineapples are unique in that they are mainly grown for their fruit and these cultivars are best listed in the Brooks & Olmo (1997), "Register of Fruit and Nut varieties". But if your hybrid or selection is primarily an ornamental then registration in the Bromeliad Cultivar Register is recommended.

Now let us look at the definition of a cultivar according to the ICNCP - International Code for Nomenclature of Cultivated plants:

cultivar: Produced in cultivation as opposed to one growing in habitat; — an assemblage of plants that has been selected for a particular attribute or combination of attributes and that is clearly distinct, uniform, and stable in these characteristics and that when propagated by appropriate means retains those characteristics.

cultivated plant: deliberately selected plants that may have arisen by intentional or accidental hybridization in cultivation, by selection from existing cultivated stocks, or from variants within wild populations that are maintained as recognisable entities solely by continued propagation. These are sometimes referred to as cultigens.

Coppens d'Eeckenbrugge & Leal (2003) produced a monumental work on Pineapples in the book "The pineapple: botany, production and uses". They researched deeply and made the decision that *Ananas* was really a genus with only two species. The following are the changes that were proposed from that in Smith & Downs (1979). The major change is that the genus *Pseudananas* becomes one of the only two species in *Ananas*. Because the writers saw little difference in the listed species of *Ananas* these are now treated at varietal level under species *A. comosus*. Examples of three *Ananas* are shown below.

Present classification

| Pseudananas sagenarius | Ananas macrodontes |
|------------------------|--|
| Ananas ananassoides | Ananas comosus var. ananassoides |
| Ananas nanus | Ananas comosus var. ananassoides |
| Ananas lucidus | Ananas comosus var. erectifolius |
| Ananas parguazensis | Ananas comosus var. parguazensis |
| Ananas comosus | Ananas comosus var comosus |
| Ananas monstrosus | Invalidated by Leal (1990) and treated as a form of A. comosus |

¹ Honorary Trustee, Bromeliad Society International and Bromeliad Cultivar Registrar, 1998-2008. Email: tillands@bigpond.com

² Curator, Utrecht University Botanic Gardens; Subject Editor *Bromeliaceae* for Phytotaxa. Email: e.j.gouda@uu.nl

Newsletter, Pineapple Working Group, International Society for Horticultural Science

Ananas bracteatus Ananas fritzmuelleri Ananas comosus var. bracteatus Ananas comosus var. bracteatus

The big change is in variegates because although treated at varietal level in Smith & Downs (1979) they have not been addressed in this work. We know that variegation is not a trait consistently transferred in sexual reproduction and as such is perhaps better catered for under the ICNCP rules.

This means that *Ananas comosus* var. *variegatus* becomes either *Ananas comosus* var. *comosus* 'Variegatus' or *Ananas* 'Variegatus'. Likewise *Ananas bracteatus* var *tricolor* becomes *Ananas comosus* var. *bracteatus* 'Tricolor' or *Ananas* 'Tricolor'. These changes only apply to plants currently known by these names. However, if you have lost the label on your variegated pineapple, plants can be linked to 'Variegatus' if the plant is like 'comosus' but the leaves are variegated. They can be linked to 'Tricolor' if the plant is like 'bracteatus' and the leaf blades are variegated with longitudinal stripes. There are already accepted cultivars of these two varieties but, no doubt, there will be other cultivar forms of these and other varieties that will arise from time and time in the future.

Coppens et al (2011) updated their work from that in 2003. In 2013, ten years later, these recommendations have been largely ignored by non-Pineapple specialist botanists where current Binomial lists (Luther 2006) produced by Marie Selby Gardens show seven (7) species, *ananassoides, bracteatus, comosus, fritzmuelleri, lucidus, nanus,* and *parguazensis* and two variegates and one (1) *Pseudananas*.

On the other hand, Kew Gardens, in the World Checklist of Selected Plant Families (Govaerts et all., cont.upd.), have accepted that *Pseudananas* is really *Ananas* and quote six (6) species, *ananassoides, bracteatus, comosus, lucidus, parguazensis* and *sagenaria* and no variegates. Lista de Especies do Brasil (Reflora, cont.upd.), shows seven (7) species, *ananassoides, bracteatus, comosus, fritzmuelleri, lucidus, nanus,* and *parguazensis* and no variegates and one (1) *Pseudananas*.

In fact, the only place where the 'Pineapple People's' proposal is accepted at the moment is in the New Bromeliad Taxon List (Butcher & Gouda, cont.upd.). None, of course, show any reasoning for synonyms but does show varying opinions. The only one to make comment, as far as we can trace, is Elton Leme (Filho & Leme, 2007). However, Elton Leme has ignored the existence of two variegates mentioned in Luther (2006) and Smith & Downs (1979) and the ICNCP code which we quoted at the start of this article.

