Kumataro Ito, Japanese Artist on Board the U.S. Bureau of Fisheries Steamer *Albatross* During the Philippine Expedition, 1907–1910

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Introduction

The U.S. Bureau of Fisheries Steamer *Albatross*, commissioned in 1882, was probably the first large vessel built by any country specifically for marine research[1]. In 1907, by direction of President Theodore Roosevelt[2], it undertook its longest assignment: a 2 1/2-year cruise to explore the fishery resources of the Philippine and neighboring islands. Just 2 years earlier, in 1905–06, the Bureau had published a monumental 3-volume study, including many colored plates of the marine organisms collected by the *Albatross* in the Hawaiian Islands in 1901 and 1902[3]. No doubt, Hugh M. Smith[4], Deputy Commissioner of Fisheries from 1903 to 1913, who was to direct the Philippine expedition, hoped to publish a similar study of Philippine organisms.

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At the time of the Philippine expedition, photography had become an established source for documentation in many fields, but photographs of fish specimens for systematics purposes were published infrequently as compared with drawings. Most probably this can be attributed to the difficulty of obtaining good photographs and reproducing them in print. Additionally, color photography in anything like the form we know it had not yet been invented, and only an artist could capture the vivid, ephemeral colors of fresh-caught fishes and other marine organisms. As was often the case with natural-history expeditions of the 19th and early 20th centuries, an artist was assigned to accompany the *Albatross* during the Philippine Expedition and to prepare illustrations of any strange or new organisms that might be obtained.

ABSTRACT—Kumataro Ito produced hundreds of beautiful color paintings of fishes and invertebrates during and after the 1907–10 Philippine Expedition of the U.S. Bureau of Fisheries Steamer Albatross. *The paintings are housed in the files of the Divisions of Fishes and Mollusks, United States National Museum of Natural History, and Smithsonian Institution Archives, Washington, D.C. Few of those paintings have been published in color, but many have been published in black and white. Two years after the expedition, Ito came to Washington, D.C., in 1912 for an extended period to render final paintings based on preliminary color sketches made during the expedition. He did not completely render all the sketches during his stay, probably because he was asked to produced a large number of black-and-white illustrations of Philippine fishes, and a few of North American fishes. Most of the black-and-white illustrations have been published. Few publications containing Ito's Philippine and North American illustrations have acknowledged him. The very little that is known about Ito's life is discussed, examples of his black-and-white and colored fish paintings are reproduced, and his previously unacknowledged illustrations in various publications are herein acknowledged.*

Another Japanese artist, Yasui, about whom almost nothing is known, joined the Albatross *during Ito's second tour on board the ship. It appears, with few exceptions, that Yasui produced only preliminary color sketches of fishes, which, if rendered as final paintings, were done by Ito.*

[1] This and similar variously qualified assertions regarding the *Albatross* have become unchallenged common currency in the literature (Coker, 1947; Hedgepeth, 1945, 1947, 1974; Nelson, 1971; Hobart, 1995; Dunn, 1996). The *Albatross* was built and commissioned by the U.S. Commission of Fish and Fisheries, an independent government agency, whose first head (Commissioner) was Spencer F. Baird (3 Feb. 1823–19 Aug. 1887). Baird held the position of Commissioner, beginning in 1871, concurrently with his position as Assistant Secretary, and later appointment as Secretary, of the Smithsonian Institution, until he died. The idea for building a large vessel specifically for oceanographic research was Baird's, and he was responsible for convincing the U.S. Congress to appropriate the funds. The Commission became the Bureau of Fisheries within a newly created Department of Commerce and Labor on 1 July 1903. The original organization has undergone several name changes. The present-day designation of the original U.S. Fish Commission, as it is most frequently referred to in the literature, is the National Marine Fisheries Service (NMFS), now a part of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

[2] Letter dated 17 September 1907, from O. S. Straus, Secretary, Department of Commerce and Labor, to V. H. Metcalf, Secretary of the Navy: "The fisheries steamer ALBATROSS is about to undertake, at the desire of the President, a scientific expedition to the Philippine Islands . . ." The ship's logs for 1907–10, among those for other years, and some related records, including the original of this letter, are filed with the U.S. Navy records, rather than those of the Fish Commission, at the National Archives, Washington, D.C. Roosevelt appears to have had an abiding interest in natural history (Jordan, 1922, "Natural History was Roosevelt's first love . . . his last enthusiasm"). Roosevelt also ordered the *Albatross* to the Hawaiian Islands for the expedition mentioned in my text, and Jordan (1922) credits him with overiding objections of the government committee on publication to have the color plates of Jordan and Alvin Seale's, "The Fishes of Samoa," (1906) published.

[3] *Bulletin of the United States Fish Commission For 1903*, vol. 23, pt. 1–3.

[4] Hugh McCormick Smith, 21 November 1865–28 September 1941. For biographies of Smith, see Schultz (1941) and Anonymous (1941); for general comments about Smith and the expeditions, see Bartsch (1941), Hildebrand (1941), and D. G. Smith and J. T. Williams (1999).

Ito Selected

The artist Smith chose was Kumataro Ito[5], a resident of Tokyo. During the expedition, Ito produced well over 200 magnificent color paintings, mostly of fishes[6] (e.g. Plates 1–4). Most were to be stored in filing cabinets in the Division of Fishes, National Museum of Natural History, Smithsonian Institution, and hidden from view during Ito's lifetime and for many years thereafter.

Why Smith selected Ito rather than an American artist for the expedition, and how he came to know him, can only be surmised. It may be that no American artist was available for the long cruise to and from distant seas. Japan is much closer to the Philippines than San Francisco, where the *Albatross* commenced the expedition, and a Japanese artist could return home relatively quickly if he so desired. It may also be that Japanese artists worked for lower wages than did Americans.

Smith had a kind of precedent for selecting Ito. The shorter *Albatross* Hawaiian expeditions of 1901 and 1902, led by David Starr Jordan[7], had used the services of two American artists (Jordan and Evermann, 1905:20, 31; Jordan, 1922 (2):87). After those expeditions, Jordan employed various artists to prepare additional illustrations for the reports on the Hawaiian fishes (Jordan and Evermann, 1905:31). Two of these artists, Kako Morita and Sekko Shimada, were of Japanese descent, although both were possibly American citizens or residents. Morita, at least, was in the United States as early as 1902, and both were here at least as late as 1912[8], the year Ito visited Washington, D.C. One may wonder if Jordan was introduced to them and to Kumataro Ito, during Jordan's first trip to Japan in 1900 (Jordan, 1922(2):4). If so, Jordan, who was undoubtedly well acquainted with Smith, may have recommended Ito to Smith.

It is most probable, however, that Smith was introduced to Ito on one of Smith's two trips to Japan prior to the Philippine expedition (Smith, 1909:8). Smith's first trip, which lasted 6 months, was made in 1903 (Schultz, 1941:196) and the second in late 1907, just before the Philippine expedition began. Otaki et al. (1903–07) published a study in which they acknowledged Ito and mentioned that he was formerly an artist in both the Fisheries Bureau and Fisheries Institute of the Japanese Department of Agriculture and Commerce.

By 1907, Ito was a well-known illustrator of fishes in Japan. He had painted all the fishes on the 24 large folio color plates issued with the publication by Otaki et al. (1903–07)[9], of which Smith was most probably aware. During the two trips, Smith had investigated Japanese methods of culturing goldfish (Smith, 1909:8) . His investigations resulted in the publication of a book on the subject that included among the illustrations, two halftone reproductions of colored paintings of goldfish " . . . made for the author in Tokyo, by K. Ito" (Smith, 1909:29, 33)[10]. It is unknown whether the paintings were made prior to or during the years of the Philippine expedition (Ito returned to Japan twice during the course of the expedition).

I have been able to find very little personal information about Ito. The earliest documented record of his existence that I have found is the 1903 publication of Otaki et al., which would certainly indicate that Ito had been active for some years earlier. The editor of the now defunct Japanese natural history magazine *Anima* wrote me in 1986 that a curator of the Tokyo National Museum determined that Ito was employed in 1881 as an illustrator of fish by the Department of Zoology of Tokyo University[11], and that Ito had studied painting under Gyozan Nakajima, a well-known artist of that period[12].

When Hugh M. Smith sent letters to Ito, he addressed them to Ito care of Kamakichi Kishinouye at the Japanese Imperial Fisheries Bureau, Tokyo[13]. Kishinouye was a prominent ichthyologist and is now best remembered for his studies on scombroid fishes. He also may have been the source of Ito's introduction to Smith. From 1903 until the *Albatross* reached Manila, Philippines, on 28 November 1907, I have no information on Ito.

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[5] Not to be confused with Keisuke Ito, Fisheries Department of Hokkaido, and president of the Fisheries Society of Northern Japan (see *Transactions of the American Fisheries Society for 1887*, p. 68). Keisuke Ito published on Japanese fisheries in American journals during the late 1880's under the name K. Ito (Dean, 1916). He is probably the K. Ito who wrote D. S. Jordan a letter in 1903 (Department of Special Collections, Stanford University Library, call no. 58, Jordan Papers, box 35, folder 347; P. Armstrong, in litt., 1997), which I initially, erroneously believed was written by Kumataro Ito, as it referred to [fish] breeding.

[6] Ito's fish paintings are scattered throughout the estimated 10,000 illustrations in the illustration files of the Smithsonian's Division of Fishes, and their exact number is unknown (an inventory is in progress under the supervision of Lisa Palmer). I have examined the *Albatross* color paintings and/or preliminary sketches of at least 200 different specimens of fishes (some finals were based on two specimens), presumably all those of the invertebrates, and many of the approximately 80 published black-and-white paintings done after the expedition, as well as some unpublished ones.

