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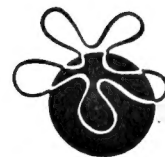
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# COMPOSITAE



# NEWSLETTER

Number Three

May 1976

Tod F. Stuessy, Editor, Department of Botany, Ohio State University, 1735 Neil Avenue, Columbus, Ohio 43210, U.S.A.

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BOTANICAL GARDEN

## EDITORIAL

To obtain information about current research projects in the Compositae plus news of colleagues and institutions, I am asking that every reader of the NEWSLETTER respond with data for inclusion in the next number. The last page of this issue is a form that conveniently may be used to reply. Our mailing list is sent to almost 300 individuals, and I would appreciate hearing from all of you. Please take a moment to fill out the form and drop it in the mail. Thanks.

## ARTICLE

### TYPES OF ASTERACEAE AT THE PHILADELPHIA ACADEMY OF NATURAL SCIENCES (PH)

Part II. Segregated types and selected authentic material of the Anthemideae, Mutisieae, Calenduleae, Arctoteae, Cardueae and Senecioneae.\*

James A. Mears

Department of Botany, Academy of Natural Sciences, Nineteenth and The Parkway, Philadelphia, Pennsylvania 19103, U.S.A.

\*For Part I of this article treating the Lactuceae, see issue Number Two of the NEWSLETTER.

## ANTHEMIDEAE

*Achillea arenicola* Heller, *A. chamaemelifolia* var. *heterophylla* Sennen, *A. falcara* var. *breviradiata* Boissier, *A. lanulosa* Nuttall, *A. longii* Schweinitz, *A. odorata* f. *subsericea* Bornm., *A. millefolium* f. *strictifolium* Sennen, *A. millefolium* var. *deliculata* Sennen, *A. sulphurea* Boissier, *A. tomentosa* Pursh, *A. vermicularis* f. *pallida* Bornm.;

*Anthemis amasiana* Hausskn. & Bornm., *A. cathioi* Boissier, *A. cupaniana* Todaro, *A. mariae* Sennen, *A. prostrata* Rafinesque, *A. tetuanensis* Pau;

*Artemisia albida* Ledebour, *A. barrelieri* var. *eulaliae* Sennen, *A. borealis* var. *latisecta* Fernald, *A. cana* Pursh, *A. cernua* Nuttall, *A. chitachensis* Cosson, *A. colombiensis* Nuttall, *A. discolor* Rafinesque, *A. discolor* var. *ludoviciana* Nuttall, *A. diversifolia* Rydberg, *A. dracunculoides* Pursh, *A. filifolia* Nuttall, *A. foliosa* Nuttall, *A. franserioides* Greene, *A. glauca* var. *latifolia* Ledebour, *A. gnaphalodes* Nuttall, *A. granatensis* Boissier ex DC., *A. heterophylla* Nuttall, *A. holosericea* Ledebour, *A. incompta* Nuttall, *A. integrifolia* Pursh, *A. laciniata* var. *glabriuscula* Ledebour, *A. latifolia* Ledebour, *A. lemoergi* Sennen, *A. longifolia* Nuttall, *A. ludoviciana* Nuttall, *A. macrantha* Ledebour, *A. macrobotrys* Ledebour, *A. multicaulis* Ledebour, *A. nuttalliana* Besser, *A. obtusiloba* var. *fruticulosa* Ledebour, *A. obtusiloba* var. *glabra* Ledebour, *A. parishii* Gray, *A. pedatifida* Nuttall, *A. porteri* Cronquist, *A. pringlei* Greenm., *A. pumila* Nuttall, *A. pycnorhiza* Ledebour, *A. redolens* Gray, *A. rothrockii* Gray, *A. sacrorum* Ledebour, *A. serrata* Nuttall, *A. spithamea* Pursh, *A. succulentā* Ledebour, *A. tridentata* Nuttall, *A. trifida* Nuttall, *A. violacea* Ledebour;

*Athanasia crassifolia* Schlechter;

*Chrysanthemum fruticosum* Ledebour, *C. sinatum* Ledebour; *Cotula affinis* Schlechter, *C. filipes* Schlechter, *C. hemisphaerica* Wallich, *C. hippifolia* Schlechter, *C. melaleuca* Bolus;

*Eriocephalus hoffmannianus* Schlechter, *E. sessilis* Schlechter, *E. xerophilus* Schlechter;

