

IN SEARCH OF CACTI AND SEAWEEDS ON DESERT SHORES: E. YALE DAWSON (1918–1966), BOTANIST¹

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Abstract: E. Yale Dawson's early passion for cacti continued into his professional career as a marine botanist studying seaweeds. He produced important floristic, taxonomic and biogeographic accounts of seaweeds, primarily in the N. E. Pacific. In 1963, the Botanical Society of America awarded him the Darbaker Prize for his *magnum opus*, *The Marine Red Algae of Pacific Mexico*, published in eight parts. Dawson also made many important observations on the distribution and abundance of cacti, collected and described several new taxa, and did much to enhance layperson interest in the biology and horticulture of these plants. For his contributions to the study of desert plants, the Cactus & Succulent Society of America made him a Fellow. He was also a member of the International Organization for Succulent Plant Study.

Key words: biography, E. Yale Dawson, desert natural history, Cactaceae

Introduction

"The hot tropical waters proved so unproductive of vegetation that the tide had scarcely begun to flow when I took to the shore to collect cacti" (Dawson, 1949d). Thus did Yale Dawson engage his two botanical passions, the study of cacti and seaweeds (Fig. 1). In the tradition of the great 19th century naturalist explorers, Dawson was a botanist of boundless energy, always pushing deeper into unexplored territory—collecting, documenting, and describing new species from both the desert and the sea. Many new taxa were discovered and described by him. He had a special interest in the red seaweed flora of the Sea of Cortez. In an unsurpassed effort, over a period of 26 years, he collected over 40,000 specimens. For details of his marine botanical career consult Abbott (1966), Garth (1967), Silva (1967), and Hawkes (1996).

A Fellow of the Cactus and Succulent Society of America (CSSA), his arid land botanical contributions are the primary focus of the present biography.

The Early Years

Elmer Yale Dawson was born 31 March 1918, in Creston, Iowa. When the cold Iowa winters proved too much for his paternal grandmother, the family moved to Long Beach, California when Yale was four years old.

He became an avid naturalist at an early age, starting first with insects (especially butterflies), subsequently specializing in cacti and other succulent plants (Figs. 2, 3, 4). He

was encouraged by members of the Lorquin Entomological Society and by perceptive science teachers. Yale became a junior member of CSSA. When Yale was 14, Scott Haselton, editor of the Cactus & Succulent Society Journal, took notice of his abilities as a grower and collector of cacti. Haselton (1933) published a short note in the CSSA Journal commenting that "because of his scientific interest in the plants Yale has been able to obtain a Government permit to import cacti. He intends to study to be a botanist when he enters Wilson High next semester."

Following the 1933 California earthquake, Yale convinced his ever tolerant and supportive parents to let him have two, ten-ton loads of brick rubble dumped in the front yard to make a cactus garden (Fig. 5). This horticultural interest in succulents soon led to a desire to see and collect plants in Baja: no easy task at the time because the road was no more than an eroded pair of wheel tracks in the desert. And so, in 1933, Yale and his father embarked on a three-week trip down the Baja Peninsula. Thus began a lifelong fascination with field biology in remote places, especially Mexico.

On the 1933 trip to Baja Yale discovered a new *Mammillaria* species on the coast at Punta Prieta, which was later named *Neomammillaria dawsonii* in his honor by Dr. A. D. Houghton (Houghton, 1935) [now referred to *Mammillaria brandegeei* (J. M. Coulter) K. Brandegee subsp. *glareosa* (Houghton) Hunt]. By his own admission, Yale considered this

¹Portions of this paper are adapted from Hawkes (1996).



Figure 1. Yale Dawson with two fine specimens of the kelp *Areschoug*. Photo courtesy of his daughter Renée Dawson.



Figure 2. A young Yale Dawson in his cactus greenhouse in Long Beach, California (1932). Photo courtesy of his daughter Renée Dawson.

the formal launching of his botanical career (Dawson, 1967: 217). His first published paper, *Cactus collecting in mañana land* (Dawson, 1936), gave an account of this adventurous trip to Baja (Fig. 6).

In 1934, a larger expedition to Baja was mounted and would make it all the way to La Paz. Vic Ellers, another cactus enthusiast, Howard Gates (who ran a cactus nursery in Anaheim and had made several previous excursions into Baja), Ted Hutchison, and other friends joined Yale and his father (Dawson, 1967). It was during this Baja trip that Dawson decided to continue his botanical pursuits at a University (Dawson, 1968: 64). Dr. Houghton recommended that he attend the University of California and study under Willis Jepson.

At the 7th annual cactus show in Pasadena (May 9-12, 1935) a 17 year old Yale Dawson won the landscape prize for his display of Baja California plants collected on the 1934 trip (Fig. 7). Scott Haselton (1935: 190), in a write-up on the Show in the *CSSA Journal*, commented, "Yale, with his schoolboy assistants, are to be congratulated on their excellent work."