[7] David Starr Jordan (19 January 1851–19 September 1931), world-renowned ichthyologist and first president of Stanford University, needs no further introduction here.

[8] Based on examination of the Morita and Sekko [Shimada] correspondence in the David Starr Jordan Papers, Department of Special Collections, Stanford University Library, SC58, made for me by P. A. Armstrong, 1 April 1997.

[9] Ito also executed all the line cuts in the text, which feature fishing techniques and equipment. Very few copies of Otaki et al. (1903–07) appear to be present in the United States. The Library of Congress has the complete publication, which was issued in 12 parts: 6 thin, unbound, octavo-sized leaflets, each of which must have been accompanied by a simultaneously issued loose-leaf group-of-four folio-sized color plates. The plates are printed on acidic paper, and are very brittle. Although the species are recognizable, the quality of the illustrations suffers when compared with that of Ito's Philippine paintings.

[10] The book also contains the color reproductions of 10 goldfish paintings made by J. Urata that were also published in color by Matsubara (1910). The 10 paintings were originally prepared for Matsubara, who had copyrighted them and probably thought he would be the first to publish. See also footnote 43.

[11] Letter to author from Tokuichi Sawachika, 10 January 1986. I did not follow this lead in 1986, and my attempts and those of Japanese colleagues during 1997 to identify the curator or to verify the information about Ito have failed. The former editor cannot now recall his source for the information (E-mail to author from K. Matsuura, 8 January and 12 February 1997). Tokyo University was usually referred to as Imperial University of Tokyo prior to World War II.

[12] Isono Naohide, Dep. Biology, Keio Univ., Yokohama, provided me with information, including Japanese references, on Nakajima Gyozan [Japanese give the family name first], 1832–1914, whose original family and given names were Funabashi Kuwajiro.

[13] Smithsonian Institution Archives [SIA], record unit [RU] 106, box 8; RG 213, boxes 6, 8, 11.

Aboard the *Albatross*

The *Albatross* did not stop in Japan on its way to the Philippines[14], where both Smith and Ito joined the ship. One can infer from a letter dated 25 January 1908[15], written by Kishinoue to Smith, that Smith was in Japan and had departed Nagasaki by steamer for Manila on Smith's 42nd birthday, 21 November 1907. The *Albatross* anchored at Manila on 28 November, and according to its log, Smith boarded the ship there on 3 December, having arrived that day aboard (the presumably Japanese) steamer *Saphiro*[16]. Ito boarded the next day. I think it probable that Smith and Ito traveled together on the same vessel from Japan to Manila. On 28 April 1908, 5 months after joining the *Albatross,* Smith departed the ship and returned to Washington, D.C.[17], but Ito remained on board for 2 more months.

Frederick M. Chamberlain[18], who had published on the Alaskan salmon fisheries, was the Resident Naturalist aboard the *Albatross* during the entire Philippine expedition. In a letter to Smith, dated 5 July [1908][19], Chamberlain wrote disparagingly of Ito, "Mr. Ito left the 3rd [of July], being paid up to the 18th. He left all his fish sketches with me and the "nudis" [nudibranchs] with Bartsch. I still have a few finished plates—the rest were mailed some time ago. During the last few sketches he made, I checked his work pretty carefully. Either our eyes do not see alike or he has ideas on his own or his work needs a good deal of revision. Drawing as he did from single examples[20], he was bound to miss many things. In the event of his continuing with us later I think it would be an excellent plan to have all the pictures retouched. The more I see of Bleeker's[21] and Gunther's[22] plates the more I am convinced that a paper accompanied by *true* color drawings will be a novel and interesting issue." The word "true" is emphasized in the original. Although never spelled out, there seems to have been friction between Chamberlain and Ito during the entire expedition.

Smith's time with Ito before and during the early months of the Philippine expedition must have made a great impression on Smith. He was always highly solicitous of Ito, in no small part, perhaps, because Smith had the opportunity of seeing Ito's work and was probably thinking about a publication on the fishes. In what must be considered a slap at Chamberlain, Smith wrote Ito on 19 August 1908[23], shortly after receiving Chamberlain's letter, "I am very much obliged to you for the excellent work you did on the *Albatross* and for remaining on the ship beyond the time you had originally intended. The *Albatross* will be at Hong Kong undergoing repairs until about October 1 and I should be glad if you could rejoin the ship at that place and go with her to the Philippines for . . . 6 or 7 months. The Bureau will pay you $3.50 a day and your subsistence while on the ship. If you can accept this appointment, please notify me and also write to Mr. Chamberlain . . . ."

Smith also mentioned, for the first of what were to be several times, a subject he and Ito must have discussed on board the *Albatross*, "Referring again to . . . your coming to Washington, I should like to know whether you have reached any decision . . . If you come . . . after the conclusion of the work on the *Albatross* . . . you will have a pleasant time and plenty of work . . . you can count on receiving at least $5 a day, but you would have to pay your own living expenses out of this."

Return to the *Albatross*

After Ito's first departure from the *Albatross*, Chamberlain wrote Smith another letter, although I have not found a copy of it. In answer, Smith wrote Chamberlain at Manila on 6 October 1908[24], "Your letter of the 31st of August was received two or three days ago. I note that you write in regard to a Japanese artist to replace Ito, and have no doubt his employment on requisition under the terms you mention will be entirely satisfactory to the office." But there was no need for such action (see Addendum). Ito accepted Smith's invitation and returned to the *Albatross*, although I do not know the exact date. The *Albatross* logs are erratic and incomplete with regard to the arrivals and departures of the non-U.S. Navy personnel aboard. A cursory checking of the data associated with Ito's color paintings, which were based on fresh specimens, indicate that they include paintings of fishes after October 1908 that were collected at least as early as 11 December 1908, and more-or-less continuously from that date until 3 July 1909, when Ito departed the *Albatross* and again returned to Japan.

Before Ito left, Chamberlain gave him a written note asking Ito about preparing new drawings and making corrections to others, as well as com-

[14] As derived from examination of the *Albatross* logs. See footnote 2.

[15] SIA RU 213, Division of Fishes, box 9, folder 4.

[16] Bartsch's journal for 3 December 1907. Paul Bartsch , 14 August 1871– 24 April 1960, was a curator in the Division of Mollusks, U.S. National Museum, and one of the scientific members on board the *Albatross* during much of the first year of the Philippine expedition. His journals, which comprise two diaries and one volume of handwritten scientific descriptions of nudibranch mollusks, together with Ito's preliminary sketches for each, are on file in the library of the Division of Mollusks.

[17] Bartsch's journal.

[18] F. M. Chamberlin, 29 June 1867–17 August 1921.

[19] SIA RU 7258, F. M. Chamberlain papers, box 1, book 2.

[20] Illustrations based on single specimens are to be preferred as they obviate the problem that an illustration may represent an aspect that does not exist in nature. Many of the final color paintings, especially those made of fishes collected during Ito's second and third tours, bear indications on the sketches that they are based on two or more specimens.

[21] Pieter Bleeker, 10 July 1819–24 January 1878, Dutch ichthyologist, most famous for his magnificent unfinished 9-volume folio "Atlas Ichthyologique des Indes Orientales Néerlandaises," 1862–1877, with 420 colored plates. Chamberlain appears to be referring to the Atlas illustrations. Where the same species are portrayed by both Ito and in the Atlas, I believe Ito's color is more accurate.

[22] Albert C. L. Günther, 3 October 1830 – 1 February 1914, born and educated in Germany, spent his ichthyological career at British Museum (Natural History). Chamberlain was undoubtedly referring to the color plates in Günther's "Andrew Garrett's Fische der Südsee," 1873–1881 [publication continued to 1910, with a hiatus between 1881 and 1910], and possibly R. L. Playfair and Günther's "The Fishes of Zanzibar," 1866. I strongly disagree with Chamberlain's assessment.

[23] SIA RU 106, H.M. Smith, 1908, box 8.

[24] SIA RU 213, Division of Fishes, box 6, folder 2.

menting on a contentious matter of issuing payments. In an undated note, apparently signed by Ito (Fig. 1), but written by someone else, Ito responded to Chamberlain, who forwarded the note to Smith[25] , "Mr. F. M. Chamberlain. Dear Sir: In reply to your note, I beg to make the following statements: 1. For pictures of 2 inches or less in length I can do the work for ten dollars . . . a piece, but it is desired to receive twenty dollars . . . a piece for paintings of fishes of more than 9 inches, for it takes much time to draw them in smaller sizes than the natural[26]. 2. As to the corrections to be made to the paintings finished on the Albatross; I think I have to ask one dollar per hour for such work. 3. I am much obliged to you for the kindness in having some exception made for me on the matter of payment. Hereafter it will be quite satisfactory for me to be paid once a month according to the usual custom. But for this time I hope to receive, if possible, the price for the 16 pictures, which have been finished. Yours respectfully, Kumataro Ito."

The two must have had strained relations to have communicated so formally, and these prices seem unreasonably high, especially considering that Ito was being paid only $3.50 a day and subsistence while aboard the *Albatross*. Ito apparently made quick color sketches (up to 6 in a day, see Addendum) and notes on freshly caught fishes and other organisms, probably rendering final paintings during periods when there was no collecting. During the total time he was on board the *Albatross*, which I estimate to be a maximum 16 months (about 480 days), he prepared the preliminary sketches of over 100 (perhaps as many as 200) fishes and the final paintings of many of them. In addition, he prepared all the preliminary sketches and finished paintings of about 70 nudibranch mollusks and 12 polyclad turbellarians, and the preliminary sketches of a few ctenophores, a sea cucumber, and a crab.

