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UNITED STATES

EXPLORING EXPEDITION.

DURING THE YEARS

1838, 1839, 1840, 1841, 1842.

UNDER THE COMMAND OF

CHARLES WILKES, U.S.N.

$\underline{\mathbf{A} \mathbf{T} \mathbf{L} \mathbf{A} \mathbf{S}}.$ $\underline{\mathbf{C}} \mathbf{R}^{\cdot} \mathbf{U} \mathbf{S} \mathbf{T} \mathbf{A} \mathbf{C} \mathbf{E} \mathbf{A}.$

BY

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EXPLANATION OF PLATES.

PREFATORY REMARKS.

AFTER the engraving of the Plates of this Atlas was completed, a large part of the original drawings were destroyed by fire in Philadelphia. In consequence of this catastrophe, many of the following Plates, which were to have been coloured from the missing drawings, are issued uncoloured. Some of the figures here engraved represent known species, the colours of which had either not been given by other authors, or only from dead and faded specimens: as the coloured originals are gone, these figures have lost the principal part of their interest. These facts explain some discrepancies between the text of this Report and the Atlas.

The drawings for this Atlas, issued at this late date, were to a large extent made during the years 1838 to 1842, in the course of the cruise of the Expedition; and in the history of the Science, they would properly have their place in that period.

In closing my labours in connection with the Exploring Expedition, I take this opportunity to observe that, in the preparation of my several Reports, and the Atlases, with which they are illustrated, I have had, half a dozen plates excepted, neither the assistance of an amanuensis nor a draftsman. The plates, however, owe much to the artistic skill and taste of Mr. Joseph Drayton, Artist of the Expedition, who has superintended the engraving and printing, and contributed in many ways to the beauty of the work.

NEW HAVEN, January 1, 1855.

JAMES D. DANA.

$I. \quad D \in C \land P \circ D \land.$

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PLATE 35.

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PLATE 38.

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PLATE 42.

Fig. 1 a. ERICHTHUS SPINIGER, enlarged six diameters; b, young; c, caudal segment of young .--- p. 629.

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Fig. 4 a. EUPHAUSIA PELLUCIDA, enlarged ten diameters; b, eye and base of anterior antenna; c, base of outer antenna; c', part of flagellum of same; d, mandible; c, maxilliped; f, part of a maxilla; g, leg of last thoracic pair; h, extremity of abdomen; i, abdominal leg, with the red spherical gland between the two of a pair; k, one of the posterior branchiæ; l, ovaries, dissected out and partly mutilated, together with two red spherical glands, of glassy aspect, seen at posterior part of cephalothorax in fig. 4 a_j $l^\prime,$ part of same, natural size; $m,\ m^\prime,\ {\rm eggs},\ {\rm as}$ taken from the ovary.---p. 641.

PLATE 43.

Fig. 1 a. EUPHAUSIA SUPERBA, enlarged two diameters; b, front, with eyes and base of antennæ; c, caudal extremity; d, under view of mouth, as covered by the maxillipeds, and showing the extremities of the mandibular palpi; e, mandible; f, maxilla; g, lower lip; h, shorter branch of abdominal leg of first pair; k', basal portion of the same leg; h'', a process of shorter branch, more enlarged; h", ciliated natatory lamina of same; i, abdominal leg of second pair; k, basal portion of thoracic leg of third pair; l, stomach, side view; m, same, opened longitudinally above and showing inside, the view as seen by transmitted light, the dark parts being thickest; n, liver and duct; n', section of same; o, branchia of posterior pair; o', extremity of one of the branchlets of the same.—p. 645.

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Fig. 3 a. CYRTOPIA DETRUNCATA, immature; b, eyes and inner antennæ; c, caudal extremity; c', part of caudal segment, more cnlarged; d, outer antenna; e, extremity of mandible; f, g, maxillæ; h, leg of antepenult pair; i, ibid., of penult pair; k, ibid., of last pair; 7, part of liver .-- p. 649.

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Fig. 5 a. MACROMYSIS GRACILIS, enlarged six diameters; b, caudal extremity; U, inner caudal lamella; c, base of inner antenna; d, base of outer antenna; e, one of the thoracic legs; f, one of the scales of the ovarian pouch; g, h, i, k, l, m, young, in different states.—p. 653.

Fig. 6 a. SIRIELLA VITREA, enlarged twenty diameters; b, lateral view; c, c', mandible, in different positions; d, maxilla of first pair; e, maxilla of second pair; f, lower lip; g, inner antenna; h, outer antenna; i, leg of first pair; k, leg of second pair; l, leg of one of six posterior pairs; m, extremity of leg of last pair.—p. 656.

PLATE 44.

Fig. 1 a. SIRIELLA GRACILIS, male, enlarged twelve diameters; b, posterior part of cephalothorax of a female; c, caudal extremity; d, maxilla of first pair; e, maxilliped; f, leg of first pair; f', fouette, attached at base; g, one of the posterior thoracic legs. _р. 658.

Fig. 2 a. SIRIELLA GRACILIS (?), male, enlarged twelve diameters (length of specimen, four lines); b, caudal extremity; c, part of abdomen, preceding the caudal segment, in profile.--p. 658.

Fig. 3 a. SIRIELLA BREVIPES, enlarged twenty diameters; b, caudal extremity.-p. 660.

Fig. 4 a. LOXOPIS TRIDENS, enlarged eight diameters; b, head, upper view; c, caudal extremity.-p. 661.

Fig. 5. Sceletina Armata, enlarged twenty diameters.—p. 663. Fig. 6. Sceletina laticeps, enlarged twenty-four diameters .----

p. 664. Fig. 7 a. Sceletina orientalis, enlarged ten diameters; b, branch of legs.—p. 665.

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Fig. 5 a. Eurmausia splendens, enlarged six diameters; b, extremity of abdomen; c, leg of fourth pair; d, ibid., of sixth dorsal view of carapax; c, caudal extremity; d, palpus or shorter pair; e, branchia of last pair; f, abdominal leg of first pair; g, ibid., of second pair; h, ibid., of third pair.-p. 642.

Fig. 6 a. EUPHAUSIA GRACILIS, enlarged five diameters; b, extremity of abdomen, setules of caudal segment, probably lost by mutilation; c, branchia of last pair .--- p. 644.

Fig. 8 a, b. RACHITIA SPINALIS, young, enlarged twenty diameters; c, caudal extremity.-p. 667.

Fig. 9 a. LUCIFER ACESTRA, male, enlarged four diameters; b, anterior half, more enlarged; c, side view of caudal extremity in

male; e', caudal segment, upper view; d, mandible; e, f, maxillæ of first and second pairs; g, outer maxillipeds; h, posterior extremity of cephalothorax, showing a glassy gland, m', which had been exserted by pressure; m'', same organ, as it appeared after it had been a short time detached from the animal; i, outline of posterior part of thorax of female.—p. 671.

PLATE 45.

Fig. 1 a. LUCIFER REYNAUDI, female, enlarged; b, extremity of abdomen of same, in profile; c, ibid., of male; d, profile of cephalothorax of male.—p. 672.

Fig. 2. LUCIFER PACIFICUS, enlarged.-p. 673.

Fig. 3 *a*. LUCIFER ACICULARIS, enlarged; *b*, side view of extremity of abdomen; *c*, dorsal view; *d*, base of posterior legs, with rudiments of a palpus.—p. 674.

Fig. 4 a. FURCILIA MACROPHTHALMA, enlarged; b, caudal extremity.--p. 676.

Fig. 6 *a*. FURCILIA MICROPHTHALMA, enlarged; *b*, caudal extremity; *c*, inner antenna; *d*, outer antenna; *e*, thoracic leg of second pair; *f*, ibid., of third pair; *g*, ibid., of fourth pair; *h*, ibid., of fifth pair.—p. 678.

Fig. 7 a. FURCILIA GRACILIS, enlarged; b, caudal extremity; c, inner antenna; d, outer, ibid.; e, f, g, h, thoracic legs in succession.—p. 679.

Fig. 9 a. CALYPTOPIS INTEGRIFRONS, enlarged; b, upper view of front; c, caudal extremity; d, inner antenna; e, outer antenna; f, mandible; g, leg of first pair; h, ibid., of second pair; i, ibid., of third pair.—p. 681.