Graduate Studies at U. C. Berkeley and a Career in Marine Botany

Arriving at U.C. Berkeley in 1936, Yale quickly discovered an enthusiasm for microscopy—"It was the world under the micro-

scope that infused me with wonder and awe" (Dawson, 1968: 137-138); an essential skill for a future marine phycologist (phycology is the study of marine and freshwater algae; seaweeds are marine algae, as are phytoplankton). Although William Albert Setchell had retired in 1934, he was a major influence on young Dawson's decision to pursue a marine botanical career. Yale began graduate studies at Berkeley in 1940 and his thesis committee was co-chaired by Prof. Lee Bonar and Prof. G. M. Smith (of Stanford University). However, Setchell, or "Uncle Bill" as his young student affectionately referred to him, was the unofficial supervisor of Dawson's research. Yale completed his Ph.D. in only two years and was Setchell's last, and most productive, student.

Dawson (1944a: 88) wrote: "My naturalist's interests were nurtured in a cactus garden, and since this first love has never been subdued, I was ever on the lookout for succulent xerophytes wherever my orders took me." (See Table 1 for a list of Dawson's botanical expeditions). Indeed, many of the Mexican desert shores that



Figure 3. Yale and friend in his Long Beach cactus garden, pre-earthquake. From Dawson (1966a: 15).

Figure 4. Dawson with a large specimen, circa 1934. Photo courtesy of his daughter Renée Dawson.



Dawson was botanizing for marine algae were lined with some of the most spectacular succulent vegetation in the world (Fig. 8).

The pattern of seaweed exploration combined with cactus natural history would repeat itself many times: in Baja (Dawson, 1946, 1948c, 1949c; Lindsay & Dawson, 1952), in Pacific Mexico (Dawson, 1944e, 1947, 1948a), in southern Mexico (Dawson, 1948b, 1952a), in Cuba (Dawson, 1949b; Dawson & Rush, 1954; Rush & Dawson, 1952), in the Bahamas (Dawson, 1966f), and in the Galápagos (Dawson, 1962e).

One of Dawson's early scientific papers dealt with the nomenclatural problem of both a cactus and an alga having the same generic name, *Binghamia* (Setchell and Dawson, 1941; Dawson, 1944f). Later, he would also deal with *Leptocladia* (Dawson, 1951), another generic name that was applied to both a cactus and seaweed.

Dawson's series in the *Cactus and Succulent Journal* (US) entitled *Naturalist's Diary on the Mexican West Coast* (Dawson, 1948a, 1949d) gives an account of the areas where he was collecting seaweeds from October 1946 to February 1947 under the auspices of the Allan Hancock Foundation and supported by a research grant from the Guggenheim Foundation of New York. On this trip, collections of several columnar and globular cacti were made in (then remote) areas of southern Mexico. One of the more spectacular finds was *Cephalocereus*



Figure 5. Yale pointing out specimens on the cactus hill he made with rubble from the 1933 California earthquake. From Dawson (1966a: 16).

apicicephalum E. Y. Dawson, later described, along with other new cacti, in a sixty-nine page report (including 2 color plates) from the Allan Hancock Foundation (Dawson, 1948b; Craig and Dawson, 1948a, 1948b).

Between good low tides for seaweed collecting, there were always new things to find ashore (Fig. 9). While exploring a mangrove lagoon at Barra de Navidad in Jalisco in December 1946 Dawson (1949d: 75) commented: "Despite the wet forest type of vegetation of the region, the exposed, precipitous rocky hills facing the sea provide a habitat favorable to these plants [cacti], and on the first granite cliff I came upon two excellent species: one, the little known *Cactus oaxacensis*, heretofore known only from the Isthmus of Tehuantepec region, and, hanging in pendulous masses on nearly vertical walls, a beautiful white-spined *Mammillaria* which seems likely to be a new species." The former species proved to be undescribed and was subsequently named *Melocactus dawsonii* [now *Melocactus curvispinus* (Pfeiffer) subsp. *dawsonii* (Bravo) N. P. Taylor] by the Mexican botanist Helia Bravo-Hollis (Bravo-Hollis, 1965). The specimens collected in 1946 were all small and vegetative, so Dawson returned to the area in 1954 and was able to locate mature specimens with cephalia (Dawson, 1954b).

A trip with Howard Gates through southern Mexico in May 1952 resulted in an important

Figure 6. Posing with a large *M. oaxacensis* H. E. Gates south of Cataviña, Baja California. From: Dawson (1936: 116). Also republished in his obituary, *US*, Sept–Oct 1966, 38: 150.