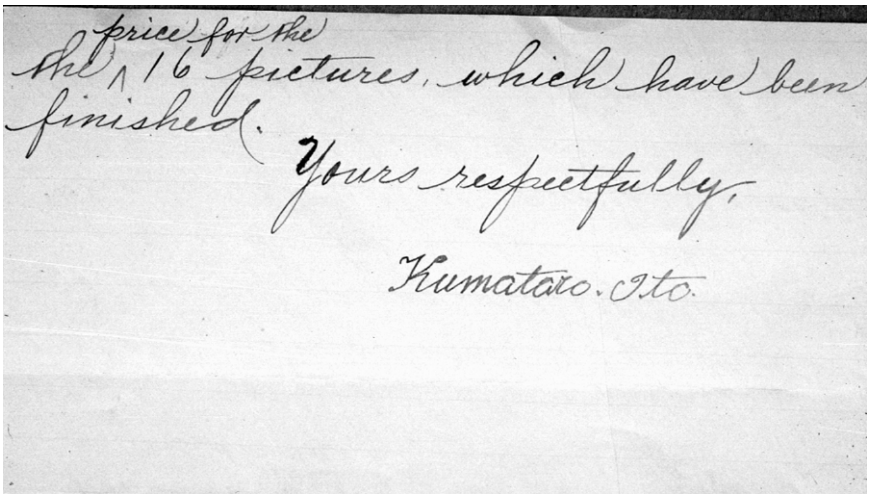
price for the
the 16 pictures, which have been
finished.
Yours respectfully,
Kumataro. Ito.

Figure 1.—Above is the handwritten English signature of Kumataro Ito; at right is Kumataro Ito's name in printed Japanese Kanji characters.

伊藤熊太郎

All of his preliminary and final paintings of the nudibranchs and turbellarians exist in the files of the Division of Mollusks, U.S. National Museum of Natural History. Only the preliminary sketches, filed in the Smithsonian Institution Archives[27] exist for the other invertebrate organisms.

A Third Excursion

In a letter to Ito in care of Kishinouye in Tokyo, dated 4 August 1909[28], Smith wrote, "I have learned that you intended to leave the *Albatross* on July 2nd and return to your home. The cruise of the *Albatross* will soon be over, and the ship will start back home. She will first sail south of Borneo and touch at points in Celebes, Java, and Sumatra, then go to Singapore, thence to Formosa and the Riu-Kiu islands, and Japan. This trip will probably begin about October 1st, and Japan will probably be reached about January 1st [1910][29]. I write to ask whether you can join the vessel again for that cruise . . . If so, I shall be very glad . . . Please let me know, and also write Mr. Chamberlain . . . at Manila . . . I have never learned whether you intend to come to America. It would save you considerable expense if you came on the *Albatross*, although the trip would probably be rougher than on a larger vessel; and, as you could not work much on board, it is doubtful whether the Bureau

[25] Found attached to carbon copy of letter of 4 August 1909, from Smith to Ito; SIA RU 213, Division of Fishes, box 8, folder 8. The a's, o's, and r of the signature differ markedly from the same letters in the body of the note.

[26] Note that no prices are given for fishes between 2 and 9 inches.

[27] SIA RU 7260, box 3,

[28] SIA RU 213, box 8, folder 8.

[29] Smith was nothing, if not optimistic.

could continue your full salary during the voyage."

Smith must have been a charmer[30], or, perhaps Ito's home life paled quickly after each return, for Ito again accepted Smith's invitation, and was back on board the *Albatross* at least as early as 27 September 1909, based on an indication of a drawn specimen in the *Albatross* tin-tag register[31]. He also must have stayed on board for the trip back to Japan, for there are paintings of fishes collected in Taiwan (then Formosa) on 25 and 29 January 1910, almost a month after Smith had predicted the *Albatross* would arrive in Japan. But Ito did not continue with the *Albatross* back across the Pacific.

Ito in Washington, D.C.

Obviously warmed by his previous successes, Smith continued to press Ito after the expedition ended to come to Washington, D.C. On 17 June 1910, well after the *Albatross* had returned to San Francisco, Smith wrote to Ito in Japan[32], "There would seem to be at least one year's work on the sketches you made . . . and if you can come . . . for this purpose the Bureau will . . . give you steady employment for that length of time. Should you desire to remain longer there are several other groups of animals on which you can work in this Bureau or in the National Museum. There is a large number of Japanese in Washington and you would doubtless find many friends among them and not be so lonely as you were on the 'Albatross.' The office hours are comparatively short (9:00 a.m. to 4:30 p.m. . . .) and you would also be able to knock off work when you are so inclined. Your finished drawings make an interesting exhibit when brought together and . . . we could arrange for a public exhibition if you so desired. . . . I will place no one else on this work until I hear from you."

Ito again accepted Smith's invitation, and was in Washington at least as early as June 1912, but I have been unable to determine the length of his stay, which may well have lasted a year. He never finished rendering the preliminary color sketches made on the *Albatross*, but many are very good and a few have been published[33]. One reason Ito may not have finished the paintings is that he was asked to make new, black-and-white drawings of Philippine deep-sea fishes (e.g. Figs. 2 and 3) and North American fishes. Of more than 80 such that I believe were done during his visit, I have found only three that provide evidence for the timing of the visit[34].

Lewis Radcliffe[35] and Welsh (1913) described a new species of freshwater darter, *Hadropterus sellaris (= Etheostoma sellare*) they collected in Maryland on 4 May 1912. The paper, which contained an illustration of the holotype, was issued on 2 May 1913. The authors did not acknowledge Ito, although he was most certainly known to Radcliffe. The original illustration and any associated information it might have contained are now lost. The style of the drawing, however, is recognizable as that of Ito[36], as is that of the drawing of a now-synonymized new species of flounder, *Pseudopleuronectes dignabilis* (= *P. americanus*), described by Kendall (1912). It was caught off New England about 18 April 1912, and forwarded to Washington, D.C. (date of receipt not recorded). The reverse of the illustration of the specimen bears a Department of Commerce and Labor numbered requisition stamp dated 24 June 1912, and is unusual in bearing an old Bureau of Fisheries label with Ito's name typed in as illustrator. Kendall, however, did not acknowledge the illustrator. It seems improbable that there was enough time between 28 April and 24 June for the specimen to have been sent to Washington, D.C., studied, sent to Japan, illustrated, and returned to the United States (no planes were traversing the United States or the Pacific in 1912).

The third figure is a drawing of a now synonymized new species of cottid fish, *Triglops ommatissimus* (= *T. murrayi)*, described by Charles H. Gilbert (1913). Gilbert, then professor of zoology at Stanford University, wrote a letter to the "Assistant Secretary, U.S. National Museum" on 17 May 1912, stating that he was presenting the "type" of his new species to the museum. He noted that

[30] By 1909 the *Albatross* had been operating for over 25 years and must have been quite a "tub." A reading of the logs during the Philippine expedition evidences a constant litany of ship and personnel problems. Crew members were constantly deserting and being thrown in the brig and placed on bread and water, one was killed by an exploding boiler, and on 16 November 1908, "Commanding Officer awarded following punishment: F. Meyerhoff CM3C, insolence and profane language to Naturalist F. M. Chamberlain, 8–12 P.M. watch on bridge for one week."

[31] See Addendum for discussion of tin-tag and linen-tag registers.

[32] SIA RU 213, nox 6, folder 2.

[33] For example, Schultz (1967, Fig. 2; 1969, pl. 4, Fig. D).

[34] Unlike many of the *Albatross* final color paintings, which are also represented in the files by preliminary color sketches, none of the black-and-white drawings I presume to have been made in Washington, D.C., are represented by preliminary sketches. I also assume that there was so much color sketching and final painting to be done on the *Albatross* that there would have been no time (or reason) for making drawings in black and white, especially of fishes that are colorful in life, such as that in Figure 3, which species is reddish and yellowish in life (Gloerfelt-Tarp and Kailola, 1984:116–117, as *Gagariscus prionocephalus*). These colors are lost quickly during specimen preservation.

[35] Lewis Radcliffe , 2 January 1880–10 September 1950 (based on a typewritten copy of a biography that appeared on page 2, Bulletin 5, 14 September 1950, Oyster Institute of North America, in files of ichthyologists' photographs, Division of Fishes, National Museum of Natural History). Radcliffe was assistant naturalist at the beginning the Philippine expedition, but departed the ship in 1908 about the same time as H. M. Smith.

[36] Ito's illustrations are readily recognized from the general appearence of the subject, the media, the thin rice paper used for the preliminary color sketches, the mouth (anatomy permitting), almost always illustrated as at least slightly open (usually more), and the eye rendered to include a pale, definitely triangular area radiating out from about midpupil towards the 10 or 11 o'clock position on the iris. Some of Ito's finished paintings have fine, flaked mica over the scales on the body of the fishes, clearly intended to impart a sheen. Powdered mica was applied occasionally to enhance the backgrounds of woodblock prints made by 19th century Japanese ukiyo-e artists (e.g. Utamaro), who may have originated the technique. Ito used it, not very successfully, on the plates of the 1931 publication by the Fisheries Society of Japan, "Illustrations of Japanese Aquatic Plants and Animals." Many of Ito's preliminary sketches bear remarks written in Japanese, and I have seen impressions of erased, similar remarks on some of the final renderings. Unlike almost all the original fish illustrations in the Division of Fishes files, those by Ito are additionally recognizable because they rarely contain any indication of who prepared them (see also Addendum for discussion of Yasui, another Japanese artist who was aboard the *Albatross* during Ito's second tour).