Fig. 10 *a*. ZOEA ECHINUS, enlarged; *b*, vertical view of carapax (1, the beak; 2, posterior spine; 3, 4, lateral spines; 5, 6, antennæ); *c*, leg of first pair.—p. 682.

Fig. 11 *a.* ZOEA RUBELLA, caudal extremity; *b*, outer antenna; *c*, mandible; *d*, maxilliped; *e*, ciliate lobed plates, seen just anterior to legs of first pair, and supposed to be attached to their base; *f*, feet of first pair; *g*, ibid., of second pair; *h*, ibid., of third pair; *i*, ibid., of fourth pair; *k*, one of four posterior pairs.—p. 683.

Fig. 12 a. ZOEA LONGISPINA, enlarged; a', same, natural size; b, extremity of superior antenna; c, caudal extremity.—p. 684.

II. TETRADECAPODA.

PLATE 46.

Fig. 1 a. IDOTÆA ARGENTEA, enlarged four diameters; b, c, antennæ, more enlarged; d, mouth; e, one of the legs; f, opercular plates of abdomen; g, young, probably of this species; h, from a New Zealand specimen, probably this species, outer antenna; i, ibid., leg of fourth pair.—p. 698, 699.

Fig. 2 *a*. IDOTÆA MARGARITACEA, enlarged three diameters; *b*, caudal extremity; *c*, outer antenna; *d*, extremity of the flagellum of another specimen.—p. 700.

Fig. 3 a. IDOTÆA ANNULATA, enlarged two and a half diameters; b, c, antennæ; d, leg of first pair; e, ibid., of third pair. --p. 701.

Fig. 4 a. IDOTÆA BREVICAUDA, enlarged three diameters; b, part of flagellum of outer antenna.—p. 702.

Fig. 5 a. I. BREVICAUDA (?), young; b, leg of fifth pair; c, opercular plate of abdomen.—p. 703.

Fig. 6 a. IDOTÆA OCCIDENTALIS, natural size; b, inner antenna; c, leg of last pair, enlarged three and a half diameters.—p. 704. [As the name *hirtipes* is preoccupied, it is here changed to occidentalis.]

Fig. 7 a. IDOTÆA STRICTA, enlarged two diameters; b, leg of seventh pair.—p. 704.

Fig. 8 *a*. EPELYS ANNULATUS, enlarged four and a half diameters; *b*, inner antenna; *c*, outer antenna; *d*, mandible, in one view; *d'*, extremity of same, in another; *e*, inner maxilla; *f*, maxilliped; *g*, leg of fourth pair.—p. 706. Fig. 10. ERICHSONIA ANGULATA, enlarged three diameters.—p. 710.

Fig. 11 *a*. CLÆTILIA OVATA, enlarged one and a half diameters; *b*, part of head, with antennæ; *c*, leg of one of three anterior pairs; *d*, ibid., of fourth pair; *e*, ibid., of fifth pair; *f*, one of opercular abdominal plates.—p. 712.

PLATE 47.

Fig. 1 a. TYLUS SPINULOSUS, enlarged four diameters; b, part of outer antenna, enlarged twenty-four diameters; c, caudal lamellæ.—p. 717.

Fig. 2 a. ARMADILLO SPECIOSUS, natural size; b, under view of abdomen; c, caudal stylets (or lamellæ) separated from the abdomen and much enlarged; d, antenna.—p. 718.

Fig. 3 a. SPHERILLO (?) MONOLINUS, enlarged four diameters; b, antenna; c, leg of posterior pair; d, extremity of abdomen, under view, showing caudal lamellæ, the outer appendage of the lamellæ not being represented (perhaps, but not probably obsolete).—p. 719.

Fig. 4 a. SPHERILLO VITIENSIS, enlarged five diameters; b, antenna; c, leg of fifth or sixth pair; d, caudal lamella, with b, the inner appendage, and a, the outer.—p. 721. Fig. 5 a. SPHERILLO HAWAIENSIS, enlarged three diameters; b, anteuna; c, leg of fifth pair; d, under view of abdomen; e, caudal extremity, upper view, showing caudal lamella (c), with the outer appendage (a), the inner appendage being shown in fig. 5 d.—p. 722.

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Fig. 9 a. CLEANTIS LINEARIS, enlarged one and a half diameters; b, inner antenna; c, extremity of outer; d, under view of head, showing maxillipeds; e, mandible; f, maxilla of first pair; g, ibid., of second pair; h, appendage of first abdominal pair; i, ibid., of second pair; k, outer or opercular pair; l, tarsus.—p. 708.

Fig. 6 *a*, *b*. SPHERILLO SPINOSUS, enlarged five diameters; *c*, under view of head; *d*, spine of surface of body; *e*, caudal extremity, upper view, showing part of the caudal lamellæ (c, c), and

the outer appendage, a; f, under view of caudal lamellæ, showing both outer (a) and inner (b) of the appendages or branches; g, part of antenna, much enlarged.—p. 723.

Fig. 7 a. PORCELLIO GEMMULATUS, enlarged four diameters (dots in the figure, a little too seriate); b, extremity of antenna; c, apex of same; d, leg of second pair, enlarged; e, f, g, spines of under surface of same leg, from fourth joint.—p. 725.

Fig. 8 a. PORCELLIO (?) FUEGIENSIS, enlarged four diameters; b, part of body, with the posterior thoracic segments bent down on either side as in some preserved specimens; c, extremity of abdomen; d, extremity of leg of last pair.—p. 726.

Fig. 9 *a*. PORCELLIO CHILENSIS, enlarged three diameters; *b*, base of antenna; *c*, extremity of antenna; *d*, extremity of leg of first pair, in outline; *e*, caudal stylets.—p. 727.

Fig. 11 a. PORCELLIO — ? enlarged four and a half diameters; b, extremity of antenna; c, apex of same.—p. 732. [It is incorrectly called a Philoscia on p. 732; and in the reference to 11 c, "second joint of" should be omitted.]

PLATE 48.

Fig. 1 a. ONISCUS NIGRESCENS, enlarged one and a half diameters; b, abdomen, under view; c, outer maxilliped.—p. 728.

Fig. 2 *a*. ONISCUS PUBESCENS, enlarged three and a half diameters; *b*, antenna; *c*, leg of sixth pair; *d*, caudal stylet.—p. 730.

Fig. 3 *a*. ONISCUS? ANGUSTUS, enlarged six diameters, mutilated in its antennæ; *b*, outer maxilliped; *c*, extremity of leg of first pair; *d*, ibid., of last pair.—p. 731.

Fig. 4 a. ONISCUS? MACULATUS, enlarged six diameters, mutilated; b, outer maxilliped; c, extremity of leg of last pair, upper view; d, ibid., lateral view; e, tarsus of same, more enlarged; f, caudal stylet.—p. 731.

Fig. 5 a. SCYPHAX ORNATUS, enlarged two diameters; b, antenna; l', part of same, more enlarged; c, c', mandible; d, e, maxillæ; f, maxillipeds; g, g', lower lip; h, l', last pair of thoracic feet, from different specimens; i, abdominal appendages of second pair; k, l, ibid., of third and fourth pairs; m, ibid., of fifth pair; n, one of sixth pair or caudal stylet, much enlarged; o, part of leg of sixth pair; p, ibid., of seventh pair.—p. 734.

Fig. 6 a. SCYPHAX ORNATUS, jun. (?), animal, enlarged three diameters; b, outline of back; c, outline of head, in upper view; d, abdomen, upper view; e, antenna, enlarged; f, outer maxilliped; g, extremity of one of the legs; h, caudal appendages, under view.—p. 735.

Fig. 8 *a*. STYLONISCUS LONGISTYLIS, enlarged four diameters; *b*, part of flagellum of antenna, more enlarged.—p. 737.

line of extremity of abdomen; d, part of larger seta of stylet. p. 739.

Fig. 3. LYGIA AUSTRALIENSIS, extremity of abdomen, much enlarged.—p. 740.

Fig. 4 *a*. LYGIA HAWAIENSIS, enlarged three diameters (mutilated in caudal stylets); *b*, part of basal half of flagellum of antenna; *c*, ibid., from apical half; *d*, extremity of leg of seventh pair; *e*, outline of extremity of abdomen, more enlarged.—p. 740.

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Fig. 3 *a*. CRATOPHIUM ORIENTALE, enlarged seven diameters; *b*, hand of second pair.—p. 843.