*Lasiospermum schlechteri* Bolus; *Leucanthemum cantabricum* Sennen & Leroy;

*Maruta microcephala* Schrenk;

*Otochlamys pedunculata* Schlechter;

*Pentzia rupestris* Schlechter; *Plagiocheilus erectus* Rusby; *Pteranthus suanereus* Nuttall; *Pyrethrum ambiguum* Ledebour, *P. anserinaefolium* Bornm. & Hausskn., *P. bornmulleri* Hausskn., *P. corymbosum* var. *minor* Sennen, *P. germanicopolitanum* Bornm. & Hausskn., *P. haussknechtii* Bornm., *P. heterophyllum* Hausskn., *P. kermanense* Bornm., *P. paradoxum* Bornm., *P. pulchrum* Ledebour;

*Santolina suaveolens* Pursh;

*Tanacetum bajacalifornicum* Moran, *T. fruticosum* Ledebour, *T. huronense* Nuttall, *T. huronense* var. *floccosum* Raup, *T. nubigena* Wallich.

## MUTISIEAE

*Barnadesia inermis* Rusby; *Berardia tulbaghensis* Schlechter;

*Chaptalia triangularis* Rusby; *Chuquiragua venosa* Rusby;

*Gerbera wilmsii* Volken;

*Hecastocleis shockleyi* Gray;

*Leria media* Grisebach;

*Moquinia boliviana* Rusby; *Mutisia comptoniaefolia* Rusby;

*Perezia capitata* Watson, *P. cuernavacana* Rob. & Greenm., *P. grandifolia* Wats.,  
*P. lozani* Greenm., *P. mandonii* Rusby, *P. michoacana* Rob., *P. nana* Gray,  
*P. oxylepis* Sch. Bip. ex Gray, *P. paniculata* Gray, *P. parryi* Gray, *P.*  
*schaffneri* Gray, *P. sublyrata* Domke, *P. thyrsoides* Gray, *P. wrightii* Gray;  
*Proustia portoricensis* Gray;

*Trixis denticulata* Dusen, *T. hyposericea* Watson.

## CALENDULEAE

*Calendula parviflora* Rafinesque;

*Osteospermum tanacetifolium* Macowan;

*Tripteris asteroides* Schlechter, *T. namaquensis* Schlechter.

## ARCTOTEAE

*Arctotis namaquensis* Schlechter, *A. parvifolia* Schlechter, *A. sulcocarpa* Schlechter;

*Berkheya angusta* Schlechter, *B. namaquana* Schlechter;

*Ursinia arenicola* Schlechter, *U. brevicaulis* Schlechter, *U. matricarifolia* Bol.  
 ex Dinter, *U. namaquensis* Bol., *U. oreogena* Schlechter, *U. psammophila*  
 Schlechter.

## CARDUEAE

*Arctium degeni* var. *tibidatensis* Sennen;

*Carduus attenuatus* Nuttall, *C. baeocephalus* Webb & Bertholet, *C. cronius* var.  
*glabratus* Halacsy, *C. guadarramica* Sennen, *C. pennsylvanicus* Nuttall,  
*C. pumilus* Nuttall, *C. radicans* Heller, *C. undulatus* Nuttall; *Carlina*  
*corymbosa* var. *crassibracteata* Sennen;

*Centaurea americana* Nuttall, *C. aurigerana* Sennen, *C. bornmuelleri* Hausskn.,  
*C. castellana* var. *asperrima* Sennen, *C. cervantesii* Sennen, *C. chilense*  
 Nuttall, *C. collina* var. *subinermis* Sennen, *C. cyanus* var. *denudata* Suksdorf,  
*C. deusta* var. *heterochlamyda* Sennen, *C. dracunculifolia* var. *linearifolia*  
 Sennen, *C. granatensis* Boiss. ex DC., *C. incana* Tenore, *C. kermanensis* Bornm.,  
*C. leucophaea* Jord. & Sennen, *C. linifolia* f. *elongata* Sennen, *C. macrolopha*  
 Sennen, *C. maroti* Sennen, *C. myriocephala* var. *erythracantha* Bornm., *C. pauli*  
 var. *murcica* Sennen, *C. polytricha* Sennen, *C. psephelloides* Freyn. & Sint.,  
*C. sibirica* Ledebour, *C. sicula* Nuttall;

*Chamaepeuce afra* f. *pallescens* Freyn.;