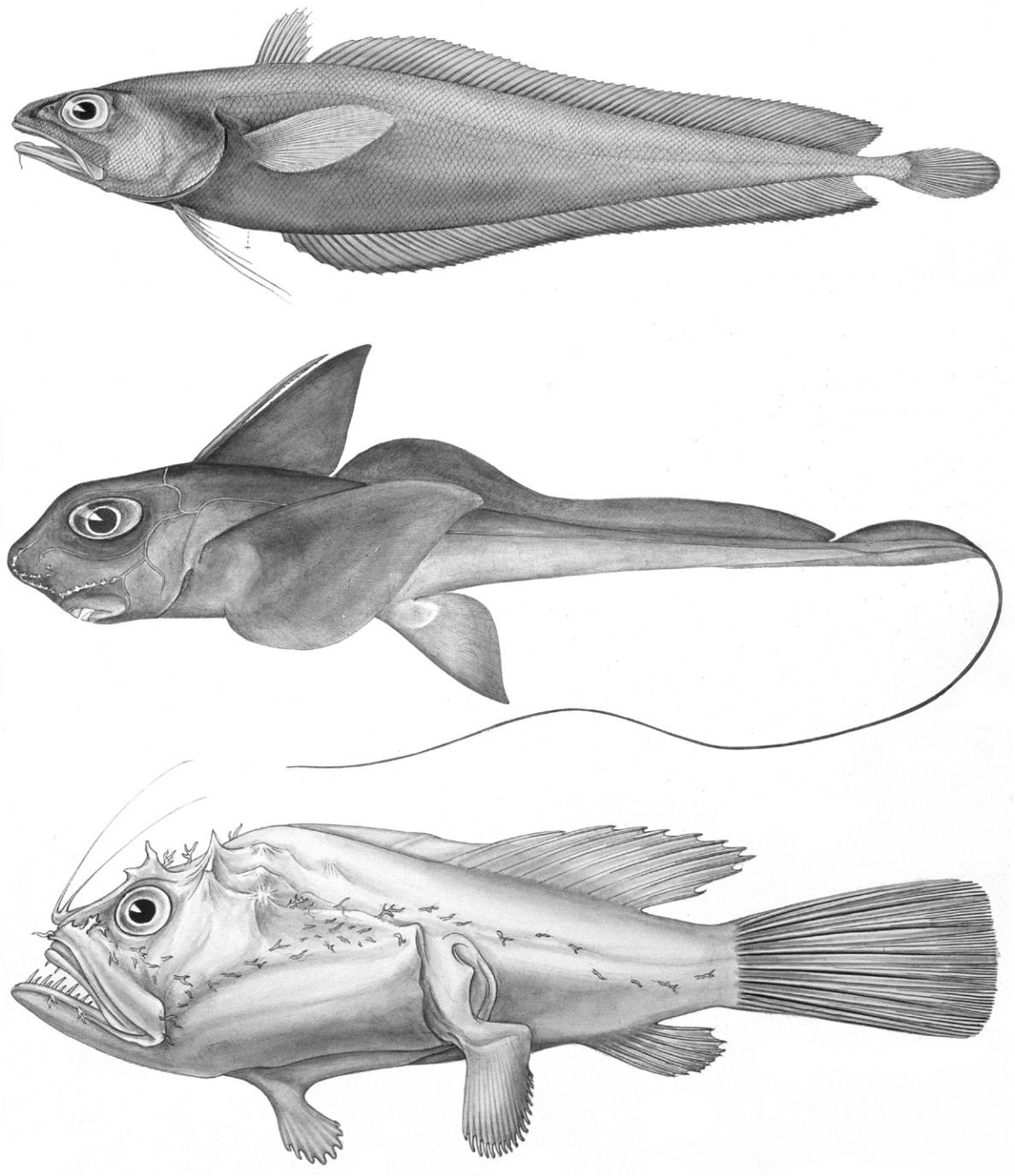

Figure 2.—Examples of previously published black-and white illustrations made by Kumataro Ito of deep-water fishes collected during the *Albatross* Philippine expedition. Top, *Physiculus nigrescens* (Radcliffe, 1912b:pl. 22, fig.1); Middle, *Hydrolagus deani* (Smith, 1912:pl. 29); Bottom, *Sladenia remiger* (Radcliffe, 1912a:pl. 42, Fig. 1).

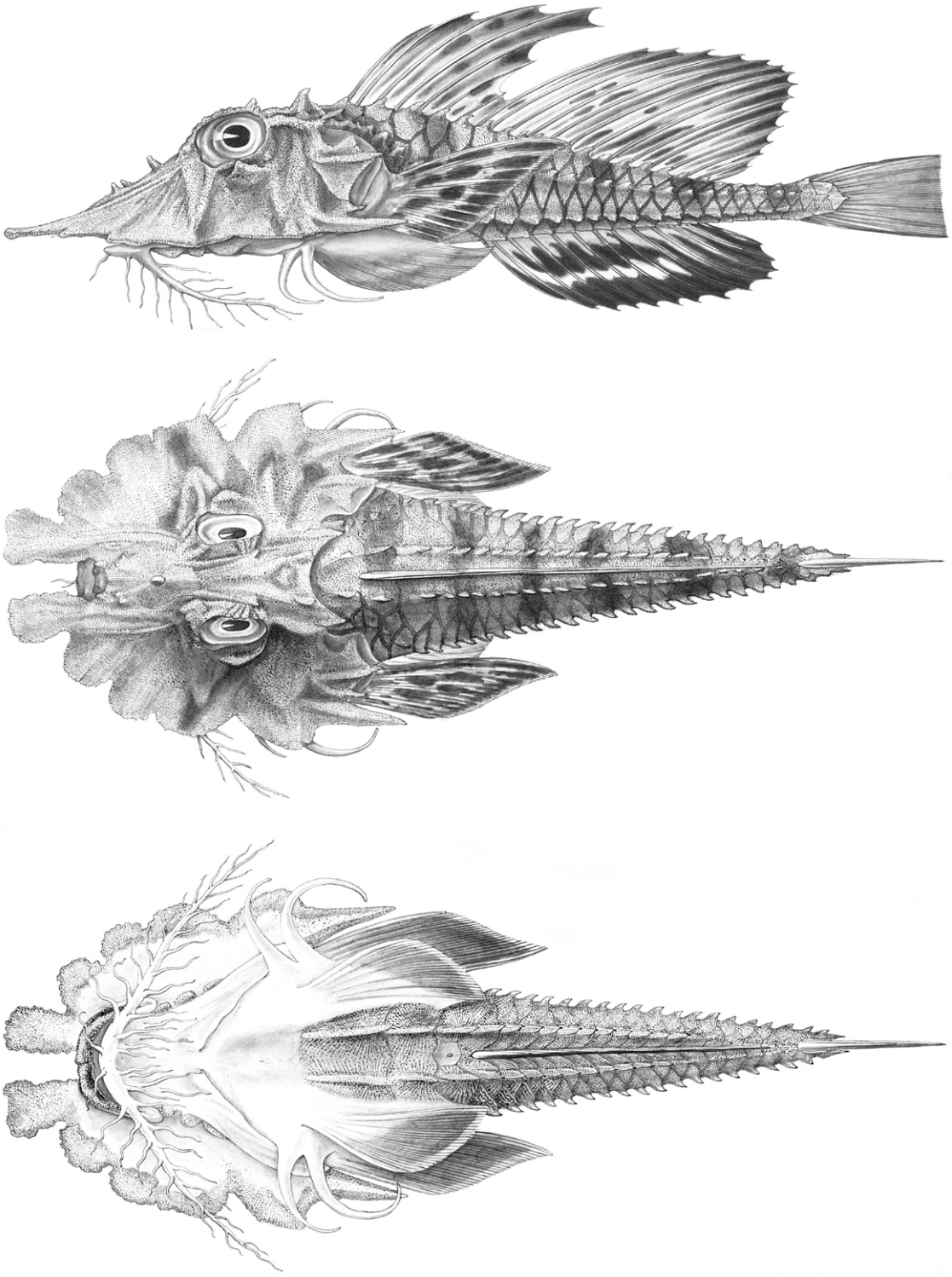

Figure 3.—Examples of previously unpublished black-and-white illustrations made by Kumataro Ito of deep-water fishes collected during the *Albatross* Philippine expedition. Holotype of *Gagariscus semidentatus* Smith, 1917 (= *G. prionocephalus* (Dumeril, 1839)), USNM 78250; lateral, dorsal, and ventral views.

his manuscript describing the new species would be forwarded within a few days and requested that the museum provide an illustration of the type to accompany the description, because Gilbert ostensibly did "not now command the services of an artist." Gilbert's letter was noted as being received on 22 May 1912, and forwarded to Barton A. Bean[37], then Assistant Curator of fishes at the museum, on 31 May (there was then no Curator of Fishes). On 13 June, less than 2 weeks later, Bean forwarded the completed drawing to the museum administation[38]. The drawing is another of the few that bears Ito's name. Gilbert, who may not have been apprised of the illustrator's name, did not acknowledge Ito in his publication.

Ito's Work Rarely Acknowledged

Radcliffe (1911:pl. 21, top figure) published the first of Ito's colored paintings, but it appeared only as a halftone. Following this, Radcliffe and Hugh M. Smith published seven other papers on fishes collected during the Philippine expedition (Radcliffe, 1912a, b, 1913; Smith, 1912, 1913a, b; Smith and Radcliffe, 1912). They contain at least 75 black-and-white illustrations that were almost certainly drawn by Ito during his time in Washington, D.C. In none of the eight publications is Ito acknowledged.

