

MEDLARS BIBLIOGRAPHY

PUBLICATIONS OF RELEVANCE TO PAPUA NEW GUINEA AND MELANESIA

Bibliographic Citation List generated from MEDLARS

- 1 **Beebe NW, Saul A.**
Discrimination of all members of the *Anopheles punctulatus* complex by polymerase chain reaction-restriction fragment length polymorphism analysis. *Am J Trop Med Hyg* 1995 Nov;53(5):478-481.
A method has been developed to identify the members of the *Anopheles punctulatus* complex using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP). Members of the *An. punctulatus* complex are the most important vectors of malaria in the southwest Pacific and consist of 10 cryptic species, *An. farauti* no. 1-7, *An. punctulatus*, *An. sp. near punctulatus* and *An. koliensis*. For each species, PCR amplification of the ribosomal DNA internal transcribed spacer produced a 750-basepair product. Digestion with Msp I and electrophoresis on a 3.0% agarose gel results in banding patterns unique to each species. Isolates of the same species from different locations gave an identical pattern. The technique is sensitive enough so that a PCR-RFLP can be generated from as little as a single mosquito leg, allowing the rest of the mosquito to be used for other important epidemiologic analyses such as determining host feeding source, and for parasite detection.
- 2 **Bifulco G, Bruno I, Riccio R, Lavayre J, Bourdy G.**
Further brominated bis- and tris-indole alkaloids from the deep water New Caledonian marine sponge *Orina* sp.
J Nat Prod 1995 Aug;58(8):1254-1260.
Two tris-indole alkaloids, (+/-) gelliusines A and B [1], have been isolated for the first time from a marine source, the New Caledonian sponge, *Orina* sp. (or *Gellius* sp.), along with five further indole constituents [2-6]. Compound 6 has been identified as 2,2-bis-(6'-bromo-3'-indolyl)-ethylamine, previously isolated from the tunicate *Didemnum candidum*, but the remaining four indoles [2-5] are novel compounds. These showed anti-serotonin activity and a strong affinity for somatostatin and neuropeptide Y receptors in receptor-binding assays.
- 3 **Boone KE, Watters DAK.**
The incidence of malaria after splenectomy in Papua New Guinea.
BMJ 1995 Nov 11;311(7015):1273.
- 4 **Brown N.**
Severe malaria in children at Port Moresby General Hospital, Papua New Guinea.
Trop Geogr Med 1995;47(3):107-110.
The demographic and clinical features of severe malaria in children on the south coast of Papua New Guinea have never been clearly documented. This prospective study sought to define the associations between ethnic origin, domain, age, nutritional status and severe malaria in this group and to assess significant clinical features, evaluate the use of a coma score as a prognostic indicator in cerebral malaria and to determine the ultimate outcome. Twenty patients with severe malaria (17 cerebral malaria and 3 severe anaemia) were studied. Their mean age of 4.96 years was significantly greater than that of matched controls with uncomplicated *Plasmodium falciparum* infection, with mean age 3.79 years (0.02 < p < 0.05). Nutritional status was not a significant independent risk factor when controlled against inpatients with other diagnoses. Low coma scores (Adelaide scale 4/14 or less) sensitively predicted the risk of dying vs survival. The mortality of 18% was comparable with other series. Current standard treatment with quinine and Fansidar was effective and no early recrudescence was encountered in the survivors. The degree of intermarriage and migration between regions precluded firm conclusions from being drawn as to the relevance of ethnic and geographical factors in the epidemiology of severe malaria in this region.
- 5 **Connolly S, Trevett AJ, Nwokolo NC, Lalloo DG, Naraqi S, Mantle D, Schofield IS, Fawcett PR, Harris JB, Warrell DA.**
Neuromuscular effects of Papuan taipan snake venom.
Ann Neurol 1995 Dec;38(6):916-920.
Snakebite is a cause of significant morbidity in Central Province, Papua New Guinea. Three adult patients with clinical evidence of neurotoxicity following envenomation by the Papuan taipan had serial neurophysiological examinations over the course of their subsequent hospitalization. All required artificial ventilation for 2.5 to 5 days. The compound muscle action potential (CMAP) amplitudes declined over the first 2 to 4 days after envenoming and then gradually increased in parallel with clinical recovery. Repetitive stimulation studies revealed a distinctive pattern of abnormality. Activation resulted in brief potentiation of the CMAP followed by significantly greater decrement than observed at rest. This effect lasted up to 30 minutes and was not altered after intravenous edrophonium. Single-fiber electromyographic recordings during the recovery phase of the illness were abnormal with marked blocking and increased jitter. All patients were able to return home.
- 6 **Fu X, Schmitz FJ, Govindan M, Abbas SA, Hanson KM, Horton PA, Crews P, Laney M, Schatzman C.**
Enzyme inhibitors: new and known polybrominated phenols and diphenyl ethers from four Indo-Pacific *Dysidea* sponges.
J Nat Prod 1995 Sep;58(9):1384-1391.
Extracts and pure compounds isolated from four samples of *Dysidea* sp. sponges collected from two