*Cirsium boissieri* Freyn. & Bornm., *C. clokeyi* Blake, *C. hookerianum* Nuttall, *C.*  
*lecontei* Torrey & Gray, *C. megacanthum* Nuttall, *C. muticum* f. *lactoflorum*  
 Fernald, *C. nebraskensis* var. *discissum* Lunell, *C. occidentalis* Nuttall,  
*C. pinetorum* Greenm., *C. rothrockii* Gray, *C. texanum* Buckley, *C. wallichii* DC.;

*Cnicus arizonicus* Gray, *C. discolor* Muhl. ex Willd., *C. excelsior* Rob., *C. fontinalis*  
 Greene, *C. imbricatus* Rob. & Greenm., *C. linearifolius* Watson, *C. pringlei*  
 Watson, *C. pumilus* Torrey, *C. rothrockii* Gray, *C. tolucanus* Rob. & Greenm.,  
*C. velatus* Watson;

*Cousinia carthamoides* Aitchison & Hemsley, *C. larvea* Winkl. & Bornm., *C. longifolia*  
 Winkl. & Bornm.;

*Echinops heterocephalus* Freyn., *E. huteri* Bornm., *E. villosissimum* var. *lalesarensis*  
 Bornm.;

*Onopordon murcicum* Sennen;

*Phaeopappus freynii* Hausskn. & Sint., *P. sintensisii* Stapf ex Hand.-Mazz.;

*Saussurea alpina* DC., *S. amara* DC., *S. cana* Ledebour, *S. discolor*  
 Ledebour, *S. foliosa* Ledebour, *S. frelowei* Ledebour, *S. glomerata* Ledebour,  
*S. gossypina* Wallich, *S. graminifolia* Wallich, *S. latifolia* Ledebour,  
*S. obvallata* Wallich, *S. pulchella* Fischer ex DC., *S. pycnocephala*  
 Ledebour, *S. rigida* Ledebour, *S. serrata* DC.; *Serratula glauca* Ledebour.

#### SENECIONEAE

*Arnica chandleri* Rydberg, *A. foliosa* Nuttall, *A. fulgens* Pursh, *A. griscomi*  
 Fernald, *A. lanceolata* Nuttall, *A. louiseana* Farr, *A. menziesii* Nuttall,  
*A. oregana* Nuttall, *A. parryi* Gray, *A. plantaginea* var. *longii* Fernald,  
*A. pulchella* Fernald, *A. obtusifolia* var. *acuta* Raup, *A. spathulata* Greene  
 [plus 505 photographs and microphotographs in the type folder];

*Brachyglottis repandra* Forster;

*Cacalia ampullacea* Greenm., *C. brachycoma* Blake, *C. decompositae* Gray, *C.*  
*graciliflora* Wallich, *C. lanceolata* Nuttall, *C. megaphylla* Rob. & Greenm.,  
*C. michoacana* Rob., *C. palmeri* Greene, *C. paucicapitata* Rob. & Greenm.,  
*C. peltata* var. *conzattii* Rob. & Greenm., *C. peltata* var. *coulteri* Rob. &  
 Greenm., *C. platylepis* Rob. & Greenm., *C. pringlei* Wats., *C. reniformis* Muhl.  
 ex Willd., *C. suffulta* Greenm., *C. tuberosa* Nuttall; *Cineraria atropurpurea*  
 Ledebour, *C. macrophylla* Ledebour, *C. robusta* Ledebour, *C. thyrsoidea* Ledebour;

*Erechtites megalocarpa* Fernald, *E. simplex* var. *biflora* Rafinesque; *Euryops decipiens* Schlechter, *E. dieisianus* Schlechter, *E. hoffmannianus* Schlechter, *E. namaquensis* Schlechter, *E. rupestris* Schlechter;

*Liabum angustissimum* Gray, *L. biattenuatum* Rusby, *L. curvinum* Rob., *L. giganteum* Rusby, *L. klattii* Rob. & Greenm., *L. palmeri* Gray, *L. perfoliatum* Blake, *L. pringlei* Rob. & Greenm., *L. rusbyi* Britton, *L. stipulatum* Rusby, *L. wrightii* Grisebach;

*Othonna floribunda* Schlechter, *O. linifolia* var. *laminata* Schlechter, *O. nana* Schlechter, *O. primulina* Schlechter;

*Raillardella argentea* Gray, *R. pringlei* Greene;