Fig. 4 *a*. ICILIUS ELLIPTICUS, enlarged eight diameters; *b*, abdomen, extended straight; *c*, outline of part of same, side view; *d*, mandible; *e*, maxilla of first pair; *f*, ibid., of second pair; *g*, maxilliped.—p. 844.

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Fig. 5. ORCHESTIA (TALORCHESTIA) GRACILIS: a to f, female; g to m, male.—5 a, female, enlarged; b, portion of flagellum of inferior antenna; c, extremity of leg of second pair; d, ibid., of third pair; e, ibid., of fourth pair; f, eaudal stylets of fifth pair. g, male, enlarged; h, extremity of leg of first pair; i, hand of second pair; k, extremity of leg of third pair; l, ibid., of fourth pair; m, third pair of stylets and extremity of abdomen.—p. 861.

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Fig. 4 *a*. ORCHESTIA CHILENSIS? enlarged four diameters; *b*, part of flagellum of inferior antenna; *c*, extremity of leg of first pair; *d*, ibid., of second pair; *e*, ibid., of fourth pair.—p. 867.

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Fig. 7 *a*. ORCHESTIA SERRULATA, male, enlarged two and a half diameters; *b*, *b'*, mandible, in different positions; *c*, *d*, maxillæ; *e*, maxillipeds; *f*, superior antenna; *g*, part of flagellum of same; *h*, hand of first pair; *i*, hand of second pair; *k*, posterior margin of first joint of seventh pair; *l*, extremity of seventh pair.—*m*, female, part of leg of first pair; *n*, ibid., of second pair; *o*, ibid.,

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PLATE 57.

Fig. 1. ORCHESTIA (TALITRUS) INSCULPTA: figs. 1 *a* to *m*, male; Fig. 1 *a*. ORCHESTIA TENUIS, enlarged three diameters; *b*, mandible; *b'*, molar prominence of mandible; *c*, maxilla, first pair;

d, ibid., second pair; e, maxillipeds; f, part of flagellum of inferior antenna; g, hand of second pair of feet.—p. 872.

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Fig. 3 *a*. Male of ORCHESTIA SYLVICOLA? enlarged; *b*, side view of head; *c*, part of flagellum of outer antenna; *d*, extremity of leg of first pair; *e*, ibid., of second pair; *f*, ibid., of third pair; *g*, ibid., of seventh pair; *h*, stylet of first pair.—p. 875.

Fig. 4 *a*. ORCHESTIA SPINIPALMA, male, enlarged four diameters; *b*, part of flagellum of inferior antenna; *c*, hand of second pair; *d*, extremity of leg of last pair; *e*, ibid., of second pair in female. —p. 875.

Fig. 5 *a*. ORCHESTIA TAULTENSIS, female, enlarged five diameters; *b*, mandible; *c*, *d*, maxillæ; *e*, maxillipeds; *f*, antennæ; *g*, extremity of leg of second pair.—p. 877.

Fig. 6 a. ORCHESTIA DISPAR, enlarged four diameters; b, mandible; c, d, maxillæ; e, maxillipeds; f, part of flagellum of inferior antennæ; g, hand of first pair; h, ibid., of second pair; i, leg of seventh pair; k, stylet of first pair; l, ibid., of last pair; m, side view of extremity of abdomen.—p. 878.

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Fig. 8 a. ORCHESTIA HAWAIENSIS, female, enlarged three diameters; b, antenna of first pair; c, part of flagellum of antenna of second pair; d, extremity of leg of first pair; e, ibid., of second pair; f, ibid., of seventh pair; g, stylet of first pair.—p. 880.

Fig. 9 *a*. ORCHESTIA PICKERINGII, male, enlarged four diameters; *b*, antenna of superior pair; *c*, part of flagellum of inferior pair; *d*, extremity of leg of first pair; *e*, ibid., of second pair; *f*, ibid., of seventh pair.—p. 882.

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Fig. 2 a. ALLORCHESTES VERTICILLATA, male, enlarged five diameters; b, part of flagellum of second or inferior antenna; c, mandible; d, maxilla of second pair; e, maxillipeds; f, extremity of leg of first pair; g, ibid., of last pair.—p. 886.

Fig. 3 a. ALLORCHESTES VERTICILLATA (?), female, enlarged six diameters; b, c, d, e, parts of the mouth; f, part of flagellum of inferior antenna; g, ibid., from another specimen; h, part of flagellum of inferior antenna, ibid.; i, hand of second pair, ibid.; k, extremity of seventh pair, ibid.—p. 887.

Fig. 4 a. ALLORCHESTES HIRTIPALMA, enlarged five diameters; b, part of flagellum of inferior antenna; c, c', maxilla, in different positions; d, maxilla of second pair; e, maxillipeds; f, hand of leg of second pair; g, ibid., of first pair; h, part of leg of sixth pair; i, posterior stylet.—p. 888.

Fig. 7 a. ALLORCHESTES AUSTRALIS, enlarged three and a half diameters; b, mandible; c, maxilla of first pair; d, ibid., of second pair; e, maxillipeds; f, lower lip; g, inferior antenna; h, superior, ibid.; i, leg of first pair; k, ibid., of second pair; l, ibid., of fifth pair; m, stylet of first pair; n, ibid., of second pair; o, ibid., of third or last pair.—p. 892.

Fig. 8 a. ALLORCHESTES BREVICORNIS, enlarged four diameters; b, mandible; c, maxilla of first pair; d, ibid., of second pair; e, maxillipeds; f, part of flagellum of inferior antenna; g, hand of leg of first pair; h, ibid., of second pair.—p. 893.

PLATE 61.

Fig. 1. ALLORCHESTES NOVI-ZEALANDLÆ: 1 *a* to *f*, male; *g* to *v*, female.—1 *a*, enlarged five diameters; *b*, part of flagellum of superior antenna; *c*, ibid., of inferior, ibid.; *d*, hand of leg of first pair; *e*, ibid., of second pair; *f*, part of fifth pair.—*f*, female, enlarged five diameters; *h*, *i*, *k*, *l*, *m*, parts of the mouth; *n*, leg of first pair; *o*, ibid., of second pair; *p*, ibid., of fifth pair; *q*, ibid., of seventh pair; *r*, stylet of first pair; *s*, antennæ of a young female; *t*, part of leg of first pair, ibid.; *u*, ibid., of second pair, ibid.; *v*, ibid., of fifth pair, ibid.—p. 895.

Fig. 2 a. ALLORCHESTES ORIENTALIS, enlarged six diameters; b, mandible; c, maxilla of first pair; d, ibid., of second pair; e, maxilliped; f, part of flagellum of superior antenna; g, ibid., of inferior, ibid.; h, hand of leg of second pair.—p. 898.

Fig. 3 a. Allorchestes (?) GRAMINEA, enlarged three diameters; b, leg of sixth pair.—p. 898.

Fig. 4 a. ALLORCHESTES MEDIA, male, enlarged five diameters; b, part of flagellum of superior antenna; c, ibid., of inferior, ibid., inner side; d, ibid., outer side; e, mandible; f, maxilliped; g, part of leg of first pair, male; h, ibid., of second pair; i, ibid., of fourth pair; k, ibid., of fifth pair; l, ibid., of seventh pair; m, stylet of posterior pair; n, leg of first pair in a smaller specimen.—p. 898.

Fig. 5 a. ALLORCHESTES HAWAIENSIS, enlarged six diameters; b, part of flagellum of superior antenna; c, ibid., of inferior, ibid.; d, extremity of maxilliped; c, part of leg of first pair; f, ibid., of second pair; g, ibid., of third or fourth pair; h, stylet of first pair.—p. 900.

Fig. 6 a. ALLORCHESTES PUGETTENSIS, enlarged four diameters; b, part of flagellum of inferior antenna; c, mandible; d, extremity of maxilliped.—p. 901.

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Fig. 1 a. LYSIANASSA? BRASILIENSIS, enlarged seven diameters; b, superior antenna; c, inferior, ibid.; d, leg of third pair; e, ibid., of fifth pair; f, ibid., of sixth pair.—p. 914.