From 1913 to 1953, none of Ito's Philippine or North American illustrations appear to have been published, either in color or in black-and-white. In 1953, Randall (1956:pl. 3, upper figure) published the first color reproductions of Ito's paintings. The reproductions, four surgeonfishes, were each reduced from much larger originals to but 2.5 inches in length, and the color suffered considerably. Randall, probably unaware of Ito, acknowledged only the *Albatross* expedition as the source of the figures.

From 1953 to 1966, 57 of Ito's colored *Albatross* paintings were published as halftones in the three volumes of the "Fishes of the Marshall and Marianas Islands[39]," but attributed only to the "*Albatross* Philippine collection." Next followed Leonard P. Schultz[40] (1967:col. fig. 1, 2, 5), who published three of Ito's paintings in color, and then Schultz (1969), who reproduced 31 of Ito's paintings (including 2 preliminary sketches; 1969:pl. 1d, 4d) of parrotfishes in color. In both publications, Schultz attributed the illustrations only to the *Albatross* Philippine expedition. Greenfield (1974:Fig. 8, 17, 19, 20) published four of Ito's color paintings as halftones, mentioning only "courtesy of the National Museum of Natural History."

Kaburaki (1923:pl. 53–54), a Japanese scientist at the Imperial University of Tokyo, published Ito's colored polyclad turbellarian paintings in black and white, acknowledging only Paul Bartsch, for whom Ito had prepared the drawings.

Undoubtedly, the main reason Ito was so rarely acknowledged is that so very few of his illustrations indicate his name. But this does not excuse everyone, and particularly, Hugh M. Smith, Lewis Radcliffe, and Leonard P. Schultz. Smith (1909) had acknowledged Ito in Smith's book about goldfish. One can only wonder why he failed to do so afterwards.

For all the many fish and invertebrate paintings he did on board the *Albatross* and in Washington, D.C., the only scientific publications that acknowledge this work as Ito's are to be found in Pietsch and Grobecker (1987:Fig. 64, "Drawn by K. Ito.") and in five of the eight volumes of Bulletin 100 of the U.S. National Museum that treat the *Albatross* Philippine fishes. Remarkably, in none of the eight volumes is there an illustration drawn by Ito, but in two of the volumes, H. W. Fowler[41] and B. A. Bean (1928, 1929) state that the color notes incorporated in the text were based upon fresh specimens, which "in many instances were supplemented by [from?] color sketches made by K. Ito."

In the other three volumes, (Fowler, 1931, 1933; Fowler and Bean, 1930) of Bulletin 100, the reader is referred to the acknowledgments in previous volumes, but Fowler (1931:61) also described a new species, *Pempheris itoi*, which is the only species bearing Ito's name. Fowler remarked, "For K. Ito, in appreciation of his many color sketches of Philippine-East Indian fishes." Ironically, the figure of the new species accompanying the description was drawn by Fowler, but it is not a species Ito illustrated. In one of the earlier volumes, Fowler and Bean (1930:186) missed a golden opportunity. They described *Chorististium swalesi* (now *Liopropoma swalesi*) from two specimens collected on the *Albatross* expedition 19 November 1909. They gave no figure of the species nor did they describe its fresh coloration. Yet, Ito had prepared a final color painting of their holotype (Color Plate 1A), which Schultz (1953:pl. 32b) later published as a halftone. The illustration waited until 1988 to appear in color (Randall and Taylor, 1988:pl.1, Fig. A), but even then with-

[37] B. A. Bean, 21 May 1860 – 19 June 1947 (SIA RU 7098), was employed by the Division of Fishes, National Museum of Natural History from 1882 to 1932, and he was in charge for most of that period (Schultz, 1961).

[38] For these transactions, see U.S. National Museum of Natural History Registrar's accession file 54197.

[39] United States National Museum, Bulletin 202, vol. 1., 1953 (pl. 28b, 30c, 31a–c, 32a, 34b, 37a, 39a,b, 47a,b, 52a,b, 53a,b, 55a–c, 59b, 67, 68, 70, 73); vol. 2, 1960 (pl.79b, 81d, 82d, 91c,d, 94c,d, 95b–d, 96a,c, 97e, 98c, 101a–c, 102a–c, 103c,d, 109a–c, 112b,c, 118d); vol. 3, 1966 (pl. 141c,d, 146c, 148). The papers citing these figures are variously authored by L. P. Schultz, E. A. Lachner, L. P. Woods, and L. P. Woods and L. P. Schultz.

[40] L. P. Schultz, 2 February 1901 – 17 July 1986. Schultz was a curator in the Division of Fishes, National Museum of Natural History from 1936 to 1968. He made abundant use of the illustration files and Ito's paintings, but he seems to have acknowledged by name only those illustrators that actually worked directly for him. Although Ito was not among them, Schultz must have known who prepared the *Albatross* fish paintings. Additionally, Hugh M. Smith, was in residence in the Division during the last several years of his life while working on his book, "The Fishes of Siam, or Thailand," which Schultz (1945) completed after Smith's death. Schultz appears to have had a close professional, if not social, relationship with Smith (Schultz, 1941:201), and it would seem remarkable if the two men never discussed the Philippine expedition and its artist, who created the paintings in the files Schultz oversaw and Smith delighted in.

[41] H. W. Fowler, 23 March 1878 – 21 June 1965, was employed all of his professional life, beginning in 1894, by the Academy of Natural Sciences of Philadelphia (Conant, 1966; Böhlke, 1984:1,5; Smith-Vaniz and Peck, 1991). According to Hubbs (1964), the U.S. National Museum contracted with Fowler to study the *Albatross* Philippine fishes.

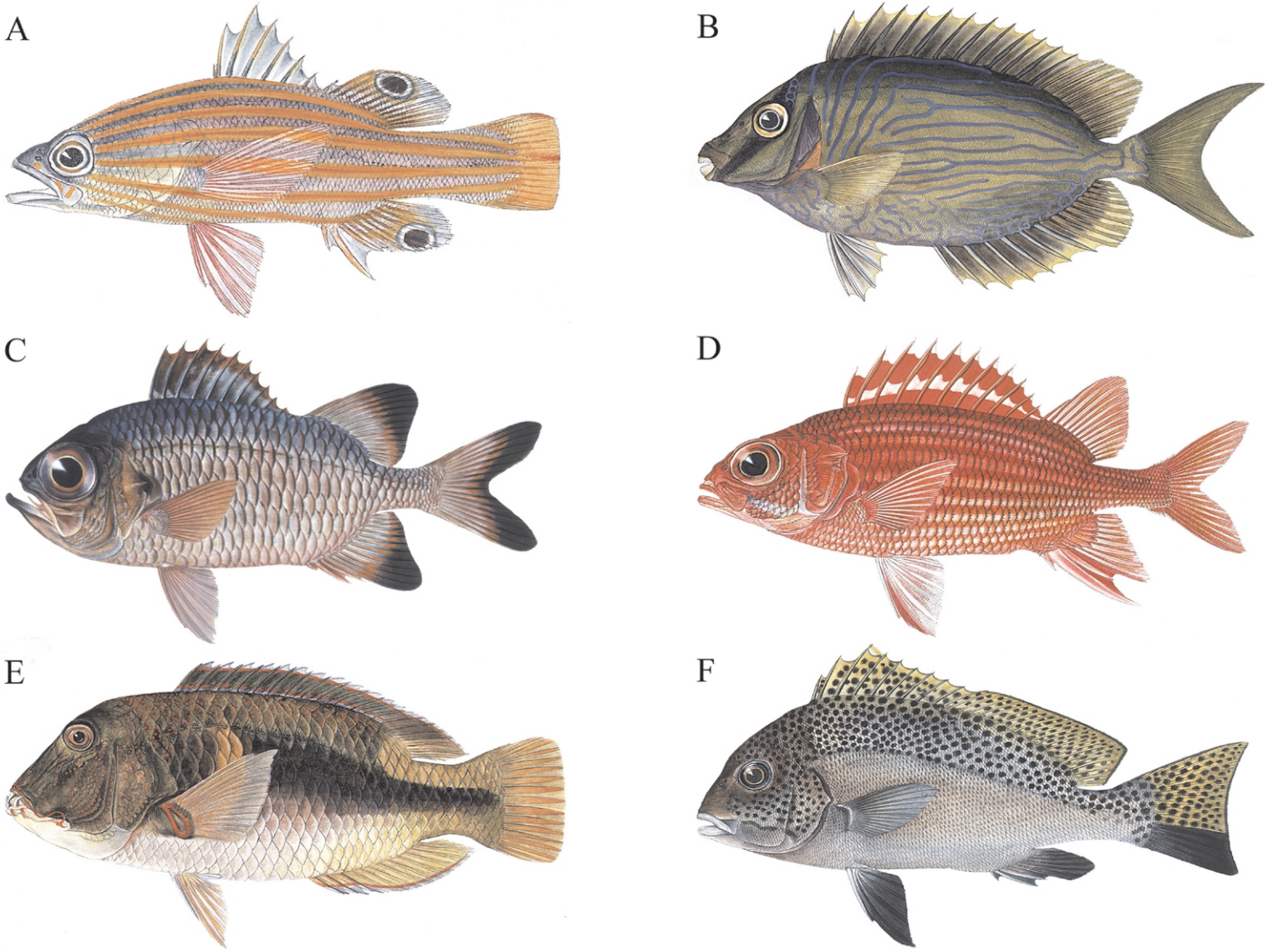

Plate 1.—Final color paintings made by Kumataro Ito of some fishes collected during the *Albatross* Philippine expedition. A, *Liopropoma swalesi* (attribution based on date of collection and style); B, *Siganus puellus* (attribution based on style); C, *Myripristis adustus* (sketch attributed toYasui in tin-tag register, no. 7389; final painting attributed to Ito based on style); D, *Sargocentron ittodai* (attribution based on date of collection and style); E, *Choerodon anchorago* (attribution based on style; preliminary sketch attributed to Ito in tin-tag register, no. 7480); F, *Plectorhinchus pictus* (attribution based on style; preliminary sketch attributed to Ito in tin-tag register, no. 7483).

out attribution to Ito. Ito's painting still represents our only knowledge of the fresh coloration of that species.