*Senecio actinella* Greene, *S. acuminatus* Wallich, *S. adonidifolius* var. *gracilis* Sennen, *S. alata* Wallich, *S. albonervius* Greene, *S. amplectens* Gray, *S. ampullaceus* Hooker, *S. andersonii* Clokey, *S. antaicochensis* Cuatrec., *S. appendiculatus* f. *concolor* Bornm., *S. appendiculatus* f. *longifolia* Bornm., *S. appendiculatus* var. *leucantha* f. *appendiculata* Bornm., *S. appendiculatus* var. *leucantha* f. *auriculata* Bornm., *S. arequipense* Cuatrec., *S. arkansanus* Nuttall, *S. arnicoides* Wallich, *S. attenuatus* var. *microphyllus* Britton, *S. balsamitae* Muhl. ex Willd., *S. bangii* Rusby, *S. biacuminatus* Rusby, *S. bigelovii* var. *hallii* Gray, *S. bombycopholis* Bullock, *S. californicus* Nuttall, *S. centropappus* von Mueller, *S. chaoalensis* Watson, *S. chapalensis* var. *areolatus* Watson, *S. chihuahuensis* Watson, *S. clavifolius* Rusby, *S. clevelandii* Greene, *S. convallium* Greene, *S. coraicensis* Rusby, *S. ctenophyllus* Greene, *S. cupulatus* Volkens & Musch., *S. cymbalarioides* Nuttall, *S. diversifolia* Wallich, *S. ervendbergii* Greenm., *S. farriae* Greenm., *S. fastigiatus* Schweinitz ex Elliot, *S. fendleri* Gray, *S. fendleri* var. *subintegra* Greene, *S. ganderi* Barkley & Beauchamp, *S. gracilipes* Rob. & Greenm., *S. grossidens* Dusen, *S. guadalajarensis* Rob., *S. harbourii* Rydberg, *S. harfordi* Piper, *S. hartianus* Heller, *S. hoffmannii* var. *panamensis* Greenm., *S. holanii* Greene, *S. idahoensis* Rydberg, *S. integerrimus* Nuttall, *S. jamesonii* Spruce ex Klatt, *S. kunthiana* Wallich, *S. lacinosus* Wallich, *S. lamprocephalus* Schlechter, *S. lemmonii* Gray, *S. lividus* var. *sabronensis* Sennen, *S. longipedunculatus* Volkens, *S. macedougali* Heller, *S. maderensis* f. *aurita* Bornm., *S. maderensis* var. *exauriculata* Bornm., *S. madreensis* Gray, *S. magellensis* Tenore, *S. mohavensis* Gray, *S. monensis* Greene, *S. montereyana* Watson, *S. murrayi* Bornm., *S. neomexicanus* var. *mutabilis* Barkley, *S. obovatus* Muhl. ex Willd., *S. palmeri* Gray, *S. pauciflorus* Pursh, *S. pauperculus* Michx., *S. pectiodes* Rusby, *S. peninsularis* Vasey & Rose, *S. petasitoides* Greenm., *S. polyphlebius* Grisebach, *S. pringlei* Gray, *S. prionopteris* Rob. & Greenm., *S. pseud aureus* var. *anticostiensis* Victorin, *S. psidifolius* Rusby, *S. pterocaulis* Greenm., *S. purshianus* Nuttall, *S. quercetorum* Greene, *S. renifolius* Porter & Coulter, *S. rhizomatus* Rusby, *S. rusbyi* Greene, *S. saxosus* var. *toiyabensis* Greene, *S. scribneri* Rydberg, *S. silphiaefolia* Harshberger, *S. sinapoides* Rusby, *S. smallii* Britton, *S. soldanella* Gray, *S. spectabilis* Wallich, *S. sprucei* Britton, *S. squalidus* var. *chrysanthemifolius* Todaro, *S. squalidus* var. *aetnensis* Todaro, *S. stipulatus* Wallich, *S. suavis* Lunell, *S. subdentatus* Ledebour, *S. suffultus* var. *microcephalus* Gibson, *S. surculosus* Macowan, *S. tabacifolius* Rusby, *S. thurberi* Gray, *S. trachyphyllus* Schlechter, *S. umbraculifera* Watson, *S. vagus* von Mueller, *S. valisgratia* Bolus, *S. viscosus* f. *nana* Sennen, *S. vulgaris* f. *nana* Schur, *S. wallichii* DC., *S. wilmsii* Volkens, *S. wrightii* Greenm., *S. yungasensis* Britton; *Steirodiscus schlechteri* Bolus;

*Tussilago macrophylla* Wallich.