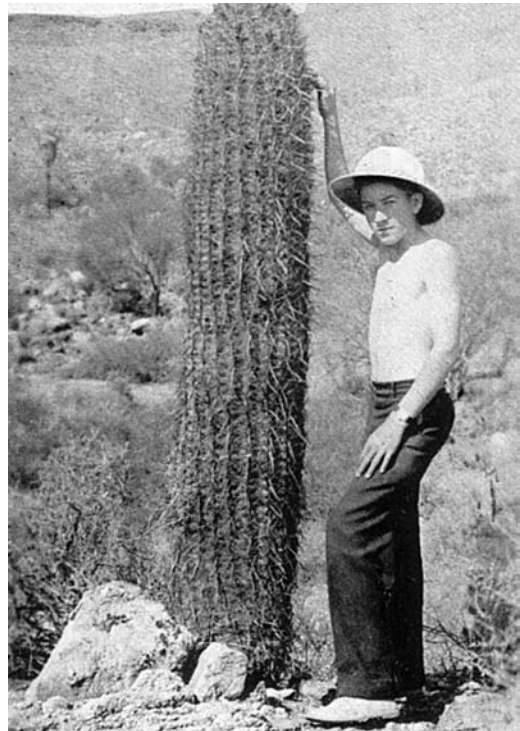


Table 1. Major botanical expeditions of E. Y. Dawson.

1933	Baja California, Mexico
1934	Baja California, Mexico
1937	Mexico
1940	Participant in the Allan Hancock Expedition to the Gulf of California aboard <i>Velero III</i> . It is interesting to note that this is the same year that Edward Ricketts and John Steinbeck made their epic voyage to the Sea of Cortez (Steinbeck & Ricketts, 1941)
1946–1947	Overland expedition to western Mexico. A Guggenheim Fellowship (1946–47) supported Dawson's extensive shore collections in Pacific Mexico
1949, 1954	Allan Hancock expeditions aboard <i>Velero IV</i> to Gulf of California
1953	Volcano Expedition to San Benedicto Island
1953	Nhatrang, Viet Nam
1955	Eniwetok Atoll, Marshall Islands
1956	Machris Brazilian Expedition
1958	Palmyra Atoll Expedition
1959	<i>Stella Polaris</i> Expedition, Gulf of Panama to Jalisco, Mexico
1960	Ecuador and the Galápagos Islands
1962–1963	Northern and central Peru
1964	Galápagos International Scientific Project
1966	Red Sea, Egypt

paper on the columnar cactus genus *Neobuxbaumia* (Dawson, 1952c).

Dawson had a real flair for writing non-technical accounts of his travels and research that would capture the interest and imagination of the layperson. The formal style of his research papers is replaced by a colorful, almost poetic prose, e.g.

A jeweled memory (Dawson, 1943), *Noche de flores* (Dawson, 1948e), and *The rim of the reef* (Dawson, 1961b). In one amusing account, Dawson (1952b) relates the story of how he and a friend were harvesting Organ Pipe cactus [*Stenocereus thurberi* (Engelmann) Buxbaum] cuttings by moonlight and were mistaken for smugglers

Figure 7. Dawson's prize-winning display of Baja plants at the 7th Annual Cactus Show in Pasadena, 1935. From Dawson (1968: 135).