Whatever his eccentricities with regard to acknowledging illustrators, Hugh M. Smith never lost his high regard for Ito's work. In 1923, long after Smith had been elevated to Commissioner of Fisheries and the year after he left the Bureau of Fisheries, Smith, then beginning a 12-year tour in Thailand, requested Barton Bean, through an intermediary, to lend him one of Ito's colored illustrations of Philippine fishes. Bean noted on the letter of request that he furnished a painting of the snapper, *Lutjanus argentimaculatus*[42]. And I note here that the painting was never returned, and its whereabouts are unknown[43].

Ito Returns to Japan

After Ito returned to Japan from the United States, he continued to paint fishes and other marine organisms. He was the sole illustrator for a monumental two-volume Japanese work ("Illustrations of Japanese aquatic plants and animals") published by the Fisheries Society of Japan in 1931 (and reprinted in 1934). It contains more than 700 colored illustrations, but I think their quality is inferior to that of his *Albatross* paintings[44]. It can be inferred from the acknowledgment in the work that Ito was alive, and if the 1881 date mentioned earlier for his employment at the University of Tokyo is accurate, Ito probably would have been at least 70 years old at the time.

Other than Otaki et al. (1903–07) and the "Illustrations . . . ," just mentioned, the only other Japanese publication I know that refers to Ito by name, is a short article, which appeared only in Japanese, that I (Springer, 1985) wrote about him for the now defunct magazine *Anima.*

Smith never mounted his suggested public exhibition of Ito's Philippine fish paintings, but 48 of the paintings were among 200 original illustrations of fishes included in an exhibition I prepared entitled "Drawn from the Sea: Art in the Service of Ichthyology," which was displayed at the Smithsonian's Museum of Natural History from September to November 1985. Four (including the one illustrated herein as Color Plate 1C), all acknowledged, were included on the poster accompanying the exhibition. A subset of the illustrations, including many of Ito's, was sent on a 4-year tour to natural history museums in the United States and Canada under the auspices of the Smithsonian Institution Traveling Exhibition Service.

Ito's Philippine watercolor fish paintings are among the best produced by anyone up to his time. He made as many as three preliminary sketches before rendering the final painting, and the color is remarkably good. Had a treatise on the *Albatross* Philippine fishes been published reasonably promptly with Ito's colored illustrations, it would have stood as one of the greatest such publications up to that time, and many of the species would have appeared in color for the first time. Even today, some of Ito's paintings represent the only or best records of fresh color of several species (e.g. Color Plates 1A, 2B). A sampling of Ito's *Albatross* Philippine expedition paintings is contained in Color Plates 1–4.

When was Kumataro Ito born? How long did he live? What kind of person was he. What did he look like? These perplexing questions may well persist for as long as his magnificent paintings.[45, 46]

Addendum

Another Japanese Artist Aboard the *Albatross*

During Ito's second *Albatross* tour, another Japanese illustrator of fishes, Yasui, was also employed aboard the *Albatross*. How two artists came to be employed during a portion of the Philippine expedition is readily explained. Both Smith and Chamberlain were uncertain that Ito would participate in the expedition after the end of his first tour on 3 July 1908. Smith wrote Ito in Japan on 19 August 1908[23] inviting him to rejoin the *Albatross* in Hong Kong for a second Philippine tour. Chamberlain wrote Smith, 31 August 1908, after Ito's 3 July departure, requesting permission to employ a Japanese artist to replace Ito (inferred from Smith's response 6 October 1908[24]). Smith approved Chamberlain's request, but Ito accepted Smith's invitation, and so it eventuated that two artists, Ito and Yasui, were present during Ito's second *Albatross* Philippine tour. There is no information on how Chamberlain came to know Yasui, although, Ito may have recommended him.

I have not found Yasui's first name, and I have seen Yasui preceded by an initial, I, only once, on a preliminary color sketch (*Symphorichthys spilurus* Günther), for which a final rendering apparently was not made. Yasui's name does not appear in the *Albatross* ship logs nor in any correspondence, diaries, or publications that I have consulted. I have encountered Yasui's name only 7 times in the *Albatross* tin-tag specimen register (see below) and as faint, handwritten inscriptions (probably made by Chamberlain) on 3 final color renderings and about 10 preliminary color sketches of the fishes.

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[42] SIA RU 213, Division of Fishes, box 11, folder 4.

[43] In contrast, in March 1941, at least 32 years after he acquired them, Smith gave six original Ito paintings of goldfish, two of which had appeared as halftones in his book (Smith, 1909), and the 10 Urata paintings of goldfish, which Smith had also published in his book, to the Division of Fishes (SIA RU 213 Box 8, letter from J. E. Graf to H. M. Smith). All 16 originals are extant. One of the six Ito originals was published in color in *Smithsonian* magazine, September 1985, p. 185. Based on information I furnished, and in so far as then known to me, the illustration was attributed to an "anonymous artist."

[44] In his review of this work, C. L. Hubbs (1931:145) remarked, "The figures are reproduced from paintings by the famous fish artist Kumatarô Itô, which are remarkably true in drawing and coloring." Ito was probably well known to the Japanese and American ichthyologists of his time.

[45] All the color figures, except Plate 1A and Plate 3B, are reduced in size from the originals, by as much as one-half or more. Plate 1A and Plate 3B are enlarged approximately 20 and 10 percent, respectively.

[46] Although I spent considerable time searching the extensive records of the Bureau of Fisheries deposited in the U.S. National Archives, I may not have exhausted their holdings. Those files may contain additional information bearing on Ito's employment. Although copies of Hugh M. Smith's letters to Ito exist (all those I found are mentioned in my text), inexplicably, I found no copies of letters written by Ito, or for him, to Smith. Attempts by Japanese colleagues to locate information about Ito were unsuccessful, yet I believe there must have been Japanese fisheries publications earlier than that of Otaki et al. (1903–07) that contain Ito's illustrations.

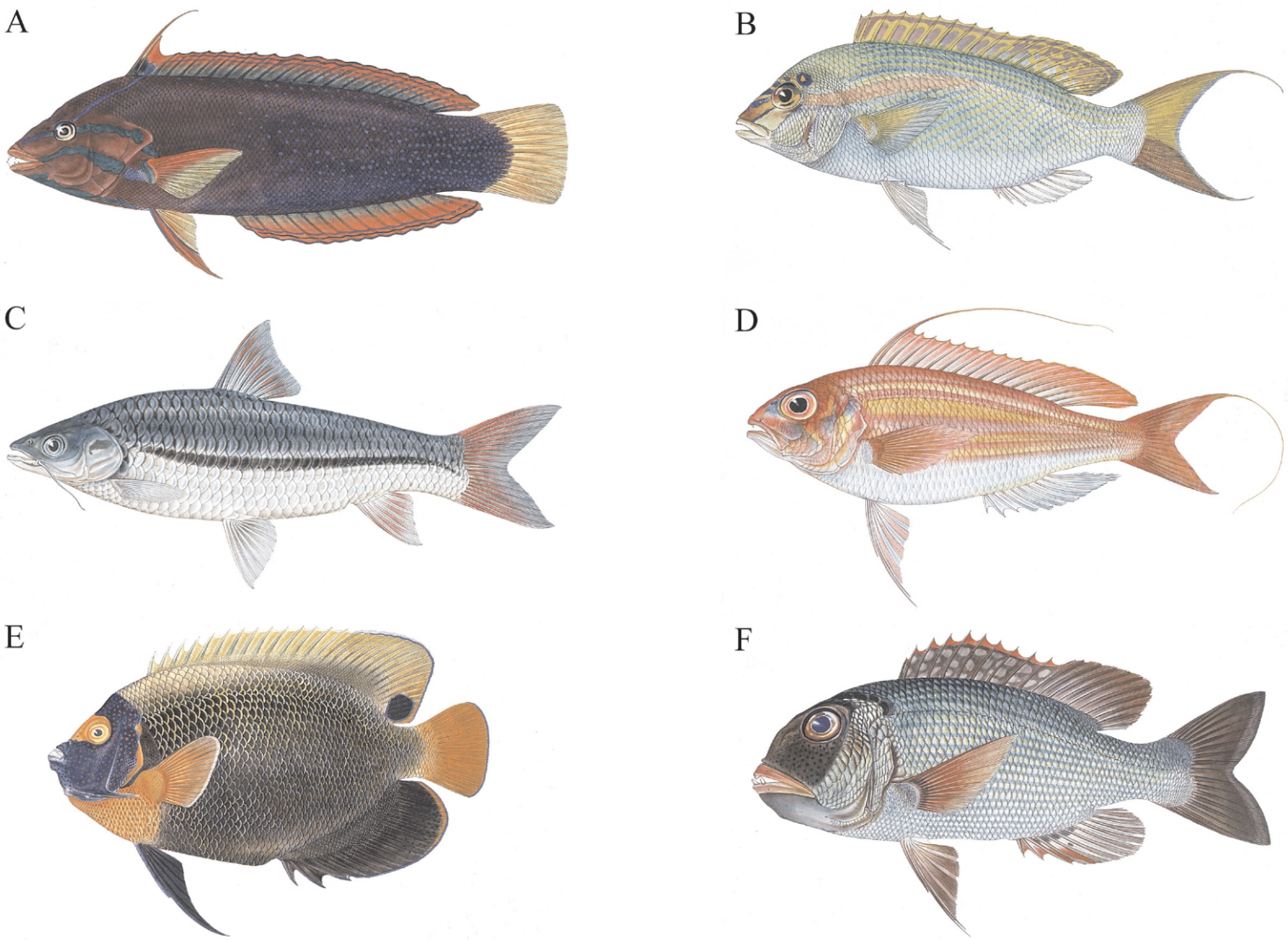

Plate 2.—Final color paintings made by Kumataro Ito of some fishes collected during the *Albatross* Philippine expedition. A, *Coris gaimard*, (attribution based on style); B, *Scolopsis temporalis* (attribution based on date of collection and style); C, *Leptobarbus melanotaenia* (attribution based on date of collection and style); D, *Nemipterus nematopterus* (attribution based on style); E, *Pomacanthus xanthometopon* (attribution based on style); F, *Monotaxis grandoculis* (attribution based on style).