In 2009 Coppens d'Eeckenbrugge and Marie-France Duval presented an excellent paper on 'The Domestication of Pineapple' in Pineapple News Issue No. 16, 2009, which showed the differences between domesticated and wild species. However, the domesticated plants were still identified under species names not cultivar names.

In 2014 in looking at the whole of *Ananas*, we have come to the conclusion that all descriptions in the past have been based on cultivated material with the possible exceptions of *A. ananassoides, A.parguazensis* and *A. macrodontes*. These are not known for their edible fruit and would have had minimal selection by the native population. We should not underestimate the influence of man on (semi) natural vegetation, especially when they have nutritional value. Therefore we propose the following:

Bromelia ananas L. Sp. Pl.: 285 (1743) = basionym of Ananas comosus must be considered a man made cultivar, which makes Acanthostachys ananassoides Baker Handb. Bromel. 25 (1889) = basionym of Ananas ananassoides, the only real Ananas species to be recognized besides Ananas parguazensis Camargo & L. B. Smith, Phytologia 26: 464, fig. 1. 1968. and Ananas sagenaria Schult.f. Syst. Veg. vii. 1286 (1830). Accordingly we designate a new lectotype for the Genus Ananas as Acanthostachys ananassoides Baker. The new cultivars will be Ananas 'Bracteatus', 'Comosus', and 'Erectifolius' One variety of Ananas ananassoides is recognized here: Ananas ananassoides var. nanus L.B.Sm. Bot. Mus. Leafl. 7: 79 (1939), which is a small form from Surinam Brazil of and and often seen as ornamental because its size.

Clearly the Pineapple fraternity are more interested in *Ananas* than its relationship within Bromeliaceae as a whole but should still look at the whole picture. Not only do they have the "Pineapple News" but are more likely to read mainstream horticultural journals such as Scientia Horticulturae and HortScience. But there is a danger they may get further away from the general botanical picture.

Perhaps, the concept of an ICNCP solution could be discussed as part of the international symposium in Brisbane next year as part of the IHC2014.

ACKNOWLEDGEMENTS

Thanks to Garth Sanewski of Brisbane and Duane Bartholomew of Hawaii, who gave advice as to how we should proceed with this proposal.

REFERENCES

Brooks, R. Merrifield & Olmo, H.P. (1997) *The Brooks & Olmo Register of Fruit & Nut Varieties, 3 edition*. ASHS Press (American Society for Horticultural Science), 744 pp.

Butcher, D. & Gouda, E.J. (cont.upd.) *The New Bromeliad Taxon List*. http://BromTaxonList.floraPix.nl. University Botanic Gardens, Utrecht (Retrieved 31-10-2013).

Coppens d'Eeckenbrugge, G. & Leal, F. (2003) Morphology, anatomy and taxonomy, In: The pineapple: botany, production and uses. *Pineap. bot. prod. uses (ed. D. Bartholomew et al.)* pp. 13-33.

Coppens d'Eeckenbrugge, G., Sanewski, G.M., Smith, M.K., Duval, M.-F., Leal, F. (2011) *Ananas. In: Kole, C. (Ed.): Wild Crop Relatives: Genomic and Breeding Resources. Tropical and subtropical fruits.* Springer Verlag, Berlin, Heidelberg, pp. 21–41.

Govaerts, R., Luther, H.E., Grant, J. (cont.upd.) *World Checklist of Selected Plant Families (Bromeliaceae)*. Facilitated by Royal Botanic Gardens, Kew. http://apps.kew.org/wcsp/ (Retrieved 31/10/2013).

Lawn, G., Butcher, D. & Gouda, E. (cont.upd.) *Bromeliad Cultivar Register*. Bromeliad Society International. http://registry.bsi.org/ (Retrieved 31/10/2013).

Filho, J.A.S. & Elton M.C. Leme (2007) Fragments of the Atlantic Forest of Northeast Brazil - Biodiversity, Conservation and the Bromeliads. Andrea Jakobsson Estudio, 416 pp.

Luther HE, (2006) Alpha. List of Brom. Binomials, Marie Selby Bot. Gdns, Sarasota, Florida USA

Reflora (cont.upd.) *Lista de Espécies da Flora do Brasil*. Jardim Botânico do Rio de Janeiro. http://floradobrasil.jbrj.gov.br/ (Retrieved 31/10/2013).

Smith, L.B. & Downs, R.J. (1979) *Bromelioideae (Bromeliaceae). In: Flora Neotropica 14(3)*. Hafner Press, New York, pp. 1493–2142.



Ananas ananassoides Photo of Eric Gouda



Ananas 'Bracteatus' Photo of Oscar Ribeiro



Ananas 'Comosus' Photo of Belg Hort 3-125