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AND FOREST TREES**

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DEVELOPMENTS CONCERNING OENOTHERA AND GAURA

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1. In 2009, GRIN¹ revised the classification of the family *Onagraceae*, based on the following monographic publication:

Wagner, W. L. et al. 2007. Revised classification of the *Onagraceae*. Syst. Bot. Monogr. 83: 1–240.

2. The full list of genera affected by the reclassification can be found in GRIN (see <http://www.ars-grin.gov/cgi-bin/npgs/html/gnlist.pl?789>). The following genera of the family *Onagraceae* are included in the GENIE database:

<i>Epilobium</i> L.	(UPOV code: EPILE)
<i>Fuchsia</i> L.	(UPOV code: FUCHS)
<i>Gaura</i> L.	(UPOV code: GAURA)
<i>Clarkia</i> Pursh	(UPOV code: CLARK)
<i>Oenothera</i> L.	(UPOV code: OENOT)

3. Of the genera above, the reclassification of the family *Onagraceae* in GRIN would have no impact with regard to the classification in GENIE of *Clarkia* Pursh, *Epilobium* L., nor *Fuchsia* L.. However, *Gaura* L. would be reclassified within *Oenothera* L., which would require consequential changes to principal botanical names and UPOV codes in the GENIE

¹ USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland.
URL: http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl

database in order to maintain consistency with GRIN. The current entries in the GENIE database would be affected as follows:

Gaura L.

Current classification in GENIE database		Proposed new classification in accordance with GRIN	
Principal botanical name	UPOV code	Principal botanical name	UPOV code
<i>Gaura L.</i>	GAURA	<i>Oenothera L.</i>	(OENOT)
<i>Gaura coccinea</i> Pursh	GAURA_COC	<i>Oenothera suffrutescens</i> (Ser.) W. L. Wagner & Hoch	(OENOT_SUF)
<i>Gaura drummondii</i> (Spach) Torr. & A. Gray	GAURA_DRU	<i>Oenothera xenogaura</i> W. L. Wagner & Hoch	delete (no entries in UPOV-ROM)
<i>Gaura lindheimeri</i> Engl. & Gray	GAURA_LIN	<i>Oenothera lindheimeri</i> (Engelm. & A. Gray) W. L. Wagner & Hoch	(OENOT_LIN)
<i>Gaura sinuata</i> Nutt. ex Ser.	GAURA_SIN	<i>Oenothera sinuosa</i> W. L. Wagner & Hoch	delete (no entries in UPOV-ROM)
<i>Gaura villosa</i> Torr.	GAURA_VIL	<i>Oenothera cinerea</i> (Wootton & Standl.) W. L. Wagner & Hoch	delete (no entries in UPOV-ROM)
<i>Gaura lindheimeri</i> x <i>Gaura coccinea</i>	GAURA_LCO	<i>Oenothera lindheimeri</i> x <i>Oenothera suffrutescens</i>	(OENOT_LSU)

4. The current entries in the GENIE database for *Oenothera L.* are as follows:

Current classification in GENIE database	
Principal botanical name	UPOV code
<i>Oenothera L.</i>	OENOT
<i>Oenothera biennis L.</i>	OENOT_BIE
<i>Oenothera fruticosa L.</i>	OENOT_FRU
<i>Oenothera macrocarpa</i> Nutt.	OENOT_MAC
<i>Oenothera rosea</i> L'Hér. ex Aiton	OENOT_ROS
<i>Oenothera speciosa</i> Nutt.	OENOT_SPE

5. In such cases of reclassification, the Office of the Union seeks the advice of GRIN concerning the likely duration of such developments before proposing any further action. In that regard, Dr. John Wiersema, Curator of GRIN Taxonomy, advised the following (e-mail of May 11, 2010):

“[...] This paper [Wagner, W. L. et al. 2007], written by the foremost acknowledged taxonomic specialists of the group, takes account of all the evidence, both molecular and morphological, accumulated to that point and proposes a new monophyletically based classification for the family. Because the molecular evidence strongly supports *Gaura* as phylogenetically nested within *Oenothera*, the former was reduced to a

subgenus of the latter. Given the weight of evidence supporting this new classification and the stature of the authors as recognized authorities on the family, our acceptance of the proposed changes in GRIN was essential to keep GRIN data as current and relevant as possible. There is never complete assurance that further taxonomic investigation won't result in further taxonomic change, but one might expect only minor future refinements to what should be a stable classification emanating from this publication. [...]"