Fig. 2 a. LYSIANASSA NASUTA, enlarged four diameters; b, head, more enlarged (with t, a keel on the front; m^3 , maxilliped; p, extremity of foot of first pair); c, posterior stylets and extremity of abdomen; d, e, mandible, in different positions; f, maxilla of first pair; g, ibid., of second pair; h, part of leg of first pair; i, ibid., of second pair; k, ibid., of third pair; l, ibid., of fifth pair; m, ibid., of seventh pair.—p. 915.

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Fig. 5 a. ALLORCHESTES GRACILIS, enlarged three diameters; b, part of flagellum of inferior antenna; c, hand of leg of first pair; d, ibid., of second pair.—p. 889.

Fig. 6 *a*. Allorchestes humilis, enlarged six diameters; *b*, mandible; *c*, maxilla of first pair; *d*, ibid., of second pair; *e*, maxillipeds.—p. 890.

Fig. 3 a. URISTES GIGAS, enlarged five diameters; b, mandible; c, d, maxillæ; e, maxillipeds; f, part of flagellum of superior antenna; g, ibid., of inferior pair.—p. 917.

Fig. 4 *a*. ANONYX FUEGIENSIS, enlarged five diameters; *b*, mandible; *c*, *d*, maxillæ; *e*, maxillipeds; *f*, front view of head (a^{i}, a^{i})

insertion of superior antennæ; a^2 , base of inferior, ibid.; s, spine, adjoining same; f, piece of shell, below same; b', shell of side of head; e, epistome; l', labrum; p, mandibular palpus; md, mandible; m^3 , maxillipeds; t, lamellar processes of basal joints of same); g, side view of head (lettered like the last, with m^1 , inner maxilla; m^2 , second maxilla; l^2 , lower lip; n, o, parts below base of maxillipeds); \hbar , same, with maxillipeds turned down; i, spinous process at base of inferior antennæ (same as s, in figures 4 f and g); k, part of flagellum of inferior antenna; l, ibid., of superior antenna; l', longer flagellum of same, from another specimen; m, part of leg of first pair; n, ibid., of fourth pair; o, ibid., of fifth pair; p, caudal segment.—p. 919.

Fig. 5 a. UROTHOE ROSTRATUS, enlarged sixteen diameters; b, upper view of head; c, part of base of inferior antenna; d, part of flagellum of same; e, e', mandible, in different positions; f, maxilla of first pair; g, maxillipeds; g', same, more enlarged; h, leg of second pair; i, ibid., of third or fourth pair; k, ibid., of fifth pair; l, ibid., of sixth pair; m, ibid., of seventh pair; u, abdominal natatory; o, extremity of abdomen, upper view; p, stylets of second pair.—p. 921.

Fig. 6 *a*. UROTHOE IRROSTRATUS, anterior part of body, much enlarged; *b*, part of flagellum of inferior antenna; *c*, extremity of leg of fourth pair; *d*, ibid., of fifth pair; *e*, extremity of same; *f*, extremity of body.—p. 922.

PLATE 63.

Fig. 1. STENOTHOE VALIDUS: a to e, male; f to o, female.—1 a, male, enlarged nine diameters; b, part of flagellum of superior antenna; c, maxillipeds; d, leg of first pair; e, ibid., of sixth pair.—f, female, enlarged nine diameters; g, mandible; h, maxilla of first pair; i, part of maxilla of second pair; k, maxillipeds; l, hand of leg of first pair; m, ibid., of second pair; n, leg of seventh pair; o, caudal stylets and extremity of abdomen. —p. 924.

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PLATE 65.

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PLATE 64.

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$\mathbf{PLATE} \quad 6 \ 6.$

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PLATE 67.

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P L A T E 6 8.

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part of mandible; c, caudal extremity; d, caudal stylet of last pair, in profile.—p. 975.

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Fig. 6 a. LESTRIGONUS FERUS, enlarged ten diameters; b, abdo-

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Fig. 10 *a*. ANCHYLOMERA THYROPODA, enlarged fifteen diameters; *b*, front view of head; *c*, antenna; *d*, maxilla; *e*, leg of sixth pair; *f*, ibid., of seventh pair; *g*, caudal extremity.—p. 1004.

PLATE 69.

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III. ENTOMOSTRACA.

PLATE 70.

STRUCTURE OF CYCLOPOIDEA.

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$\mathbf{P} \mathbf{L} \mathbf{A} \mathbf{T} \mathbf{E} \quad 7 \mathbf{1}.$

STRUCTURE OF CYCLOPOIDEA.

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PLATE 72.

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PLATE 73.

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PLATE 74.

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PLATE 78.

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-p. 1083.

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PLATE 79.

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Fig. 8 a. Female of C. BRACHIATA? b, extremity of antenna.p. 1134.

Fig. 9 a. C. BRACHIATA? front of male; b, posterior extremity of body, caudal setae excluded; c, right antenna; d, extremity of antenna; e, right foot of posterior pair; f, one of female feet corresponding; g, female abdomen distorted.-p. 1134.

Fig. 10 a. PONTELLINA PLUNATA, female, enlarged; b, maxilliped; c, one of the natatories; d, leg of posterior thoracic pair .-- p. 1135.

Fig. 11 a. PONTELLINA TURGIDA, enlarged; b, extremity of antenna.—p. 1136.

Fig. 12 a, b. P. TURGIDA, another variety.-p. 1137.

P L A T E 80.

Fig. 1 a. PONTELLINA CURTA, enlarged; b, extremity of antenna. —р. 1138.

Fig. 2 a. PONTELLINA CONTRACTA, enlarged; b, side view of beak; c, extremity of antenna.-p. 1139.

Fig. 3. Pontellina contracta.-p. 1140.

Fig. 4 a, b. P. CONTRACTA ?--- p. 1140.

Fig. 5 a. PONTELLINA MEDIA, enlarged; b, extremity of antenna. —p. 1141.

Fig. 6 a. PONTELLINA CRISPATA, enlarged; b, extremity of antenna.---p. 1142.

Fig. 7 a. PONTELLINA DETRUNCATA, male, enlarged; a', part of male right antenna, anterior pair; b, profile of head; c, maxillipeds (magnified twice as much as fig. 7a); d, anterior feet; e, posterior thoracic feet, in male; f, ibid., in female; g, under

—p. 1147.

Fig. 11 a. PONTELLINA ACUTIFRONS, enlarged; a', extremity of antenna; b, male right antenna; c, side view of head; d, mandible and palpus; e, maxilla; f, leg of first pair; g, leg of last pair; h, natatory leg of one of three posterior pairs.-p. 1149.

Fig. 12 a. PONTELLINA ACUTA, male, enlarged; a', part of head, in profile; b, right male antenna; c, feet of last pair.—p. 1150.

Fig. 13 a. PONTELLINA RUBESCENS, enlarged; b, extremity of antenna.—p. 1152.

Fig. 14 a. PONTELLINA EMERITA, enlarged (one joint of antennae probably wanting at extremity); b, posterior feet.—p. 1153.

PLATE 81.

Fig. 1 a. PONTELLINA REGALIS, enlarged; b, extremity of antenna. -p. 1154.

Fig. 2 a. PONTELLINA PERSPICAX, enlarged; b, one of six posterior natatories; c, right leg of last pair; d, left, ibid.-p. 1155.

Fig. 3 a. PONTELLINA PULCHRA, enlarged; b, side view of head; c, posterior antenna; d, natatory leg; e, right leg of last pair; f, left, ibid.—p. 1157.

Fig. 4 a. PONTELLINA STRENUA, enlarged; a', extremity of left antenna; b, part of right male antenna; c, profile of head; d, feet of last pair.—p. 1158.

Fig. 5 a. PONTELLINA PROTENSA, enlarged; a', extremity of antenna; b, posterior part of cephalothorax in one specimen.-p. 1159.

Fig. 6 a. PONTELLA HEBES, enlarged; a', view of front and base of antennæ; b, eyes.-p. 1160.

Fig. 7. PONTELLA FRIVOLA, enlarged.—p. 1161.

Fig. 8 a. PONTELLA HEBES? male; a', extremity of antenna.p. 1162.

Fig. 9 a. PONTELLA DETONSA, enlarged; b, profile of head; c, extremity of left antenna in male, or of either in female; d, probably right male antenna, of another specimen; e, front view of beak; f, mandible and palpus; g, maxilla; h, maxilliped; i, upper view of head, in another specimen.-p. 1163.

Fig. 10 a. P. DETONSA, another specimen; a', extremity of autenna.—p. 1163.