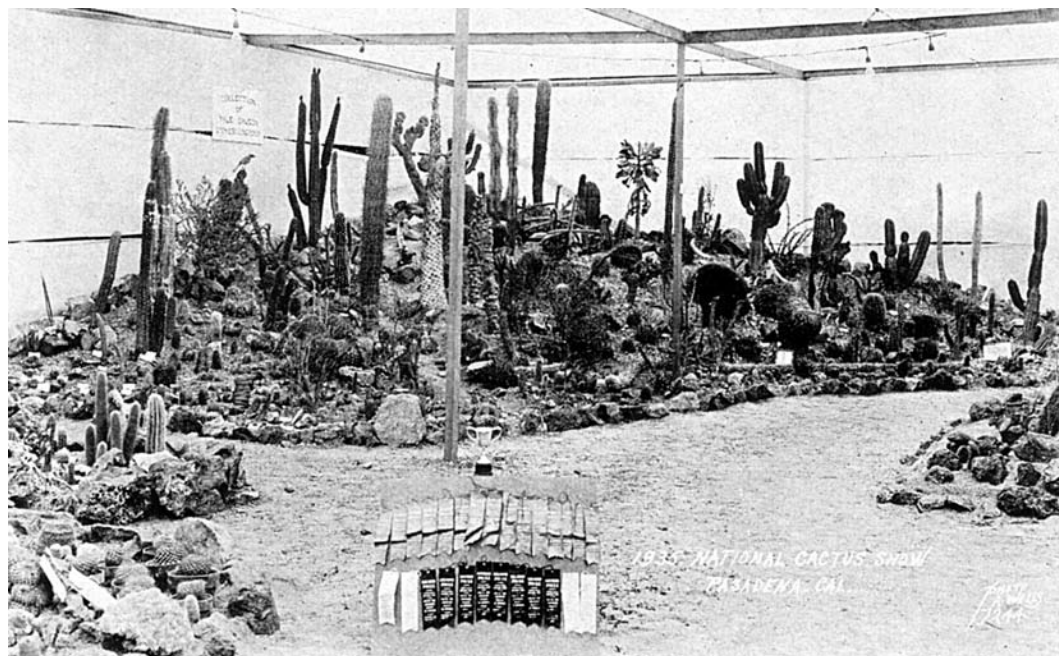


Table 2. Positions held by E. Y. Dawson.

1945–1955	Research Associate, Allan Hancock Foundation for Scientific Research, University of Southern California
1955	Marine botanist for University of Hawaii, Eniwetok Atoll survey
1955	Research Associate in botany and associate editor at the Los Angeles County Museum
1956	Professor of biology, USC
1956	Allan Hancock Foundation, consultant in the State Water Pollution Control Board's study of the effects of pollution on the coastal waters of southern California
1958	Vice-president and Research Director, Beaudette Foundation for Biological Research
1962	Professor of Biology, Allan Hancock Foundation, USC
1963–1964	Director, San Diego Natural History Museum
1965–1966	Curator of Cryptogamic Botany, National Museum of Natural History, Smithsonian Institution

by the sheriff of Ajo, Arizona. Apparently the sheriff was not amused at having to investigate such weird botanical goings-on at 3AM!

Many short notes on a variety of topics flowed from Dawson's pen. Such themes included *Doryanthes* in cultivation at La Jolla (Dawson, 1944c), a giant asclepiad in California (Dawson, 1944d), elephant trees in California (Dawson, 1945a), and butterflies in Arizona (Dawson and Blevins, 1944).

Yale Dawson's forte was as a naturalist/teacher and he produced many local field guides and keys (to both cacti and seaweeds) to help acquaint the novice and professional alike with regional floras. His cactus and general natural history contributions include: *Introduction to Salicornieae* (Dawson, 1945b), *How to know the cacti* (Dawson, 1963c), *The cacti of California* (Dawson, 1966e), *Seashore plants of southern California* (Dawson, 1966c), *Seashore plants of northern California* (Dawson, 1966d); the latter two re-issued as *Seashore plants of California* (Dawson and Foster, 1982). Two papers on the anthropology and ethnobotany of the Seri Indians of Sonora (Dawson, 1944b; Davis and Dawson, 1945) were important early contributions to the study of these desert people.

In June 1948, the Cactus and Succulent Society of America (CSSA) Executive Board passed a motion to aid "in the establishment in the Herbarium of the Allan Hancock Foundation [University of Southern California] of a research collection of preserved specimens of cacti and other succulents" (Dawson, 1948d). Yale was instrumental in convincing the Board of the importance of this endeavor. Dawson also edited and indexed Curt Backeberg's work entitled, 'Some results of twenty years of cactus research', for the CSSA Journal (Backeberg, 1950, 1951, 1952).

In 1956, Dawson was botanist on the Ma-

Figure 8. One of the desert shores that Dawson explored; Bahia de la Concepcion on the gulf coast of Baja California, with a specimen of *(Watson)* Britton & Rose. From Dawson (1948a: 177).



chris Brazilian expedition. He made extensive collections of non-succulent plants (Dawson, 1957a, 1957b, 1962c) and these were carefully organized and sent off to various experts for identification. Many of the species were new to science and several were named for Dawson in recognition of his meticulous work in collecting and organizing the material. Noteworthy is the xerophytic bromeliad *Dyckia dawsonii* L. B. Smith. In addition to non-succulent plants, Yale also collected columnar cacti in the vicinity of the headwaters of the Rio Tocantins in Goiás. One of these he described (Dawson, 1957c) as *Cephalocereus machrisii* [now known as *Pilosocereus machrisii* (E. Y. Dawson) Backeberg] in honor of Maurice Machris, co-sponsor with his wife, of the expedition (Fig. 10).

Yale Dawson developed an early interest in cacti from the Galápagos Islands. In a postcard written to Edgar Baxter² (16 March 1934) he

²Edgar Baxter (1903–1967) was an early member of the Cactus & Succulent Society of America. He is perhaps best known for his book *A*, published by Scott Haselton's Abbey Garden Press in 1935.

Table 3. Cactaceae: new taxa and new combinations made by E. Yale Dawson, as well as taxa named for him.