BOOK REVIEWS

A Revision of the Macaronesian Genus Argyranthemum Webb ex Schultz Bip. (Compositae-Anthemideae). C. J. Humpharies. Bulletin of the British Museum (Natural History) Botany 5(4): 147-240. 1976.

The genus Argyranthemum contains 22 species endemic to the Macaronesian archipelagoes of the Canary and Salvage Islands and Madeira. Its history is one of radical treatments, having been divided into five genera at one extreme or regarded as a minor section of the heterogeneous Chrysanthemum sensu lato at the other. With a wealth of data now available on morphology, fruit anatomy, embryo-sac development, flavonoid and polyacetylenic chemistry, etc., it appears that stability and naturalness in generic delimitation in the Chrysanthemum complex is nearing fruition.

Humpharies provides what appears to be an excellent treatment of a poorly known group of narrow insular endemics most of which have restricted ecological preferences. This revision, based on herbarium, transplant garden, and field (for the Canary Island taxa) studies, follows a traditional format with: an historical account of Argyranthemum and closely related genera; a discussion on its position within the Anthemideae with a useful table comparing morphological, anatomical, and biogeographical data for the segregate genera of the Chrysanthemum complex; a discussion, often illustrated, concerning the range of variation and utility in classification of the relevant morphological characters; a summary of chromosome numbers in the genus and in the subtribe Chrysantheminae; and a review of relationships within and between the five sections with commentary on their geographical distributions and ecologies. Also provided are keys to, adequate descriptions of, and specimen citations, distribution maps, and ecological data for the species and subspecies. Seven taxa are described as new and illustrated, and 22 nomenclatural combinations are made.--Ronald L. Hartman, Department of Botany, Ohio State University, 1735 Neil Avenue, Columbus, Ohio 43210, U.S.A.

Cassini on Compositae[,] collected from the Dictionnaire des Sciences Naturelles and arranged with an introduction and an index by Robert M. King and Helen W. Dawson. vol. 1, pp. [I] - XXXIX, [1] - 636; vol. 2, pp. [I - IV], 637 - 1330; vol. 3, pp. [I - IV], 1331 - 1963, I - XXXVII. New York, Oriole Editions, 1975. Price \$100.00.

Henri Cassini was a French aristocrat who was one of the most prolific writers on the Compositae during the 19th Century. His Opuscules Phytologiques (1826 - 1834) included more than 1200 pages, and the articles from the Dictionary, as now published, occupy almost 2000 pages more. For sheer volume his chief rival in the literature of the Compositae seems to have been A.P. de Candolle, whose treatment of Compositae in the Prodromus (1836 - 38) covered more than 1700 pages of small print.

Cassini's work, however, was notable for more than its volume. He was the first who undertook a general revision and redistribution of the Compositae; he rearranged the most of the family (except for the Cichorieae) upon new principles. He divided the family into tribes, along lines that are still in great part followed. He was the first to make use of the modifications of the style and anthers in the general systematic arrangement of the family, and he clearly showed the functions



of the collecting hairs and papillae. His understanding of the natural relationships among the tribes and genera was ahead of his time.

George Bentham, himself one of the great students of Compositae, had a high opinion of Cassini's work, but deplored some of his characteristics associated with undue attention to detail (J. Linn. Soc. Bot. 13: 338 - 339. 1873):

"... in working out the details of the genera in the 'Dictionnaire', he indulged in an enormous and useless multiplication of generic names, which only tended to throw the nomenclature into confusion, and cast a slur upon all his labours. Wherever he observed a slight difference in the involucre, pappus, or general aspect, or could not readily identify an imperfect specimen, an engraved figure, or a description often incorrect, he at once set it down as a new genus, and has thus, more than any other botanist of equal ability, overloaded the science with useless synonyms. So recklessly, indeed, did he give way to this mania of coining new names, that he on many occasions proposed two, or even three, for the same genus, leaving future botanists to take their choice".