Fig. 11 a. PONTELLA ARGENTEA, enlarged; a', extremity of antenna; b, base of same; c, beak, nearly in profile; d, under view of inferior eyes.—p. 1164.

P L A T E 82.

Fig. 1 α . PONTELLA SPECIOSA, enlarged; α' , profile of head, in some individuals; b, posterior feet, enlarged two diameters more than figure a; c, extremity of thorax and abdomen in some small individuals.—p. 1166.

Fig. 2 a, a'. PONTELLA SPECIOSA, var. FORMOSA, enlarged.-p. 1167.

Fig. 3 a, a', PONTELLA DETONSA? enlarged.—p. 1164.

Fig. 4 a. PONTELLA PRINCEPS, enlarged; a' (right hand upper view, showing organs of head and mouth; h, i, different views of corner of Plate), extremity of antenna; b, beak, in profile; c, posterior part of cephalothorax and abdomen, in profile.-p. 1168. Fig. 5 a. PONTELLA FERA, enlarged; a', extremity of female antenna; b (over fig. 5e), part of male antenna; c, profile of head; d (over 5 a), front view of beak; e, abdomen of a male; f, profile of a female abdomen; g, another female abdomen, upper view; h, lips; i, mandible; j (right of 5a), another view

a distorted female abdomen.-p. 1143.

Fig. 8 a. PONTELLINA SIMPLEX, enlarged; b, posterior antenna.p. 1145.

Fig. 9 a. PONTELLINA EXIGUA, enlarged (antennæ removed); b, profile, showing outline of head.-p. 1146.

Fig. 10 a. PONTELLINA AGILIS, enlarged; b, side view of head; c,

1169.

Fig. 6 a. PONTELLA VALIDA, showing beak, in profile; b, right antenna of male; c, part of same, more enlarged; d, natatory of first pair; e, ibid., of fourth pair; f, posterior legs of male; g, abdomen of a male, abnormal form.-p. 1171.

PLATE 83.

Fig. 1 a. CYCLOPS BRASILIENSIS, male, enlarged; b, lateral view, showing beak and alimentary canal; c, antenna of second pair; d, extremity of maxilliped, leg of first pair; e, natatory leg; f, antenna of female; g, abdomen, with external ovarian sacs of female.—p. 1181.

Fig. 2 a. CYCLOPS CURTICAUDUS, female, enlarged; b, extremity of antenna of anterior pair; c, ibid., of posterior pair; d, ibid., of maxilliped or leg of first pair.-p. 1182.

Fig. 3 a. CYCLOPS PUBESCENS, male, enlarged; b, antenna of female; c, caudal setæ, more magnified; d, ovarian sac.-p. 1183.

Fig. 4 a. CYCLOPS MACLEAVI, female, enlarged; b, extremity of antenna of anterior pair.-p. 1184.

Fig. 5 a. CYCLOPS VITIENSIS, female, enlarged; b, extremity of antenna.---p. 1185.

Fig. 6 a. CANTHOCAMPTUS VIRESCENS, female, enlarged; a', eyes; b, antenna of anterior pair, of female; c, antenna of posterior pair; d, mandible, without the palpus; e, part of maxilliped; f, natatory leg; g, foot of first pair; h, ibid., of second pair; h', extremity of longer branch; i, young animal, a day or two old .----1186.

Fig. 7 a. HARPACTICUS CONCINNUS, female, enlarged; b, extremity of antenna of posterior pair (?); c, extremity of a maxilliped or palpus of mandible (?); d, foot of first pair; e, ibid., of second pair; f, external ovarian sac.—p. 1189.

Fig. 8 a. HARPACTICUS SACER, male, enlarged; b, eyes; c, hand of antenna of anterior pair, in male; c', antenna of female; d, extremity of antenna of posterior pair; c, leg of first pair; f, ibid., of second pair .-- p. 1191.

Fig. 9 a. CANTHOCAMPTUS LINEARIS, feinale, enlarged; b, antenna.—p. 1188.

Fig. 10. CANTHOCAMPTUS ROSEUS, female, enlarged.-p. 1189. Fig. 11 a. HARPACTICUS? ACUTIFRONS, male, enlarged; b, extre-

mity of a maxilliped, or the mandibular palpus (?).-p. 1192. Fig. 12 a. CLYTEMNESTRA SCUTELLATA, enlarged; b, eyes; c,

antenna of posterior pair; d, extremity of a maxilliped; c, cheliform legs (first pair of legs); f, leg of one of the natatory pairs. -p. 1194.

PLATE 84.

Fig. 1 a. Setella tenuicornis, enlarged; a', beak, with its appendages; b, base of one of anterior antennæ; c, one of posterior antennæ; g, leg of first pair; i, k, natatory legs; l, m, young Setellæ.—p. 1196.

of mandible and its palpus; k, maxilla; l, right posterior foot. ____ b, one of anterior antennæ; c, extremity of posterior, ibid.; d. leg of first pair; e, abdomen, in profile, showing abdominal appendages beneath.-p. 1199.

Fig. 5 a. SETELLA ACICULUS, female, enlarged; a', profile of head; b, one of anterior antennæ; c, ibid., of posterior, ibid.; d, leg of first pair; e, ibid., of second pair; f, bag of eggs; g, g', abdomen.—p. 1200.

PLATE 85.

Fig. 1 a, a'. CORYCEUS GRACILIS, enlarged; b, anterior antenna; c, posterior ibid.; d, natatory of second or third pair.-p. 1207.

Fig. 2 a, a'. CORYCAUS DECURTATUS, enlarged; b, anterior antenna; c, posterior, ibid.-p. 1208.

Fig. 3 a. CORYCÆUS DEPLUMATUS, enlarged; b, natatory leg.-p. 1210.

Fig. 4 a, b. CORYCÆUS VARIUS, enlarged; c, side view of abdomen; d, anterior antenna; e, posterior, ibid.; f, natatory leg of first pair; g, ibid., of fourth pair; h, eggs, pressed from the body; i, leg of first pair.—p. 1211.

Fig. 5 a, b. CORYCLEUS LONGISTYLIS, enlarged; c, posterior antenna; d, maxilla and anterior foot.-p. 1212.

Fig. 6. CORYCÆUS OBTUSUS, enlarged.-p. 1214.

Fig. 7 a, b. CORYCÆUS CRASSIUSCULUS, enlarged.-p. 1214.

Fig. 8 a, b. CORYCAUS LATICEPS, enlarged; c, natatory leg.-p. 1215.

Fig. 9 a, b. CORYCEUS VITREUS, enlarged; c, anterior antennæ; d, anterior legs.—p. 1216.

Fig. 10 a, b. CORYCÆUS AGILIS, enlarged.—p. 1217.

Fig. 11 a, b. CORYCÆUS ORIENTALIS, enlarged; c, posterior antenna.—p. 1218.

Fig. 12 a, a'. CORYCEUS LAUTUS, enlarged; b, posterior antenna; c, two pairs of maxillæ; d, maxillæ and maxillipeds and anterior feet, in position (nearly); c, extremity of natatory leg. —р. 1219.

PLATE 86.

Fig. 1 a. CORYCEUS SPECIOSUS, enlarged; b, abdomen, side view; c, one of the natatories, second pair; d, ibid., of third pair.—p. 1220.

Fig. 2 a. CORYCÆUS REMIGER, enlarged; b, posterior antenna.p. 1221.

Fig. 3 a. CORYCEUS LATUS, enlarged; a', anterior antenna; b, posterior, ibid.; c, leg of first pair; d, natatory of second pair; c, abdomen, side view.—p. 1221.

Fig. 4 a, a'. CORYCEUS VENUSTUS, enlarged; b, posterior antenna; c, mandible or inner maxilla; d, leg of first pair .-- p. 1222. Fig. 5 a, b. Coryczeus inquietus, enlarged.-p. 1223.

Fig. 6 a. CORYCAUS PELLUCIDUS, enlarged; b, abdomen, dorsal view, and extremity of cephalothorax; c, cephalothorax, in profile, showing the carinate ventral process; d, posterior antenna. —р. 1224.

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Fig. 2 a. Setella longicauda, enlarged; a', appendage to beak. —p. 1197.

Fig. 3 a, b. SETELLA GRACILIS, enlarged; c, beak appendage; d, extremity of a maxilla, imperfectly seen; e, leg of first pair; f, abdominal appendages; g, part of caudal setæ, showing spinous character of.-p. 1198.