geographically distinct regions of the Indo-Pacific (Chuuk Atoll and Fiji) were assayed against five different enzyme assays, four of which are relevant to anticancer drug discovery and one of which (15-lipoxygenase) may detect compounds significant in modulating the development of atherosclerotic plaque. The pure compounds that inhibited various enzymes were polybrominated phenols and polybrominated phenoxyphenols. Fourteen of these phenols were isolated, six of which were new compounds. A variety of the phenols inhibited inosine monophosphate dehydrogenase (IMPDH), guanosine monophosphate synthetase and 15-lipoxygenase. No activity was observed with protein tyrosine kinase pp60v-src or matrix metalloprotease.

7 **Genton B, Al-Yaman F, Beck HP, Hii J, Mellor S, Rare L, Ginny M, Smith T, Alpers MP.**

The epidemiology of malaria in the Wosera area, East Sepik Province, Papua New Guinea, in preparation for vaccine trials. II. Mortality and morbidity.

Ann Trop Med Parasitol 1995 Aug;89(4):377-390.

Malaria mortality and morbidity were studied in a rural population of 4000 in the Wosera area, East Sepik Province, Papua New Guinea. Malaria accounted for 4.9% of the 162 deaths investigated by verbal autopsy and for 12.2% of the 49 deaths assessed through medical records. Malaria was the first cause of death in children aged 0.5-4 years. Of the 7795 subjects interviewed and bled during six cross-sectional community-based surveys, children of 1-4 years had the highest malaria-related morbidity. In this age group, point prevalences of fever, fever associated with parasitaemia, and fever plus *Plasmodium falciparum* (Pf) parasitaemia of 10000 or more parasites/microlitre blood were 5%, 4.1% and 1.5%, respectively. The corresponding figures for adults were 2%, 0.9% and 0.1%, respectively. The calculation of attributable fraction (AF) using a multiple logistic regression model showed that malaria accounted for 0.44 of all fevers in children of 1-4 years and 0.08 of the fevers in adults. Prevalence data derived from the AF estimate were compared with those calculated using different accepted density thresholds. The prevalences which best approximated the results from the logistic regression model were obtained using parasitaemia cut-offs of 1000 or more Pf parasites/microlitre in children aged 1-4 years and adults older than 19 years, and of 10000 or more parasites/microlitre in those aged 5-19 years. Prevalence of fever associated with parasitaemia was highly seasonal, with a peak at the beginning of the wet season. The geographical distribution of malaria morbidity was not uniform. The measurement of malaria-related morbidity, the identification of significant seasonal and local variation as well as the assessment of different methods of defining a clinical episode of Pf malaria are crucial for the design and evaluation of intervention studies, including field trials of antimalarial vaccines.

8 **Genton B, Al-Yaman F, Beck HP, Hii J, Mellor S, Narara A, Gibson N, Smith T, Alpers MP.**

The epidemiology of malaria in the Wosera area,

East Sepik Province, Papua New Guinea, in preparation for vaccine trials. I. Malariometric indices and immunity.

Ann Trop Med Parasitol 1995 Aug;89(4):359-376.