As if to soften these remarks, Bentham goes on to say, in speaking of his own work (l.c. 344):

". . . my chief labour has been the testing and verifying or reconciling the observations of others. . . The principal changes I have proposed in the general methods of Lessing and DeCandolle were determined upon and worked out long before I was aware that they were in a great measure a return to that of Cassini. The confusion which his multiplication of names had produced, and the unusual terminology of his descriptions, had excited in my mind a prejudice against him, until, after completing my work of detail, I came to study his generalizations, which showed how much better his views of affinities coincided with mine than those of his successors". (It is interesting to notice that Harold Robinson, in a recent review of Cassini on Compositae [Taxon 25: 166. Feb 1976], considers Cassini's insights in some respects superior to Bentham's!).

In order to document Bentham's statement about Cassini's enthusiasm for new names, it may be noted that in Dalla Torre & Harms' Genera Siphonogamarum (1905 - 1906), there are listed 901 genera of Compositae recognized as valid by Hoffmann in Engler & Prantl. Of these about 85 were first named and described by Cassini. Dalla Torre & Harms also list at least 303 generic names proposed by Cassini but later relegated to synonymy.

King and Dawson have done a considerable service by bringing together in 3 volumes all the hundreds of Cassini's articles (898 according to their count) on Compositae (and incidentally Calyceraceae) that were originally scattered through the 60 volumes of Cuvier's Dictionnaire des Sciences Naturelles between 1816 and 1830. Access to the material is important not only to those wishing to consult diagnoses of newly proposed species and genera, but also to those who are interested in Cassini's speculations about classification and natural relationships. Individual articles are difficult to find in the original Dictionary, even for those fortunate enough to have a copy of this multi-volume work in their libraries. Cassini's arrangement of material was far from systematic. Theoretically the Dictionary is alphabetically arranged, but since the basic sequence is according to French vernacular names, the Latin generic names are sometimes found in unexpected places (e.g. Xanthium under Lampourde). Further, Cassini was prone to revise articles in unexpected places, or to provide new discussions on genera under his articles on tribes or larger groupings or, as pointed out in the introduction to this new collection, to plan deliberately to insert articles out of sequence in order to gain time for their preparation.

The present work is a boon to those who do not have easy access to the Dictionnaire des Sciences Naturelles. Any student of Synantherology (as Cassini liked to call it) will find much to interest him. I am tempted to say, if he can find it. If I have a serious fault to find with Cassini on Compositae it is that the index is deficient. This may seem a strange criticism of an index that occupies 37 closely printed pages, that is easy to read, and that lists even the most trivial references to generic names. The clue may be found in the introduction by King and Dawson to the first volume (p. XII), where the authors quote Cassini's own remarks on the peculiar placement of his major articles on classification: The synopsis of the Coreopsidae is under Zinnia in the Dictionary; the synopsis of the family as a whole, presumably one of the author's more valuable contributions, is lost in the Dictionary under Zyégée, Zoegea. The index to Cassini on Compositae lists names of genera and species only, and there is no way to locate general articles, even those on individual genera, without an undue amount of searching. For example, there are 31 different pages listed for the name Bupthalmum, but no reference to the fact that the principal discussion of the genus Bupthalmum is in the article on Nauplius, not in its proper alphabetical order in the Dictionary. The index could have been vastly improved by the addition of a relatively few entries referring to suprageneric groupings, and to major (as opposed to incidental) mentions of generic groups. The latter could have been accomplished easily by the use of special type-faces (e.g. boldface).

In spite of these deficiencies, the index is an exhaustive one reflecting an enormous amount of work. A less comprehensive index of generic names would have been far less useful, because Cassini sprinkled references to generic similarities and generic relationships throughout his texts; anyone interested in his views on systematic arrangements will be well advised to peruse all the references to the particular group that may be under consideration. Relatively few generic names, even unimportant ones, are cited only once in the index; many have more than 20 entries.

Cassini on Compositae is well bound; the volumes lie open at any desired place. The paper appears to be of good quality. The text, reproduced photographically without reduction in size from the individual articles in the Dictionary, has been carefully cut and pasted in such a way as to appear continuous; volume- and page-numbers from the Dictionary have been typed in the margins, opposite the first line of each new article or each new page, as appropriate. Page numbers for the new volumes have been typed in the upper corners. Unfortunately the facsimile is marred by a print-job of poor quality.