Fig. 7 a. CORYCÆUS CONCINNUS, enlarged; b, posterior antenna.—p. 1225.

Fig. S a. CORYCEUS PRODUCTUS, enlarged; b, natatory of third or fourth pair .-- p. 1226.

Fig. 9 a, a'. CORYCÆUS LONGICAUDIS, enlarged; b, anterior antenna; c, posterior, ibid.-p. 1226.

Fig. 4 a. SETELLA CRASSICORNIS, enlarged; a', profile of head; tenna; c, leg of first pair.—p. 1228. Fig. 10 a, a'. ANTARIA CRASSIMANA, enlarged; b, posterior an-

view of female, with the external ovarian sacs; c, anterior antenna; d, posterior antenna.-p. 1229.

Fig. 12. ANTARIA GRACILIS, another variety.-p. 1229.

Fig. 13 a, b. ANTARIA OBTUSA; c, posterior antenna; d, d', anterior feet (d', with the finger closed); e, abdomen, of another specimen.-p. 1230.

Fig. 14 a. COPILIA MIRABILIS, enlarged; b, anterior part, under view, more enlarged (a, conspicillum or convex cornea; b, lens of the eye, with the pigment behind it; c, nerve to the antennæ); d, f, g, muscles.—p. 1232.

Fig. 15 a. COPILIA QUADRATA; b, posterior antenna; c, under view of mouth; d, natatory leg.-p. 1233.

PLATE 87.

Fig. 1 a. SAPPHIRINA IRIS, female, enlarged; a', one of the anterior antennæ; b, posterior antenna; c, anterior feet or maxillipeds.—p. 1239.

Fig. 2 a. S. IRIS, male, enlarged; a', anterior antennæ; b, posterior antenna; c, anterior feet; d, seminal glands and ducts.--p. 1239.

Fig. 3 a. SAPPHIRINA ANGUSTA, enlarged; b, posterior antenna. -p. 1240.

Fig. 4 a. SAPPHIRINA ELONGATA, enlarged; b, posterior antenna. -p. 1241.

Fig. 5 a. SAPPHIRINA METALLINA, enlarged; b, under view of anterior part; c, caudal lamella.-p. 1242.

Fig. 6 a. SAPPHIRINA CORUSCANS, male, enlarged; b, posterior antenna.—p. 1243.

Fig. 7 a. SAPPHIRINA INÆQUALIS, enlarged; b, posterior antenna.-p. 1244.

Fig. 8 a. SAPPHIRINA OVATA, enlarged; b, posterior antenna.--p. 1245.

Fig. 9 a. SAPPHIRINA SPLENDENS, enlarged; b, posterior antenna (unfinished sketch); c, caudal lamella.-p. 1246.

Fig. 10 a. SAPPHIRINA OVALIS, enlarged; b, posterior antenna. —р. 1246.

Fig. 11 a. SAPPHIRINA DETONSA, enlarged; b, under view of anterior segment, showing how far the shell is reflexed below; c, posterior antenna.-p. 1247.

Fig. 12 a. SAPPHIRINA INDIGOTICA, enlarged; b, posterior antenna.—p. 1248.

Fig. 13 a. SAPPHIRINA ORIENTALIS, male (not female, as stated on p. 1250), enlarged; b, part of posterior antenna; c, caudal lamella.—p. 1249.

Fig. 14 a. SAPPHIRINA ORIENTALIS, female, enlarged; a', posterior antenna; b, anterior antenna; c, under view of anterior part of animal.-p. 1249.

Fig. 15 a. SAPPHIRINA OVATO-LANCEOLATA, female, enlarged; b, posterior antenna; c, anterior foot or maxilliped.-p. 1251.

Fig. 16 a. SAPPHIRINA OVATO-LANCEOLATA, male, enlarged; b, under view of head.-p. 1251.

Fig. 11 a. ANTARIA GRACILIS, lateral view, enlarged; b, back c, c', genital system, bluish; a, lenses of eyes; f, lenticular cornea or conspicilla); α' , lenses of the eyes and pigments, with intermediate minute eyes; b, anterior antenna; c, posterior, ibid.; d, leg of first pair; e, same, in position; f, lower extremity of genital system (same as d in 2a); g, nervous ganglion and its nerves. p. 1252.

> Fig. 3 a. SAPPHIRINA BELLA, male, enlarged; b, eye-lenses, with the intermediate eyes; c, posterior antennæ; d, caudal lamellæ and part of abdomen bearing it.-p. 1254.

> Fig. 4 α . SAPPHIRINA OPALINA, male, enlarged; b, third pair of natatories; c, fourth, ibid.; d, anterior part of body, showing lenticular corneæ on the front, two pairs of antennæ, a1, a2, and the mouth covered by the first pair of legs; e, month, with one of the legs removed; f, same, both legs removed; g, same, one of outer maxillæ removed; h, same, both of outer and one of inner maxillæ removed; i, one of inner maxillæ and mandible; k, l, outer maxillæ, in different positions .--- p. 1254.

> Fig. 5 a. SAPPHIRINA VERSICOLOR, male, enlarged; b, posterior antenna; c, eye-lenses and pigments, and intermediate eye-spot .--p. 1255.

> Fig. 6 a. SAPPHIRINA TENELLA, male, enlarged; a', view showing outline of stomach; b, posterior antenna; c, leg of first pair .-- p. 1256.

> Fig. 7 a. SAPPHIRINA TENELLA, female, enlarged; a', anterior antennæ; b, posterior, ibid.; c, leg of first pair .-- p. 1256.

Fig. 8 a, b. SAPPHIRINA -----___?_p. 1258.

Fig. 9. SAPPHIRINA OBESA, enlarged.-p. 1258.

Fig. 10. SAPPHIRINA OBTUSA, enlarged.-p. 1259.

Fig. 11. MIRACIA EFFERATA, female, enlarged.-p. 1260.

Fig. 12 a. MIRACIA GRACILIS, enlarged; b, appendage to beak; c, another variety.—p. 1261.

PLATE 89.

Fig. 1 a, b. DAPHNELLA ANGUSTA, enlarged; c, anterior antennæ; d, leg of first pair; e, ibid., of fourth pair, magnified three-fourths more than 1 a; f, dorsal abdominal appendage.--p. 1268.

Fig. 2 a, b. PENILIA AVIROSTRIS, enlarged.-p. 1269.

Fig. 3 a, b, c. PENILIA ORIENTALIS, enlarged; d, antenna; e, natatory leg.-p. 1270.

Fig. 4 a. DAPHNIA AUSTRALIENSIS, female, enlarged; b, male, in profile; c, vertical view of head; d, abdomen, in part, with stomach and intestine; e, enlarged view, showing areolation of shell. -p. 1271.

Fig. 5 a. DAPHNIA MACRURA, enlarged; b, upper view of outline of head.-p. 1272.

Fig. 6 a, b. CERIODAPHNIA TEXTILIS, enlarged.-p. 1274.

Fig. 7 a, b. Lynceus latifrons, enlarged.-p. 1274.

Fig. 8 a. PLEOFIS BREVICAUDIS; b, leg of second pair; c, ibid., of fourth pair .--- p. 1276.

Fig. 9 a. CYTHERE AMERICANA, view of female, after removal of one valve of shell, showing two pairs of antennæ, one of mandibles, one of maxillæ, and three pairs of legs, with abdomen and its appendages; b, animal, covered by its shell; c, part of shell, more enlarged; d, dorsal view, showing outline; e, outline of shell, with abdomen of male and one leg; f, same, with abdomen thrown out, as often observed, after putting the animal in hot water; g, h, male abdomen, with its two folds or portions separated; i, another view of same; k, bases of legs, showing bony framework, for their articulation; 7, abdominal appendage of female (same as c, in figure 9 a).-p. 1283.

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PLATE 88.

Fig. 1 a. SAPPHIRINA GEMMA, female, enlarged; a', anterior antennæ; b, b', posterior antennæ, different views; c, anterior feet; d, e, maxillæ; f, maxillæ in place.-p. 1252.

Fig. 2 a. SAPPHIRINA GEMMA, male, enlarged (nervous system coloured reddish; d, e, digestive system and ∞ sophagus, greenish;

PLATE 90.

second antenna, mandible, maxilla, maxilliped, legs of two pairs, of 1. Cypris Chilensis; 2. Cythere Americana; 3. Cypridina; 4. Conchecia; 5. Halocypris inflata.