Original name	Reference	Current name
NEW SPECIES		
<i>Cephalocereus apicicephalium</i> Dawson	Dawson (1948b)	<i>Cephalocereus apicicephalium</i>
<i>Cephalocereus quadricentralis</i> Dawson	Dawson (1948b)	<i>Pilosocereus quadricentralis</i> (E.Y. Dawson) Backeberg
<i>Cephalocereus nudus</i> E.Y. Dawson	Dawson (1948b) Dawson (1952c) made the comb. nov. <i>Neobuxbaumia tetetzo</i> (J. M. Coulter) Backeberg var. <i>nuda</i> (E. Y. Dawson) E. Y. Dawson	<i>Neobuxbaumia tetetzo</i> var. <i>nuda</i>
<i>Cephalocereus macbristii</i> E.Y. Dawson	Dawson (1957c)	<i>Pilosocereus macbristii</i> (E. Y. Dawson) Backeberg
<i>Echinocereus hancockii</i> E.Y. Dawson	Dawson (1949c)	<i>Echinocereus maritimus</i> K. Schumann subsp. <i>hancockii</i> (E. Y. Dawson) W. Blum & Rutow. Nigel Taylor (pers. comm., 22 April 2005) does not accept <i>hancockii</i> as a subspecies pending further study of its range and abundance
<i>Jasminocereus howellii</i> E.Y. Dawson	Dawson (1962b)	<i>Jasminocereus thouarsii</i> (E. A. C. Weber) Backeberg
<i>Lemaireocereus setispinus</i> E.Y. Dawson	Dawson (1948b)	<i>Neobuxbaumia scoparia</i> (Poselger) Backeberg
<i>Mammillaria duoformis</i> R. Craig & E. Y. Dawson var. <i>duoformis</i>	Craig and Dawson (1948a)	<i>Mammillaria duoformis</i>
<i>Mammillaria nejapensis</i> R. Craig & E. Y. Dawson var. <i>nejapensis</i>	Craig and Dawson (1948a)	<i>Mammillaria karwinskiana</i> Martius subsp. <i>nejapensis</i> (R. Craig & E. Y. Dawson) D. Hunt
NEW SUBSPECIES OR VARIETIES		
<i>Cephalocereus mezcalaensis</i> Bravo var. <i>multiareolatus</i> E. Y. Dawson	Dawson (1948b)	<i>Neobuxbaumia multiareolata</i> (E. Y. Dawson) Bravo, Scheinvar & Sánchez-Mejorada
<i>Cephalocereus mezcalaensis</i> var. <i>robustus</i> E. Y. Dawson	Dawson (1948b) Dawson (1952c) made the comb. nov. <i>Neobuxbaumia mezcalaensis</i> (Bravo) Backeberg var. <i>robusta</i> (E. Y. Dawson) E. Y. Dawson	<i>Neobuxbaumia mezcalaensis</i>
<i>Jasminocereus howellii</i> var. <i>delicatus</i> E. Y. Dawson	Dawson (1962b)	<i>Jasminocereus thouarsii</i> var. <i>delicatus</i> (E. Y. Dawson) E. F. Anderson & Walkington
<i>Jasminocereus thouarsii</i> var. <i>chatbamensis</i> E. Y. Dawson	Dawson (1962b)	<i>Jasminocereus thouarsii</i>
<i>Mammillaria duoformis</i> R. Craig & E. Y. Dawson var. <i>rectiformis</i> R. Craig & E. Y. Dawson	Craig and Dawson (1948a)	<i>Mammillaria duoformis</i>
<i>Mammillaria goodridgei</i> Scheer in Salm-Dyck var. <i>rectispina</i> E. Y. Dawson	Lindsey and Dawson (1952)	<i>Mammillaria goodridgei</i>
<i>Mammillaria nejapensis</i> var. <i>brevispina</i> R. Craig & E. Y. Dawson	Craig and Dawson (1948a)	<i>Mammillaria karwinskiana</i> subsp. <i>nejapensis</i>

Table 3, continued.