The compilers include a word of apology for the appearance of some of the pages, on the ground that they were working with photo-copies made from volumes that were old and sometimes in bad condition. I have not found any pages that are actually illegible, although parts of pages 228 and 1601 are almost so, but much of the text is too heavily inked and blurred. Very often the lines become overly black and out of focus near the bottoms of pages of the original work, as if the camera had been rather consistently out of adjustment (see, for example, pages 370 - 371). Sometimes the inner margins of right-hand pages from the original work are distorted (see page 83), indicating that the page was not flat when photographed. The printed text in the facsimile is consistently poorer than the clear fine type in the original, judging, at least, from that in the one copy I have consulted. If the new pages are not handsome, the fault would appear to be not with the original, but with the quality of the reproduction.

The work begins with an introduction of 7 pages, most of which is devoted to an account of Cassini's life and work. A sample of Cassini's handwriting is included, and a table giving the dates of publication of the 60 volumes of the Dictionnaire. The introduction is followed by a section comprising 12 black and white plates identified by the compilers only as "illustrations of new species described by Cassini in the Dictionnaire" (in fact only one plate, that of Caelestina caerulea, represents a new species; the other 8 species illustrated were originally described by Linnaeus, Willdenow, Cavanilles, Jussieu, or DeCandolle, and the 3 remaining plates are intended to illustrate tribal characters or tribal relationships in the Compositae). The plates were first published in the Dictionnaire, and a little later in the first volume of Cassini's Opuscules (1826). Those pertaining to individual species are cited in Index Londinensis, from both the above publications. Cassini himself (Opusc. 1: lxiii) lists the plates by name and number, and in another place (Opusc. 1: 228) gives some details concerning the dates of publication (1816 - 17) in the third and fifth livraisons of the Atlas accompanying the Dictionary. In the index to the Atlas it is stated that plates 83 - 87, 89 - 91, and 93, appeared in livraison ["cahier"] 3, plate 94 in cahier 5, plate 88 in cahier 33, and plate 92 in cahier 37. Neither in the Dictionnaire nor in the Opuscules do the plates bear printed numbers.

Because the arrangement of the plates in the Atlas differs from that employed by Cassini, and still another arrangement is used in Cassini on Compositae, the following tabular summary may be useful. I have also included from the Atlas the cross-references to the pertinent texts in the Dictionary itself:

Description of Plate	Number in Dict. Sci.Nat.Planch. Bot. Dicot.	Textual reference in Dict.Sci.Nat. Planch.Bot.Dicot.	Number in Cassini's Opuscules	Page number in Cassini on Compositae
Tribal affinities in the Compositae	83	51: 443	1	XVII
Tribal characters, Vernoniées to Ambrosiacées	84	51: 443	2	XIX
Tribal characters, Hélianthées to Lactucées	85	51: 443	3	XXI
Florestina pedata (Hélianthées)	86	17: 156	8	XXXIX
Cladanthus arabicus (Anthémidées)	87	9: 343	9	XXXI
Chrysanthemum indicum (Anthémidées)	88	9: 152	11	XXIX
Agathaea coelestis (Astérées)	89	18: 78 3: 254	6	XXIII
Callistemma hortensis (Astérées)	90	68: 45 45: 27	7	XXV

10.

<i>Emilia flammea</i> (Sénécionées)	91	14: 405	5	XXXVII
<i>Dumerilia paniculata</i> (Nassauviées)	92	13: 553	12	XXXV
<i>Caelestina caerulea</i> (Eupatoriées)	93	6S: 8	4	XXVII
<i>Cryptocarpha tribuloides</i> (Fam. Boopidées)	94	12: 85	10	XXXIII

Capsule opinion: Cassini on Compositae will provide for synantherologists an indispensable and convenient index to the generic and specific names published by Cassini. Those who wish to know what Cassini thought and how he arrived at his conclusions, will still have to hunt through a mass of verbiage, but now all under one set of pages. The price seems high, especially since the quality of the reproduction is so poor. -- Rogers McVaugh, University Herbarium, University of Michigan, Ann Arbor, Michigan 48109, U.S.A.

A Revision of the Genus Archibaccharis Heering (Compositae: Astereae). J. D. Jackson. *Phytologia* 32:81-194. 1975.

A revision of a long-neglected and poorly understood genus is a welcome addition to botanical literature. J. D. Jackson has provided the first comprehensive study of the Mexican and Central American genus Archibaccharis. Based upon both field and herbarium studies, Dr. Jackson has recognized a total of 28 taxa representing 22 species, and has divided Archibaccharis into two sections. Because little is known concerning the biological relationships within the genus, the taxa are separated mainly upon morphology. Chromosome reports (all  $n = 9$ ) are listed for 16 taxa. The revision includes keys to species and varieties, synonymy, detailed descriptions, range maps, illustrations of floral features, and lists of exsiccatae.