Fig. 6. CYPRIS SPECIOSA, enlarged.-p. 1285.

Fig. 7 a. CYPRIS CHILENSIS, side view, enlarged; b, upper view of shell; c, side view of animal, shell removed.—p. 1285.

Fig. 8 a. CYPRIS PUBESCENS, side view, enlarged; b, upper view; c, anterior antenna; d, posterior antenna; e, leg of first pair.-p. 1287.

Fig. 9 a. CANDONA? VITIENSIS, side view, enlarged; b, vertical view; c, anterior antenna; d, posterior antenna.-p. 1288.

Fig. 10. CANDONA? ALBIDA, side view, enlarged.-p. 1289.

PLATE 91.

Fig. 1 a. CYPRIDINA LUTEOLA, enlarged; b, dorsal view, outline; c, animal, removed from the shell (showing, d, eye; e, anterior antennæ; f, posterior, ibid.; g, mandibular feet; h, buccal mass, with its processes; i, maxilla of first pair; k, ibid., of second pair; l, ibid., of third pair; m, ovarian feet; n, caudal extremity); d, part of eye; d', one of the lenses; e, anterior antenna; f, part of a plume of posterior antennæ; g, part of mandibular foot, with mandibular process at g'; g'', same process, in profile; h, buccal mass and organs, under view (g, mandibular feet; i, maxilla of first pair; k, ibid., of second pair; l, ibid., of third pair; r, t, processes on the anterior and posterior part of the buccal mass; s, fleshy prominence intermediate, (see figure 1 c); i, maxilla of first pair, same with i, in figures 1 c and 1 h; i', same, reversed; k, maxilla of second pair, same as k, in figures 1 c and 1 h; l, maxilla of third pair, same as l, in figures 1 c and 1 h; m, extremity of ovarian feet; n, larger of caudal spines .p. 1291.

Fig. 2 a, b. CYPRIDINA PUNCTATA, enlarged.-p. 1293.

Fig. 3 a, b. CYPRIDINA OLIVACEA, enlarged; a', natural size.-p. 1294.

Fig. 4 a. CYPRIDINA GIBBOSA, enlarged; b, anterior antenna; c, posterior antenna; d, mandibular feet; e, abdomen.-p. 1295.

Fig. 5 a. CYPRIDINA FORMOSA, enlarged; b, upper view, in outline; c, lateral view of animal; d, antenna of first pair; c, antenna of second pair; f, mandibular foot; g, ciliated plate, from maxilla of second pair; h, maxilla of third pair.—p. 1296.

Fig. 6 a. CONCHECIA AGILIS, under view, enlarged; b, lateral view; c, under view, with opened shell; d, anterior antennae and intermediate spiculum; e, mandibular feet.-p. 1299.

Fig. 7 a. CONCHECIA ROSTRATA, posterior antenna, enlarged; b, mandibular feet; c, maxilla of first pair; d, maxilla of second pair; e, leg of first pair; f, leg of second pair .-- p. 1300.

Fig. 8 a. HALOCYPRIS INFLATA, dorsal view, enlarged; b, lateral ibid.; c, under view, valves open (d, inner antennæ, with spiculum between them; e, antennæ of second pair; f, mandibular feet; g, maxillæ; h, maxillæ, second pair; i, k, feet of two pairs;

3 a to k, of CALIGUS; 4 a to k, of PANDARUS; 5 a to k, of LEPI-DOPUS; 6 a to i, of DICHELESTION; 7 to 7 h, of LERNENTOMA.-a, Figs. 1, 2, 3, 4, 5, a to g, organs in the order, first antenna, antenna of first pair; b, ibid., of second pair; c, mandible; d, maxilla; e, maxilliped, or leg homologous with it; f, g, h, i, k, pairs of legs, in succession, or parts homologous.

PLATE 93.

CALIGUS AMERICANUS, p. 1317 .- a, under view of male, enlarged; a', male, natural size; a'', female, natural size; b, female antenna of second pair; c, female prehensile leg; d, maxilla; e, extremity of maxilliped; f, f', part of flexor muscles of posterior part of body (p. 1326); g, g', values in the circulation (p. 1341); h, dorsal view, showing muscles (p. 1325); i, areas in shell, over the eyes; k, digestive system (p. 1337); l, œsophagus, showing glands of surface; m, part of intestine; n, o, glands, near mouth; p, p^{i} , p^2 , p^3 , p^4 , p^5 , different views of parts of mouth (p. 1320); q, under view of female, showing nervous and genital system; r, nerves to antenna; s, nervous ganglion; t, male genital system; u, u', condition of front, during moulting; v, flexed muscle of figure u, seen in profile; w, abdomen of female, with a corneous appendage to vulva, terminating in a bulb (probably torn from male, in coition ?) [In text, p. 1321, 19th line from top, "between p and p," should read, between q and q.]

PLATE 94.

Fig. 1 a. MONSTRILLA VIRIDIS, animal, enlarged; b, profile, showing sucker mouth; 1 c, mouth prominence, enlarged; d, abdomen, in profile, with last segment of cephalothorax and natatory feet.—p. 1313.

Fig. 2 a, b. Argulus pugettensis, enlarged.—p. 1351.

Fig. 3 a. CALIGUS THYMNI, male, enlarged; b, posterior antenna of female; c, abdomen, ibid.-p. 1353.

Fig. 4. CALIGUS PRODUCTUS, enlarged.-p. 1354.

Fig. 5 a. CALIGUS GRACILIS, enlarged; b, posterior antenna of female; c, maxilla; d, leg of second pair.—p. 1356.

Fig. 6 a. LEPEOPHTHEIRUS BAGRI, female, enlarged; b, posterior antennæ of female; c, maxillæ, ibid.; d, first pair of feet, ibid.; e, leg of second pair, ibid.; f, posterior antenna of male; g, leg of second pair, ibid.; h, abdomen, ibid.-p. 1357.

Fig. 7 a. CALISTES TRIGONIS, female, enlarged; b, posterior antenna, with the exterior spine, b'; c, aculeate part of maxilla, showing its forked character; d, leg of first pair; e, ibid., of second pair.—p. 1359.

Fig. 8 a. CALIGERIA BELLA, female, enlarged; b, c, d, e, the posterior antenna, maxilla, and first and second feet, in relative position; f, furcula; g, leg of last pair; h, under view of abdomen, showing appendages, sometimes observed attached.-p. 1360.

Fig. 9 a. NOGAGUS VALIDUS, enlarged; b to g, organs, in their m, muscle); d, anterior antenna and spiculum; e, posterior anrelative positions, first and second antenna, mouth, first, second, tenna; f, mandibular fect; g, h, maxillæ; i, k, legs of two pairs. and third pairs of feet; h, third and fourth pairs of natatories .-—p. 1301. p. 1363. Fig. 9 a. HALOCYPRIS BREVIROSTRIS, dorsal view; b, lateral view; c, part of second pair of antenna.-p. 1303.

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PLATE 92.

PLATE 95.

Figs. 1 a to k, dissections of SAPPHIRINA; 2 b to k, of ARGULUS; c, caudal stylet.-p. 1366. Fig. 1 a. PANDARUS CONCINNUS, enlarged; b, anterior antenna:

Fig. 2 a. PANDARUS SATYRUS, enlarged; b, ventral view, more enlarged; c, caudal extremity, with commencement of external tube of eggs.—p. 1367.

Fig. 3 a. PANDARUS BREVICAUDIS, enlarged; b to g, organs, in their natural positions; h, last two pairs of natatories.—p. 1368.

Fig. 4 a. DINEMATURA BRACCATA, enlarged; b, ventral view. p. 1370.

Fig. 5 a. LEPIDOPUS ARMATUS, enlarged; a', ventral view; b, buccal trunk, with maxilla either side; c, extremity of same; d, separate view of maxilla; c, posterior antenna; f, maxilliped or foot of first pair; g, prehensile feet; h, i, natatory of first and second pairs; k, one of two posterior pairs of natatories.—p. 1373.

Fig. 6 *a*. Specilligus curticaudis, enlarged; *b*, eyes; *c*, under view, showing organs, in order; *d*, *e*, hand of prehensile feet, in

profile; f, penult natatories; g, natatory of fourth or posterior pair; h, mandible and extremity of buccal trunk.—p. 1375.