Original name	Reference	Current name
<i>Mammillaria nejapensis</i> var. <i>longispina</i> R. Craig & E.Y. Dawson	Craig and Dawson (1948a)	<i>Mammillaria karwinskiana</i> subsp. <i>nejapensis</i>
<i>Mammillaria scrippsiana</i> (B. & R.) Orcutt var. <i>autlanensis</i> R. Craig & E.Y. Dawson	<i>Craig and Dawson (1948b)</i>	<i>Mammillaria scrippsiana</i>
<i>Opuntia ecbios</i> J.T. Howell var. <i>barringtonensis</i> Dawson	Dawson (1962b)	<i>Opuntia ecbios</i> var. <i>barringtonensis</i>
<i>Opuntia ecbios</i> var. <i>inermis</i> E.Y. Dawson	Dawson (1962b)	<i>Opuntia ecbios</i> var. <i>inermis</i>
<i>Opuntia ecbios</i> var. <i>prolifera</i> E.Y. Dawson	Dawson (1962b)	<i>Opuntia ecbios</i> var. <i>ecbios</i>
<i>Opuntia galapageia</i> Henslow var. <i>macrocarpa</i> E.Y. Dawson	Dawson (1965b)	<i>Opuntia galapageia</i> var. <i>macrocarpa</i>
NEW COMBINATIONS		
<i>Cephalocereus bradei</i> (Backeberg & Voll) E.Y. Dawson	Dawson (1957c)	<i>Cipocereus bradei</i> (Backeberg & Voll) Zappi & N. P. Taylor
<i>Cephalocereus cuyabensis</i> (Backeberg) E.Y. Dawson. Based on an invalid Backeberg name.	Dawson (1957c)	<i>Pilosocereus macbristii</i>
<i>Cephalocereus bapalacanthus</i> (Werdermann) E.Y. Dawson	Dawson (1957c)	<i>Pilosocereus catingicola</i> (Guerke) Byles & Rowley subsp. <i>salvadorensis</i> (Werdermann) Zappi
<i>Cephalocereus minensis</i> (Werdermann) E.Y. Dawson	Dawson (1957c)	<i>Cipocereus minensis</i> (Werdermann) F. Ritter
<i>Mitrocereus columna-trajani</i> (Karwinsky ex Pfeiffer) E.Y. Dawson	Dawson (1948b)	<i>Cephalocereus columna- trajani</i> (Karwinsky ex Pfeiffer) K. Schumann
<i>Neobuxbaumia macrocephala</i> (F.A. C. Weber ex K. Schumann) E.Y. Dawson	Dawson (1952c)	<i>Neobuxbaumia macrocephala</i>
CACTUS TAXA NAMED FOR DAWSON		
<i>Melocactus dawsonii</i> Bravo	Bravo (1965)	<i>Melocactus curvispinus</i> Pfeiff. subsp. <i>dawsonii</i> (Bravo) N. P. Taylor
<i>Neodawsonia</i> Backeberg	Backeberg (1949)	Now treated as a synonym of <i>Cephalocereus</i> Pfeiffer. However, Hunt and Taylor (N. Taylor pers. comm., 22 April 2005) would accept <i>Neodawsonia</i> as a good subgenus of <i>Cephalocereus</i> sens. str. (following Bravo)
<i>Neomammillaria dawsonii</i> Houghton	Houghton (1935)	<i>Mammillaria brandegeei</i> (J. M. Coulter) K. Brandege subsp. <i>glareosa</i> (Houghton) D. Hunt

comments that he had obtained live material of *Opuntia galapageia* Henslow (Figs. 11A, 11B). In future years, he would have the opportunity to visit this remote archipelago and to study and publish on both its marine and terrestrial floras (Dawson, 1962b, 1962d, 1962e, 1962f, 1963d, 1964, 1965a, 1965b, 1970), especially the opuntoid cacti and their possible co-evolution with tortoises (Dawson, 1966b).

His report of a possible undiscovered *Melocactus* species on the coast of Isla Santa Cruz (Dawson, 1965a) piqued my curiosity and was

one of the reasons I visited the islands in Feb-March 2001. Unfortunately, it appears that if a population of an undiscovered *Melocactus* sp. was ever present, it is no longer extant on the island, which is the most heavily populated of the inhabited islands (pers. comm., Alan Tye, Botany Dept. Charles Darwin Research Station).

From 1964 to the time of his death, Dawson served as Secretary of the Americas for the Charles Darwin Foundation for the Galápagos Islands, established under the auspices of UNESCO, and which supports the Charles