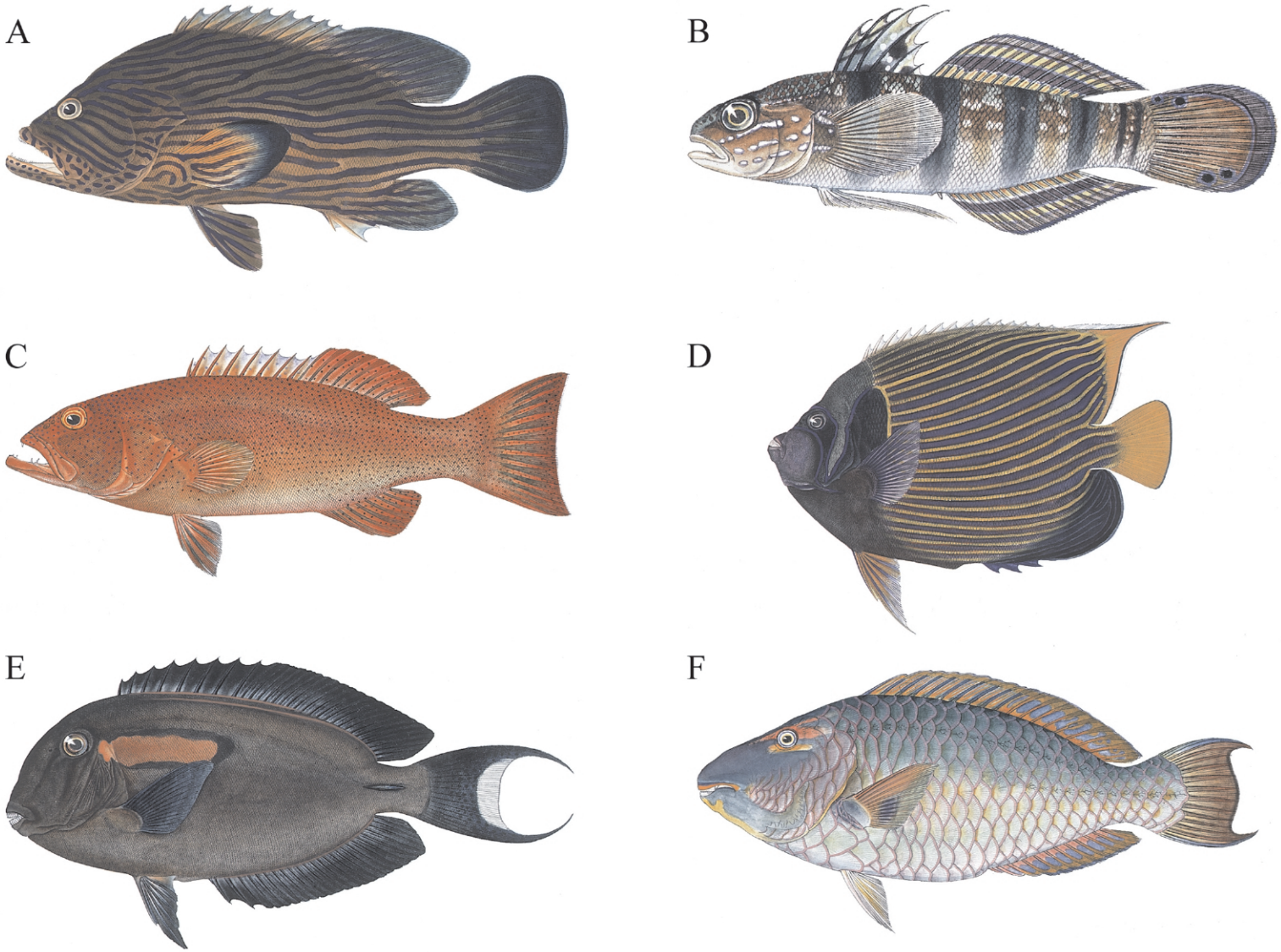

Plate 3.—Final color paintings made by Kumataro Ito of some fishes collected during the *Albatross* Philippine expedition. A, *Cephalopholis formosa* (attribution based on date of collection and style); B, *Amblygobius phalaena* (attribution based on style); C, *Plectropomus leopardus* (attribution based on date of collection and style); D, *Pomacanthus imperator* (attribution based on style; preliminary sketch attributed toYasui in tin-tag register, no. 8093); E, *Acanthurus olivaceous* (attribution based on style); F, *Hipposcarus longiceps* (attribution based on style).

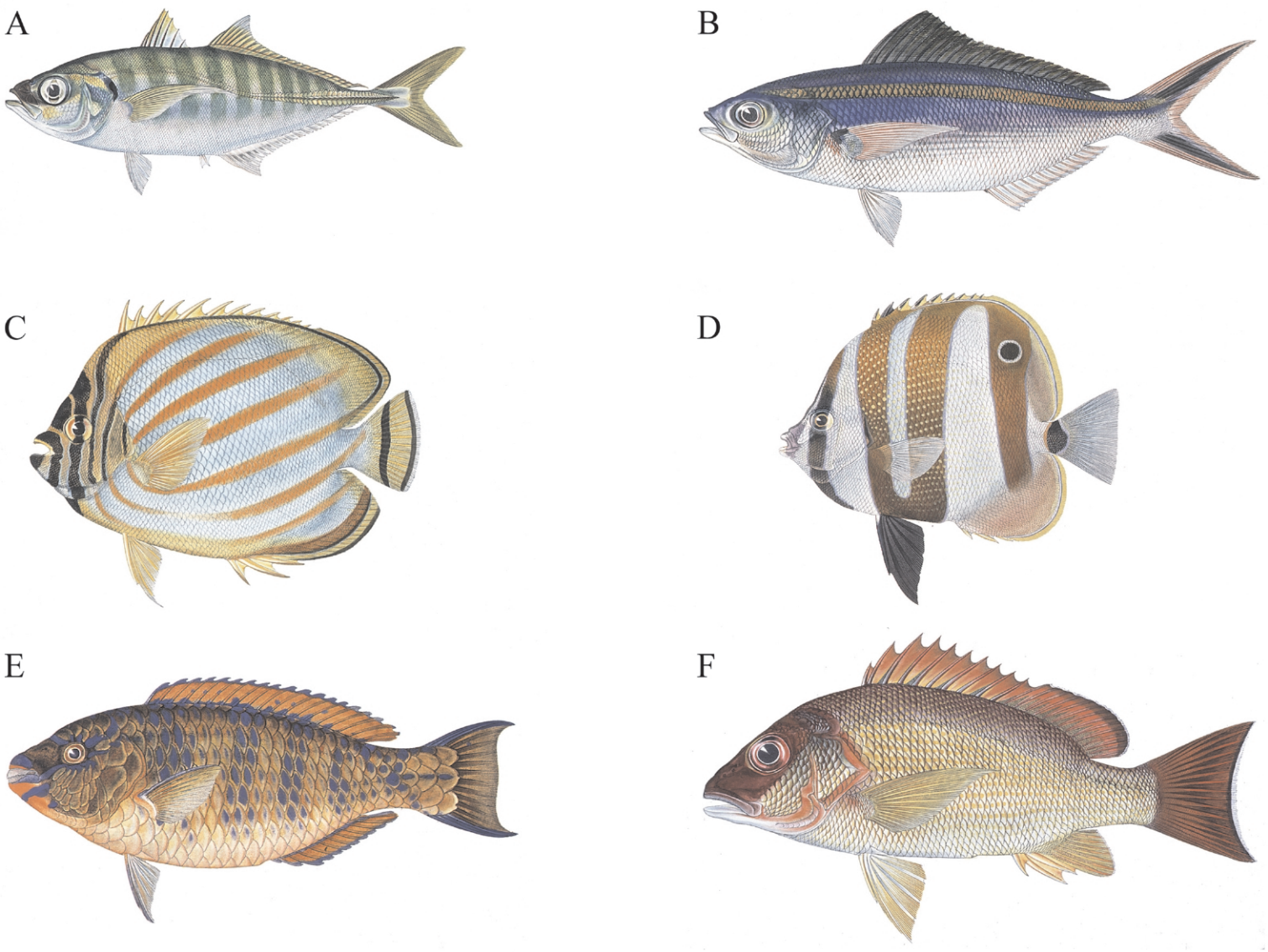

Plate 4.—Final color paintings made by Kumataro Ito of some fishes collected during the *Albatross* Philippine expedition. A, *Atule matta* (attribution based on style); B, *Caesio caerulaurea* (attribution based on style); C, *Chaetodon ornatissimus* (attribution based on style); D, *Coradion chrysozonus* (attribution based on date of collection and style); E, *Scarus ghobban* (attribution based on style); F, *Lutjanus fulvus* (attribution based on date of collection and style).