6. With regard to the UPOV code, the Guide to the UPOV Code System (see http://www.upov.int/genie/en/upov_code.html), Section 3.3 "Introduction of New UPOV Codes / Amendments to UPOV Codes", paragraph (d), explains that "In general, amendments to UPOV codes will not be made as a result of taxonomic developments unless these result in a change to the genus classification of a species. [...] The UPOV codes will also be amended if there are consequences for the content of a variety denomination class where the list of classes applies. [...]". In this case, it is apparent that the changes to the UPOV codes, as indicated in paragraph 3, would be necessary to maintain a harmonized approach within UPOV for variety denomination class purposes.

7. In addition to the changes to the principal botanical names and UPOV codes, the changes to the classification of *Gaura* L. would also need to be considered in conjunction with the Test Guidelines for Evening Primrose (*Oenothera* L.) (document TG/144/3), adopted in 1993, and the Test Guidelines for *Gaura*, adopted by the Technical Committee at its forty-sixth session, held in Geneva from March 22 to 24, 2010.

8. In particular, the Technical Working Party for Ornamental Plants and Forest Trees (TWO) may, for example, wish to consider whether it would be beneficial to make a partial revision of the Test Guidelines for Evening Primrose and the Test Guidelines for *Gaura*, in order to clarify which part of the *Oenothera* L. genus is covered by each of the Test Guidelines. To assist in that consideration, the following summary of data in the UPOV-ROM (version 2010/03) may be of assistance:

"Gaura" species

		<u>Number of entries</u>
<i>Gaura</i> L. and <i>Gaura</i> unspecified		34
<i>Gaura coccinea</i> Pursh	<i>Oenothera suffrutescens</i> (Ser.) W. L. Wagner & Hoch	-
<i>Gaura drummondii</i> (Spach) Torr. & A. Gray	<i>Oenothera xenogaura</i> W. L. Wagner & Hoch	-
<i>Gaura lindheimeri</i> Engl. & Gray	<i>Oenothera lindheimeri</i> (Engelm. & A. Gray) W. L. Wagner & Hoch	113
<i>Gaura sinuata</i> Nutt. ex Ser.	<i>Oenothera sinuosa</i> W. L. Wagner & Hoch	-
<i>Gaura villosa</i> Torr.	<i>Oenothera cinerea</i> (Wooton & Standl.) W. L. Wagner & Hoch	-
<i>Gaura lindheimeri</i> x <i>Gaura coccinea</i>	<i>Oenothera lindheimeri</i> x <i>Oenothera suffrutescens</i>	3
	Total	150

“Other” *Oenothera* species

	<u>Number of entries</u>
<i>Oenothera</i> L. and <i>Oenothera</i> unspecified	45
<i>Oenothera biennis</i> L.	4
<i>Oenothera fruticosa</i> L.	2
<i>Oenothera macrocarpa</i> Nutt.	-
<i>Oenothera rosea</i> L'Hér. ex Aiton	1
<i>Oenothera speciosa</i> Nutt.	5
(Other : <i>Oenothera freemontii</i> – currently not in GRIN nor GENIE)	1
Total	58

9. The TWO is invited to consider whether to propose to:

(a) update the relevant UPOV codes, and associated principal botanical names, as set out in paragraph 3; and

(b) consider the need for a partial revision of the adopted Test Guidelines for *Oenothera* and the adopted Test Guidelines for *Gaura*, in order to reflect the changes to the classification of *Oenothera* and *Gaura*.