

As to *Haplopappus linorum* and *Eriocameria* there are no positive char. the far as I can find to separate them from each other or from *Stemodia*, *Stemodophyllum* and *Leptodophyllum* - *Haplopappus* has generally broad more solitary capitula whilst in *linorum* and *Eriocameria* they are narrow and corymbose or shortly paniculate ~~the one~~ homogenous in the one radiate ^{the other}. The radiate *linorum* is only an accidental aberration not common in the species and like the rayless varieties of other anellus does not invalidate the genus.

I have now been for weeks at *Helianthus* in which a precious mess has been made by various writers and by none more than by Ch. Bp. Although I cannot go with him in entirely neglecting the presence or absence of a style in the ray flower I cannot make that a subtribe of characters but sometimes generic sometimes perhaps only national. *Helianthus laevigatus* and *cinereus* make up a little group of themselves remarkable for the persistent sepals or subsepals ^{as epipetals} laminae of the ray flower. *Leptocarpa* and *Leptocarpa* are nearly allied but I think distinct *Calycina*, *Calycina* (including *Ferdinandia* and *Chilodophyllum*) and *Gymnosoma* (including *Helianthus*) are very near to one another but I cannot follow Ch. Bp. whose paper on *Calycina* in *Flora of Florida* out would unite them all under *Calycina*. ~~Altho~~ must I think go into *Clerocarpus* - indeed *Gymnosoma* *universalis* ~~both~~ can only be distinguished from *Clerocarpus* *apocarpus* by slight specific differences.

Leptocarpa includes *Drumstick*

25 Wilton Place
London S.W.
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My dear Gray

To answer in the first place your two *Calycina* queries. The *Calycina angustifolia* Cav. varies much as to hairiness Cavanilles' and Lindley's figures represent it as very hairy Jacquin as glabrous. Our wild specimens which are numerous are most of them glabrous or the stems sprinkled with a few hairs besides those at the nodes but some are nearly and others quite as hairy as represented by Cavanilles and Lindley so that I conclude them all to be one species common in the Mexican-Spanish region varying as to hairiness and also as to the leaves usually very narrow and entire but sometimes especially under cultivation a few becoming broader and toothed. We have no specimen of my *Leptocarpa* which I suspect is a variety of *Leptocarpa lanceolata* - Wright is certainly *Leptocarpa angustifolia* or *Leptocarpa Jacq.*

The garden plant of which fragments just received seems to be notwithstanding its shorter corolla a form of *Leptocarpa tubifera* Cav. which it agrees with in every other respect. We have certainly no nearer match but.

but then there are Madia and others
which I have not yet begun upon - In all
the above genera except a few such as
Helianthus DC. & *Gelanthium* I have had
to root up almost every species and to examine
^{often} a great many specimens of one - fortunately
cold water does to soften the flowers

I perceive I have taken two sheets of
paper for one and must now conclude
I have not patience to read over what I
have said so you must allow for slip of
the pen

Ever yours sincerely

George Natham

Dr. Pursh

I do not like the breaking up of *Rudbeckia*
some species kept in *Rudbeckia* seem to be nearer
to *Dracopis* and others to *Echinacea* and *Pheliponia*
than they are to each other. *Echinacea heterophylla*
Don has not the receptacular palea of *Echinacea*
and is very near *Rudbeckia californica*. Which
the whole together make one very good natural
genus, dividable into 5 if not 6 sections.

Dalmanthia, *Wulffia*, ~~and~~ *Thurbergia* (L.)
Pursh. [*Tithonia nabeirina* Benth and *Lealva* (L.) Pursh.]
and *Ororichia* must I think remain unattached

In *Blainvillia* I should include *Albizia*
the true *A. Zeylanica* & *A. Indica* are perhaps not different
from the typical *A. rhomboides*. The plants I thought
were DC's species of that name when I did the Flora
Niger are very different and true *Coronocarpus*

Of *Wedelia* (including with some hesitation *Wolstenholmea*)
I have examined nearly 40 species besides several of
Hook. and Arn. & others which belong to other genera

Coronocarpus (which is *Wedelia* with neutral
ray. flower) comprises about 30 species African
and American including *Stenomastichium* DC. (except
a *Drythalamoides* which is a *Wedelia*) and a considerable
number of Gardner *Nigricarpa*. The scale at the base
of the achene which DC. Pursh makes such a fuss
about occurs in several sp. of *Wedelia* ^{*Lagomaria*} ~~*Lagomaria*~~
and others

Ogiera (*Kuhnia* (L.) DC.) hardly differs from
Coronocarpus in the habit small head with
the rays wanting or very minute. *Gymnosia*
microcephala Gardn. is nothing but the common
Ogiera.

I leave *Lipochorda* as you have settled it

Desmenia with near 30 species differing from *Wedelia* & *Blainvillia* in the more or less winged cymes should I think include a section *Sarcantha* DC. under which I should enumerate amongst others your *Persea* *monocapala*, *V. aurea* DC. *Tithonia ovata* Benth. etc.

Orydoea with about 22 species in *Desmenia* with neuter ray fl. It includes a few of Gardner's and my *Viguiera* and one of Gardner's *Persea* - the other is a *Viguiera*.)

Wegelia and *Tithonia* remain untouched except that the latter must be limited to *T. sagittiflora* and *T. tubiformis* - unless Deslandres 1865 be a third sp. & possibly *Thurberi* n. sp. or a fourth. (including *Cupira* and some *Harpalia*)

Viguiera with between 50 & 60 sp. is but very little different in char. from *Tithonia* - from the Cuban specimens, supposed to be H. B. K.'s original species (determined by Griseb.) the common Mexican one must be the same

To *Helianthus* besides your N. American herbaceous species I think we cannot help add referring some half dozen Andine shrubby species

Of *Permenium* we have I believe 10 sp. Mexican and Peruvian

To *Helianthera* I am much disposed to add the African *Lipochorda* with ♀ rays and the Drakens *Echinocephalus* and Abyssinian *Microschnechtia* with neuter rays the whole make a little genus of

about 8 species very natural and fairly characterized.

Encelia as I think you have pretty well shown makes a very good genus if it includes as sections *Dorattia* *Gersea* and *Linaria*.

Salvia *Helianthella* and *Actinomeris* must I think all remain, as near to but distinct from *Persea*. I should divide the latter into four distinct sections *Euverberia* *Hamulium* *Stalypteria* and *Ximenesia*

Podachnium Benth. (*Normophyllum* Ch. Bix.) must stand good as well as *Epilanthus*

All the above will I think go into a subtribe *Verberina* - the following into *Coreopidea*

Gnizotia (including *Neluzia*) *Lynedrella* and *Microleuca* all little distinct genera have the invol. of *Verberina* with the achs. dorsally flattened of *Coreopidea*

Coreopsis besides the genera you have referred to it must comprise *Bretnaria* which is not even sectionally distinct from *Agave*

Dahlia which Ch. Bix. unites with *Coreopsis* though allied to it is as good a genus as most others

I find but little to add in *Helispermum* *Comor* *Didens* *Glonogyne* (all old world for? *Bractea*? *Sarda* is an *Frontisium*) *Frontisium* *Chrysanthellum* *Heterospermum* *Glonocardia*

This is as far as I have gone except some genera about which I have not yet made up my mind and I have not formed yet any general scheme for the division of *Helianthera* in which I now see at least five groups *Malacopodium* *Microschnechtia* *Coreopidea* *Lagotis* and *Helianthera*



Bentham, George. 1871. "Bentham, George Feb. 19, 1871." *George Bentham letters to Asa Gray*

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