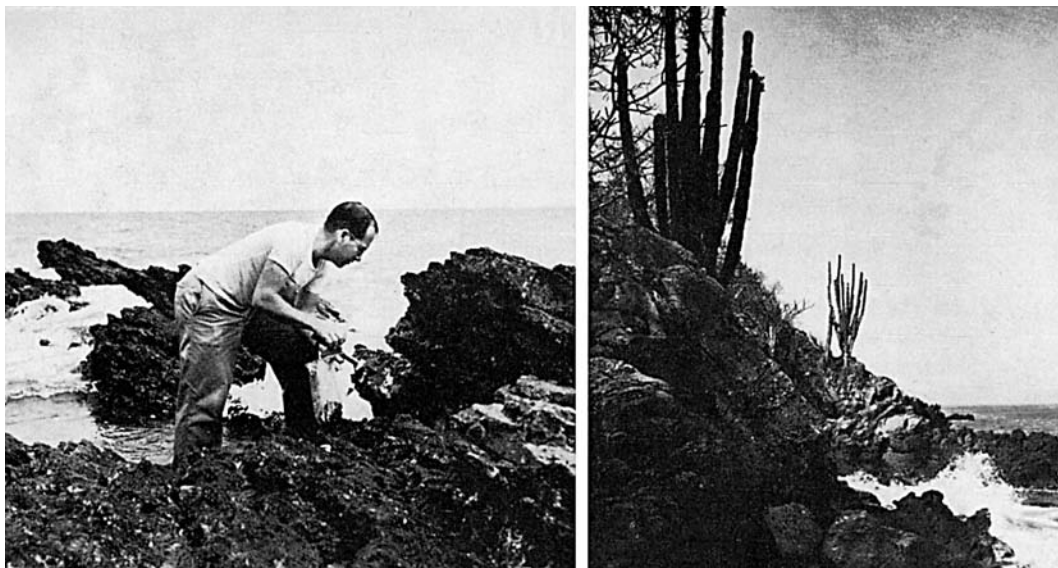


Figure 9. **Left:** Yale Dawson collecting algae on the intertidal reef at Isla Jicaron, Panama. **Right:** The rocky shore at Isla Grande, Guerrero, Mexico, showing giant cacti (*Pachycereus*) just above high tide level. From Dawson and Beaudette (1959).

Darwin Research Station at Academy Bay on Isla Santa Cruz, Galápagos.

In 1963, the Botanical Society of America awarded Yale the Darbaker Prize for his *magnum opus*, and most important seaweed publication, *The Marine Red Algae of Pacific Mexico*, published in 8 parts (Dawson, 1953, 1954a, 1960, 1961a, 1962a, 1963a, 1963b; Hollenberg and Dawson, 1961).

Dawson's unfinished autobiography, *Time of my Life*, (Dawson, 1966a, 1967, 1968) ran for three parts in the *Cactus and Succulent Journal* before an editorial note in the Sept-Oct 1966 issue announced, *The following letter was received by the Journal from the Smithsonian Institution:* "It is with great regret that the Department of Botany of the Smithsonian Institution informs you that Dr. E. Yale Dawson, Curator, Division of Cryptogams, drowned in Egypt on June 22, 1966. Dr. Dawson had left in late May on an extended field trip abroad and was in fact collecting algal specimens at the time of this most unfortunate accident." *How many of you subscribers were reading the Journal 30 years ago when Yale was featured as* ".....perhaps our youngest cactus explorer: although only 19 years of age, Yale is making valued contributions which are a credit to himself and his native city, Long Beach, Calif."

The sheer volume of Dawson's work is astounding; all the more so considering he was only 48 years old at the time of his death from drowning in the Red Sea at Hurghada, Egypt. His published record includes over 170 articles, books, reviews, and newsletters. As a field

collector and documenter of new species and distribution records he has few rivals in 20th century marine phycology (Hawkes, 1996). In honor of his contributions, the Smithsonian Institution set up a "Dawson Memorial Fund for the Galápagos" with funds to be used for the purchase of books for the Darwin Research Station library.

Positions held by E. Y. Dawson are listed in Table 2, and cacti that he described or that bear his name are listed in Table 3.

Although he did not have any formal graduate students, Yale served as a direct or indirect inspiration to a number of phycologists. While doing military service during World War II Yale was assigned to scientific duty at Scripps In-

Figure 10. Dawson at the type locality of *A.* in Brazil, May 1956. Color photo courtesy of his daughter Renée Dawson. Also published in black & white in Dawson (1957c: plate 2).