It is unfortunate that Jackson's manuscript was not more thoroughly reviewed. Reviewers' comments most probably would have led to some major improvements and eliminated some of the minor inconsistencies. The most critical measure of a revision's value is its usability by other members of the botanical community. Keys in particular should be lucid and as definitive as possible. Jackson's keys, regrettably, are almost unworkable. Major leads are sometimes ambiguous and dependent upon features not readily apparent from dry specimens (e.g., A. Plants subscaudent ... vs. AA. Plants scandent ...), often are reliant upon ill-defined and subjective pubescence terminology (e.g., puberulous, villosulous, tomentulous, pilosulous-villosulous, pilosulous, etc.), and throughout are weighted down by exceptions. One dichotomy, F and FF (pp. 102, 103) is so complex and confusing as to be virtually unintelligible. Even in a genus as variable as Archibaccharis, surely a more definitive key could have been constructed. Much to be preferred would have been a key with shorter, mutually exclusive couplets. Where necessary, extremely variable taxa should be keyed out more than once.

The illustrations of floral characters are diagrammatic and appear to have been hastily prepared. The achenes of Archibaccharis bear conspicuous carpopodia, but these are not shown in the figures. The illustration of a filiform corolla of A. subsessilis shows the smallest known ligule size, whereas the key contrasts this species with others on the basis of its relatively large ligules. Several figures are very wasteful of space which could have been used more profitably to illustrate other diagnostic features.

The section dealing with pollen appears superfluous. No taxonomic conclusions were drawn from this information, and the pollen measurements were repeated in the various species and varietal descriptions. Scanning electron microscope studies of the pollen might reveal taxonomically useful information.

Despite its detrimental aspects, Dr. Jackson's paper is an important contribution. Archibaccharis is a variable and complex genus, and Jackson has sorted this variability into an apparently logical classification. It is through revisionary studies of this sort that areas in need of further investigation may be pinpointed. Much about Archibaccharis remains to be known, particularly regarding its relationship to Conyza on one hand and Baccharis on the other.--David J. Keil, Department of Botany and Microbiology, Arizona State University, Tempe, Arizona 85281.

#### NEWS FROM INDIVIDUALS AND INSTITUTIONS

Dr. Josephine Koster (Oegstgeest, Netherlands) kindly points out two errors regarding her research activities in the NEWS section of the last number of the NEWSLETTER. Tetramolopium was inadvertently listed as being in the Inuleae rather than in the Astereae, and Dr. Koster has not yet finished her treatment of the Heliantheae for New Guinea, but rather is just beginning it.

From Arizona State University, Tempe, Arizona, U.S.A., comes notice of several research projects: (1) Greg K. Brown (Master's research), Cytotaxonomic studies of Platyschkuhria (Helenieae); (2) David J. Keil (postdoctoral), Monographic studies of Pectis (Helenieae), Systematic studies of Hydropectis (Helenieae), A new species of Chrysactinia (Helenieae) from Sinaloa, Mexico; (3) David J. Keil and Donald J. Pinkava, Chromosome numbers of Compositae of the United States and Mexico; and (4) Pinkava and Keil, A new species in Flaveriinae from the Grand Canyon, Arizona. Two additional studies have been completed recently but are still unpublished: (1) Roy C. Brown (Ph.D. thesis), Biosystematic studies of Baileya and Psilostrophe (Helenieae); and Richard K. Brown (Master's thesis), Tragopogon (Lactuceae) of Arizona.

## RECENT LITERATURE\*

## GENERAL

Camm, E. L., Towers, G.H.N. and Mitchell, J.C.

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Chromosome counts of Compositae from the United States, Mexico and Guatemala. Rhodora, 77(810):171-4 195(1975).

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Compuestas nuevas o interesantes para Chile. Bol. Soc. Biol. Concepción, 48:99-108(1974) - (En); illustrations.

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New species of Stomatantes from Africa (Eupatorieae, Compositae). Kew Bull., 30(3):463-465(1975) - Illustrations.

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Nomenclatural notes for Hortus Third: Compositae. Baileya, 19(4): 166-167(1975). Pityopsis.

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