The *Albatross* Tag Registers

Many, if not almost all, of the fishes collected during the Philippine expedition were assigned a sequentially numbered tin or linen tag, often tied to the specimen. Each tag number was entered in a tin-tag or linen-tag register (originals filed in Division of Fishes, photocopies in Division and SI Archives) together with a variable amount of collecting data, but usually including the date and locality associated with the specimen. Infrequently (only 13 of over 22,000 assigned linen tags and 170 of about 5,200 assigned tin tags), a remark was added to an entry indicating the specimen was drawn. Although the total number of different specimens for which sketches and/or final renderings were made is unknown, it exceeds 183. Of the 183 drawn indications, 24 of the tin-tag entries, but none of the linen-tag entries, also indicate the name of the artist who prepared the drawing. Many preliminary sketches and final renderings of tagged fishes that were not indicated as drawn in the registers are present in the files, and several that were indicated only as drawn, bear the artist's name written somewhere, often faintly, on the artwork.

All of the drawn indications in the tag registers undoubtedly refer to preliminary color sketches made on the same day as the specimen was collected, although, doubtfully, some of these may also of have been rendered as final plates on that day. The artist had to sketch fresh specimens because the life colors of fish change or fade rapidly after death. Also, as many as six specimens collected on the same day (12 December 1907, tin-tag register), when only one artist, Ito, was on board, are noted as having been drawn, and it is doubtful that he could have done this many preliminaries and some final renderings on the same day. Finally, there are many preliminary color sketches for which there are no final renderings (n.b. preliminary sketches for many of the final renderings are missing).

Attribution of Paintings

By far, the largest number of the *Albatross* Philippine preliminary color sketches and final renderings carry no indication of the name of the artist responsible, but I believe that all but a very few of those not attributed were done by Ito. None of the specimens indicated as drawn in the tag registers during Ito's first and third tours aboard the *Albatross* (4 December 1907 to 3 July 1908; early ca. 27 September 1909 to early February 1910) indicate his name, but they can be attributed to Ito, as he was the only artist on board. Numerous sketches and final renderings are indicated on the artwork as having been based on two specimens, one collected during Ito's second tour and one collected during his third tour, and these can, therefore, be attributed to him.

Of the final renderings of specimens collected during Ito's first tour, Chamberlain's letter to Smith, dated 5 July 1908[19], mentions that he had all of Ito's preliminary sketches and a few of the final plates, all others having been sent to Smith. Not all the preliminary sketches were rendered as final plates during Ito's first tour, as I have found one plate based on a preliminary sketch (not present in files) done during this tour that is attributed to Yasui. This plate is unique in including a plain outline drawing as well as a color rendering (very little color is involved)[47]. Although collecting date and locality are entered on the plate, a pencilled annotation indicates the specimen was not tagged, and no drawn indications for the date are noted in the tag registers. Yasui's name, however, is lightly pencilled on the plate, followed by "(Ito's sketch)." Yasui must have produced the finished plate during the time of Ito's second tour with the *Albatross*, as this appears to be the only period when Yasui was present. The plate is the only final rendering I have seen that indicates preparation by Yasui based on an Ito sketch. Although I have not seen a written indication that Ito prepared a final rendering based on a Yasui sketch, I believe, based on the overall similarities of style of the finished paintings, that Ito is responsible for the final rendering of almost all of Yasui's sketches that were rendered.

Of the 24 tin-tagged specimens for which the register indicates the artist's name, 17 are attributed to Ito and 7 to Yasui. All of these attributions apply to specimens collected during Ito's second tour aboard the *Albatross*, the exact dates of which can only be inferred approximately. The first fish specimens indicated as having been drawn after Ito's first departure from the Philippines were collected 11 December 1908, shortly after the *Albatross* returned to Manila from Hong Kong, where it had undergone repairs from August to October. Between October and 11 December 1908, the *Albatross* was collecting in the vicinity of Hong Kong and the northern Philippines (Anonymous, 1910). It would seem that had an artist been on board during this period, he would have made some sketches, but I have found neither sketches nor final renderings that indicate they were made during the 11 October–11 December 1908 period[48].

The first specimen I have found that is indicated as drawn and attributed to an artist by name, Yasui, was collected 12 December 1908, and the first attributed to Ito, 22 December 1908. Based on this information, it appears probable that both Ito and Yasui joined the *Albatross* in Manila in December, even though Smith had suggested to Ito, at least, that he join the ship in Hong Kong (letter to Ito, 19 August 1908[23]).

During December 1908, the preliminary sketches in the tin-tag register

[47] The outline is based on a female deep-sea shark and the rendering is of one of its two small, excised embryos. H. M. Smith (1913b) designated the female as the holotype of a new genus and species, *Eridacnis radcliffei*. Smith did not publish Yasui's plate, but had black-and-white illustrations prepared of the holotype, which he did publish, and the embryo, which he did not. The black-and-white illustrations are not credited on the illustrations nor in the publication, but they were probably prepared by Ito during his work in Washington, D.C., in 1912, when he produced a large number of black-and-white drawings of deep-sea fishes for Smith and/or L. Radcliffe (discussed elsewhere in the text; also, see these authors in Literature Cited section).

[48] No fishes are indicated as drawn during Ito's first tour after 23 April 1908, which date closely coincides with the 28 April 1908 departure of H. M. Smith from the *Albatross*. It was probably during the period from April to July that Ito was involved in illustrating invertebrates for Paul Bartsch, as well as preparing final renderings of the preliminary color sketches.

are either unattributed or attributed to either Ito or Yasui. In January 1909, the sketches in the register are either unattributed or attributed only to Ito, but I have found 2 sketches, one of a snapper, *Lutjanus bohar*, dated 5 January, and the other a goby, dated 8 January 1909 that have Yasui's name pencilled on them. The final rendering of the snapper, which I will mention again, also has Yasui's name written on it; there is no final rendering of the goby sketch. From February to 23 June 1909, only one preliminary sketch is attributed to an artist, Yasui, on 5 March, in the tin-tag register. However, I have seen a sketch of a snapper, *L. lineolatus*, dated 11 March (and its final rendering) and 2 sketches of apogonids done on 4 and 5 April that are in the illustration files and bear Yasui's name, and two sketches (angelfish, parrotfish) dated 5 April with Ito's name inscribed on them. Although they possibly exist in the files, I am unaware of any color sketches or final color renderings of *Albatross* specimens collected after 5 April 1909 that are attributed to an artist by name.

According to a letter dated 4 August 1909[28] that Smith sent to Ito in Japan, Ito's second tour on the *Albatross* ended on 2 July 1909, a week after the last specimen was indicated as having been drawn. I think it probable that Yasui departed about the same time as Ito, if not sooner, and was not reemployed. In his letter, Smith also invited Ito to return to the *Albatross* about 1 October 1909 for a third tour. He also invited Ito to continue on the ship back to Japan and from there to San Francisco, so that Ito could save on the cost of his coming to Washington, D.C., where Smith offered him continued work on rendering the sketches. There is no mention of Yasui or another artist being employed to do this work, and from later correspondence, it is clear that Smith had pinned all his hopes on Ito.

With two exceptions, 27 September 1909, and 2 October 1909 (*Leptobarbus melanotaenia*, a freshwater species, Plate 2C), no specimens are indicated as drawn after 23 June 1909 until 10 November 1909. The late September early October dates accord reasonably closely with Smith's estimate of the date when the last *Albatross* cruise would begin, and thus indicates the approximate date Ito returned to the Philippines. I know of no illustrations that were made between 2 October and 10 November 1909. From 10 November 1909 to 29 January 1910, on which date the *Albatross* departed Formosa (= Taiwan), numerous unattributed sketches are indicated in the tin-tag register. Ito apparently left the ship in Japan, as Smith's correspondence after the expedition ended continued to implore Ito to come to Washington, D.C.

The question arises as to how to distinguish Ito's work from Yasui's during the second tour. From having examined the illustrations closely, and particularly the final renderings, I was impressed by the great similarity of technique and line of all but a very few. Those that were dissimilar were either unattributed or attributed to Yasui. From a comparison of final renderings actually attributed to one or the other of these two artists, I found Yasui's final renderings (and most of his sketches) much inferior to those of Ito's. With the exception of the uncomplicated rendering of Ito's sketch of the shark mentioned earlier, my appraisal of the few Yasui-attributed final renderings, is that they are unacceptable. Fine lines used to outline the margin of the fish, particularly along the body ventrally, are weak and sometimes broken; the color is often less than sharply applied, with smudgings that can best be seen with slight enlargement. The final rendering of the snapper identified as *Lutjanus bohar*, I consider sloppy. Another, unattributed, final rendering identified as the same species, but clearly based on a different specimen and by a different artist is sharp and beautiful, and consistent with the style of finals attributable to Ito based on date. The preliminary sketch of another snapper, identified as *Lutjanus lineolatus* and attributed to Yasui, has "very poor" inscribed on it, presumably by Chamberlain, and I would say the same of the final rendering, which also bears Yasui's name and has "color?" written on it. Although many of the sketches and finals I attribute to Ito bear criticisms, I have seen none indicated as "poor." Finally, a very poor preliminary sketch of *Holacanthus imperator* (= *Pomacanthus imperator*), which is attributed to Yasui, has "checked up by Ito" written on it, and I believe that Ito did the final rendering (Color plate 3D).

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