Fig. 7. Corycæus deplumatus, jun.?

Fig. 8. Young of a Schizopod.

Figs. 9, 10, 11. Young of ——?

PLATE 96.

Fig. 1 *a*, *b*. LERN-EOFODA CALIFORNIENSIS, enlarged.—p. 1379. Fig. 2 *a*. PYCNOGONUM ORIENTALE, specimen mutilated; *b*, body, more enlarged, showing branching of alimentary tube; *c*, appendage to cephalic segment.—p. 1391.

Figs. 3 to 8. Anatifidæ.—p. 1393.

Fig. 9 a to g. ACASTA SPORILLUS, of Darwin.

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v S. Exploring Expedition























1 a., d. Hyas Iyratus. 2 a., h. Pisoides Edwardsii.

5 a. d. Chorilia longipes.

Irramie by S. J. Lians

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5 a. d. Libidoclea coccinea. 4 a. e. Micippa hirtipes.


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I d



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I B

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1 a. f. Lahaina ovata 2 a. d. seyra acutifrons. 5 Pyria pubescens.

7 a. .c., E. brevipes.

-4 a. b. Mithrax asper 5 a. b. Cyclax Perryi 6 a. d. Eurypodius septentrionalis

7 8

Parine by I D. Inca.



1 S Esploring Experiment





MAIDIDEA, PL. 5.



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1 a. d.	Eurypodius	Latreillii .						1 a d.	Pericera	trigona
2 a e	Oregonia	gracilis.					5	ба. е.	Tiarinia	cornigera.
7 o b	of t going	hirta					(5 a d.		gracilis.
o a. p.		in the second se	7 0	ь	Tiarinia	anejusta.				

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MALDIDEA, PL. 4.



1 a...f. Perinea tumida 2 a. g Halimus tumidus. 5 a...c. Pugettia gracilis.

5 6 7 a.g. Menaethius subservatus.

4 a. e. Pugettia Richii 5 a. b. Menethius augustus 6 a. e. depressus

a second second





1	a	е.	Menæthius	tuberculatus.
2	а	с.		areolatus.
3	а	d.		inornatus.
- 4	а	d.	Acanthonyx	simplex.

5 a. b. Acanthonyx debilis. 6 a...d. Petiverii. 7 a...c. Peltinia scutiformis. 8 a. b. nodulosa.

to any by 1411 .

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MALOIDEA PL.6.

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1Epialtusbeasiliensis5 a...eLencippalevis2 a...b.productus6 a...b.Lambrusgracifus3 a...cHueniasimplex7 a...b.rhombicus1 a...cbrevirostrata8 a...c.Ceratocarcinus speciosus9 a...cEurynolambrus australis





1	ad.	Cancer	magister
2	ad.		gracilis.
5	a h.		productus

1			Atergatis	floridus
5	a	b	Carpilius	convexus
- ti	a	. d .	Liomera	lata

11 / /// - 1 /



. S. Espering Expedition



15. a. c. Panopæus lævis





1. a.	þ.	Actava	areolata
2.			cellulosa
5			hirsutissi
1 a.	Ь.	Xantho	nitidus.
5 a	Ъ.		superbus
6. 4.	d		dispar.

ĩ		Xantho m	1114 17
8. a.	d	Euxanthus	sculpturs
9. a.	b		mitudus
10. a .	C.	Nanthodes	gramoso in titus
П.а.	e.		mtidulus
12. a.	Ъ.		notalus







(*ANT ROLDEAD FIG !!





1 a...g. Medæus ornatus. 2 a...h. Etisus deflexus. 5 a...d. Etisodes frontalis 4 a...d. — crelatus.

and the set of the

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5 a - Zozymii Auyas 6 a - gentanta 7 a .d Carpolades tristis 8 a .d Actaodes arealatus

- APE - ころでは、 ろうろう

The second

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5 Zozymus aneus 1 a d Daira variolosa.

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1 a. h. Eúsus levimanus . 2 a. h. Eusus dentatus .

Section 2000



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CANCROIDEA, PL. II,





U.S. Exploring Expedition. CANCROIDEA, PL, 12, 1 1a 4 +11 -1 Kin 109 2.6 40 3 2 1/1 5 b $4d^{-2}$ E-41 4 T 155=125 60 BC 1 -8 6 7 c it is 7 c 7 1 11 d 11 1 10 a Were 10 6 11 é











1bChlorodiuscavipes2accytherea3abnebulosus4aflævissimus cytherea nebulosus

11 1)

5 a...cChlorodius niger.9.Pilodius scabriculus6 a...dPilodius pubescens.10 a...cpilumnoides7 a...enitidus.II a...gCyclodius ornatus.8 a...ipugil.12 a...bgracuts.

11.9



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CANCROIDEA, PL.13.

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12 6. - Her

13 a.



Cymo melanodactylus.
a. b. _____Andreossyi.
a. e. Polydectus villosus.
a. c. Ozins truncatus.
a. b. Galene Hawaiensis.
a. h. Pseudozius planus.
15. a. b. Filumnus tenellus.

Drawn by / D.Dana .





CANTRODEA, PL. H.

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I	а.	. d.	Melia	tessellata.
2	а.	. с.	Actumnus	tomentosus.
3	а	b.		obesus.
4	a	. е	Ruppellia	annulipes.

1	muata.
6 a u.	evimana
7 a. c — 1	Ionasra

-

Amount is in Galaxies.





CASCROIDEA, PL. 15.











1	Tranezia	speciosa.		5 a.	1	Trapezia	cymodoce
1. 0	Tupezia	holla		6 a.	d		dentata
<i>C</i> .		Denne.		7 a.	b.		var subintegra
3	ab	ruto punctata.		8 a	b.		areolata
-4	ad.	maculata .	n	v:or			
1 1. T		9 a. c. j	Trapezia arconata.				

















a de ge

CAMPROIDEA, PL. D.









W.M.





1 a. b. Trapezia Ferruginea. 2 a. d. Tetralia nigrifrons. 5 a i glaberrima 4 a. c. armata. 9 a

9 a julian pubescens

5 a d Quadrella arouata 6 a. b. Seylla tranquelarica 7 a. c Lupa dicautha 8 a Savi





1 a d. Amphitrite speciosa 2 a c - Ionĝispinosa 5 a d - viĝilans 1 a c Carnpa tennipes

5 a cThalamita admete10.Charybdis orientalis6 a d______integraII a ccrucifera7 a. b.creenata12 a = caffinis8 a c______spinimana1529 a. d______crassimana22

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U.S. Exploring Expedition

CA. CROIDEA. CORYSTOIDEA. PL. 18.







$\vec{1}$ a. .e. Lissocarcinus orbicularis. a. b. Arenæus cribrarius. J. Platyonychus purpureus. 4. a. c. Acanthocyclus Gayi.

Drawn by J.D.Dana

	a	9	Trichocera oregonensis.	
ś	a	b.	Peltarion spinulosum	
-			Gomeza serrata	
		1.	Tolmossus servatus	





a., f. Kraussia rugulosa.
a., d. Encrate crassimanus.
a., d. Cleistostoma Boscii?
4. a., c. Macrophthalmus pacificus.

5 a...d. Gelasinus nitidus 6 a. b. Helcecius condiformis 7 a...e. — inornatus 8 a...e. Ocypoda rhombea.

10 and the Second






1 a...c. Ocypoda – pallidula. 2. – Levis. 5 a...h. – brevicornis. 4 a...e. – – var? longicornuta (may)

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2 C







						ā a	C.	Grapsus	ividus	
1	Grapsus	pictus.				6. 0	d		arinipes.	
2		strigosus.				7	CI .	Goniograpsus	ernentalus	
За, е.		planifrons.					5		simplex	
4 a. d.		longitarsis.				о it.	D.			
			9 a.	Goniograpsus	umotatus					













1	a. i	Planes eya	neus
2	ae.	Hemigrapsus	sexdentatus
3	ad.		crennlatus.
4	a. d.		crassimanus.
5	ае.		affinis

6	а.	e,	Cyrtograpsi	is angulatus
7	a	С	Sesarma	angustipes
8	a	с		trapezium
9	a	d		obtustfrons
10	а	e.		obesum

Same Se I D Lama