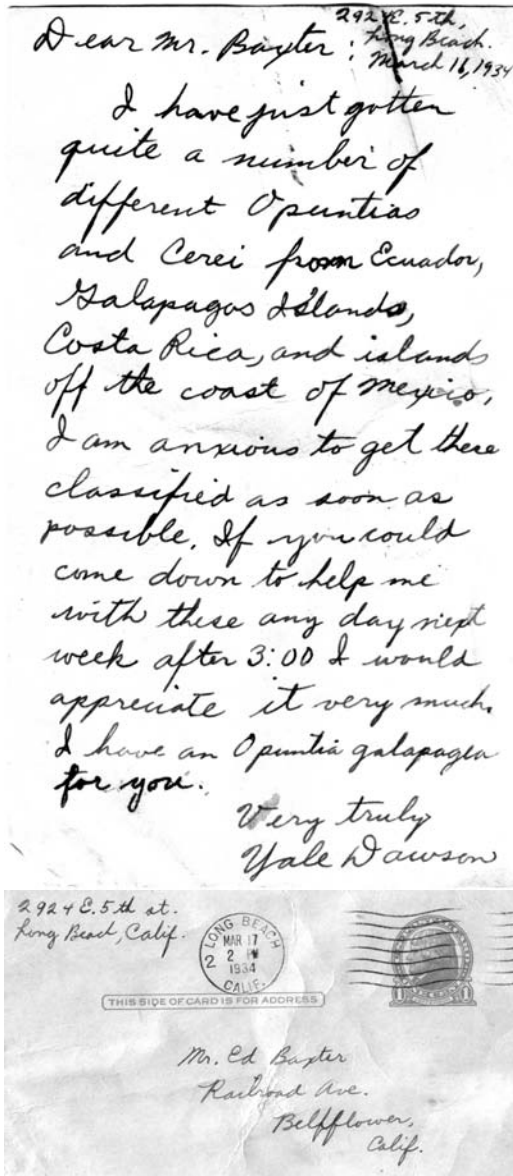


Figure 11A (top). Dawson's hand-written postcard to Edgar M. Baxter, dated 16 March 1934, telling him of some cacti he has recently obtained, including the rare *Opuntia galapageia*. **B (bottom).** Postcard in Fig. 11A, addressed to Edgar Baxter.

stitution of Oceanography (1943–1945) at La Jolla, where he served as Lieutenant and Captain in the Army Air Corps. In off duty hours he led Saturday natural history beach walks at the San Diego Natural History Museum. Two young participants were Max Hommersand and David Fork, both later to become professional phycologists. Other phycologists who were strongly influenced by Dawson in their career choice of marine phycology include: Michael Neushul, Clinton Dawes, Arthur Mathiesen, and Michael Hawkes.

Reflecting on Dawson's Legacy

In our era of modern biology with emphasis on increasing specialization, technology, and laboratory-based, macromolecular approaches, the legacy of field naturalists like Yale Dawson serves as an important touchstone to remind us of what we are in danger of collectively forgetting. It is folly to allow such first-hand knowledge of organisms and their environments to disappear from the experience of our young scientists. The attrition of this type of traditional natural history knowledge has been going on for decades and Dawson (1962g: 6) spoke about it, with concern, when he addressed the National Science Foundation Panel (29 Dec. 1961) on Cooperative Marine Science Teaching: "We are now hearing it said with increasing frequency that one of the greatest shortages in marine biology is the supply of systematists... we need descriptive biologists, and we need experimental biologists, but for the latter group as well as the former a prerequisite for advanced work must be, in my opinion, an acquaintanceship with natural history."

And yet, in the final analysis, there seems to be still something more that the collected works of E. Yale Dawson have to offer us, beyond the scientific facts, beyond the biogeographic details, out somewhere on the intangible edge of our perception, they serve to remind us of the sense of wonder and mystery of our living world. Yale summarized it best (Dawson, 1949a: 52), in true Ricketts and Steinbeck tradition, when he wrote: "We explore today; we look briefly; we pick and preserve here and there fragments of what we find about us. Perhaps the more important is to tell the story—that there is something here as grand, as limitless, as consumingly interesting as anything we have ever known before."

Acknowledgements

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Errata for *Haseltonia* 11: 126-137. 2005.

Hawkes, M. W. *In search of cacti and seaweeds on desert shores: E. Yale Dawson (1918–1966), botanist.*

After the Editor had submitted final, corrected proof, changes were made to the Figure captions and footnote 2 without his knowledge. All italicized words (mostly scientific names) were removed from Figures 1, 4, 6, 8 & 10. Italics were also removed from Fig. 9. The correct captions are as follows:

Figure 1. Yale Dawson with two fine specimens of the kelp *Eisenia arborea* Areschoug. Photo courtesy of his daughter Renée Dawson.

Figure 4. Dawson with a large *Ferocactus* specimen (circa 1934). Photo courtesy of his daughter Renée Dawson.

Figure 6. Posing with a large *Ferocactus gracilis* H. E. Gates south of Cataviña, Baja California. From: Dawson (1936: 116). Also republished in his obituary, *Cact. Succ. J. (US)*, Sept–Oct 1966, 38: 150.

Figure 8. One of the desert shores that Dawson explored; Bahía de la Concepción on the gulf coast of Baja California, with a specimen of *Pachycereus pringlei* (Watson) Britton & Rose. From Dawson (1948a: 177).

Figure 9. Left: Yale Dawson collecting algae on the intertidal reef at Isla Jicaron, Panama. **Right:** The rocky shore at Isla Grande, Guerrero, Mexico, showing giant cacti (*Pachycereus*) just above high tide level. From Dawson and Beaudette (1959).

Figure 10. Dawson at the type locality of *Pilosocereus machrisii* in Brazil, May 1956. Color photo courtesy of his daughter Renée Dawson. Also published in black & white in Dawson (1957c: plate 2).

Footnote 2, p. 131 should read:

²Edgar Baxter (1903-1967) was an early member of the Cactus & Succulent Society of America. He is perhaps best known for his book *California Cactus*, published by Scott Haselton's Abbey Garden Press in 1935.