The epidemiological features of malaria were studied through seven community-based surveys in a population of 4000 in the Wosera area, East Sepik Province, Papua New Guinea. Prevalence of parasitaemia (all species, all ages) was 60%. *Plasmodium falciparum* was the predominant species in all surveys (55%), followed by *P. vivax* (25%) and *P. malariae* (20%). The highest prevalence for asexual forms of *P. falciparum* occurred in the 5-9 year age group, whereas *P. falciparum* gametocytaemia and *P. vivax* parasitaemia were observed most frequently in the 1-4 year age group and *P. malariae* in the 10-15 year age group. Mean densities of all species decreased with age except for that of *P. malariae*, which was lower in children aged less than 1 year than in those aged 1-4 years. The prevalence of enlarged spleen was 57% in children and 10% in adults and closely matched the corresponding age-related parasite rate. Seroprevalence of antibody to the major merozoite surface antigen 2 rapidly increased with age, with more than 90% of individuals older than 5 years being positive. Malariological indices showed irregular changes over time but there was no clear-cut seasonal pattern. The geographical distribution of these indices and immune responses was not uniform within the study area. Bednet use and drug consumption were negatively correlated with malariometric indices. Identification of significant temporal and local variations in malaria endemicity is important for the design and evaluation of intervention studies, including field trials of an antimalarial vaccine.

9 **Genton B, Al-Yaman F, Mgone CS, Alexander N, Paniu MM, Alpers MP, Mokela D.**

Ovalocytosis and cerebral malaria.

Nature 1995 Dec 7;378(6557):564-565.

10 **Hii JL, Birley MH, Kanai L, Foligeli A, Wagner J.** Comparative effects of permethrin-impregnated bednets and DDT house spraying on survival rates and oviposition interval of *Anopheles farauti* No. 1 (Diptera: Culicidae) in Solomon Islands.

Ann Trop Med Parasitol 1995 Oct;89(5):521-529.

Human-biting, CDC light trap and pig-baited collections were used to monitor changes in the abundance and parity rate of *Anopheles farauti* No. 1 mosquitoes in three Solomon Islands villages for 30 consecutive nights. Houses in one of the villages were sprayed with DDT, another village was unsprayed but its inhabitants used permethrin-treated bednets and the third village was left completely untreated. Mosquitoes collected each day were dissected to determine follicular maturation and parity. In the second year of vector control, survival rates (determined by time-series analysis of the landing catches and biting parous population) were significantly lower in the village using permethrin-treated bednets than in the other two villages. There was no difference in the estimated survival rates between the untreated and DDT-sprayed villages.

The oviposition cycle was extended to 4 days in the permethrin-treated village compared with 3 days in the other villages. The expected infective life was 1.75-fold longer in the untreated village than in the permethrin-treated village. The epidemiological implications of replacing DDT spraying with permethrin for malaria control are discussed.

- 11 **Ibrahim F, De Thé G, Gessain A.** Isolation and characterization of a new simian T-cell leukemia virus type 1 from naturally infected Celebes macaques (*Macaca tonkeana*): complete nucleotide sequence and phylogenetic relationship with the Australo-Melanesian human T-cell leukemia virus type 1. *J Virol* 1995 Nov;69(11):6980-6993.
- A study of simian T-cell leukemia virus type 1 (STLV-1) infection in a captive colony of 23 *Macaca tonkeana* macaques indicated that 17 animals had high human T-cell leukemia virus type 1 (HTLV-1) antibody titers. Genealogical analysis suggested mainly a mother-to-offspring transmission of this STLV-1. Three long-term T-cell lines, established from peripheral blood mononuclear cell cultures from three STLV-1-seropositive monkeys, produced HTLV-1 Gag and Env antigens and retroviral particles. The first complete nucleotide sequence of an STLV-1 (9025 bp), obtained for one of these isolates, indicated an overall genetic organization similar to that of HTLV-1 but with a nucleotide variability for the structural genes ranging from 7.8 to 13.1% compared with the HTLV-1 ATK and STLV-1 PTM3 Asian prototypes. The Tax and Rex regulatory proteins were well conserved, while the pX region, known to encode new proteins in HTLV-1 (open reading frames I and II), was more divergent than that in the ATK strain. Furthermore, a fragment of 522 bp of the gp21 env gene from uncultured peripheral blood mononuclear cell DNAs from five of the STLV-1-infected monkeys was sequenced. Phylogenetic trees constructed with the long terminal repeat and env (gp46 and gp21) regions demonstrated that this new STLV-1 occupies a unique position within the Asian STLV-1 and HTLV-1 isolates, being, by most analyses, related more to the Australo-Melanesian HTLV-1 topotype than to any other Asian STLV-1. These data raise new hypotheses on the possible interspecies viral transmission between monkeys carrying STLV-1 and early Australoid settlers, ancestors of the present day Australo-Melanesian inhabitants, during their migrations from the Southeast Asian land mass to the greater Australian continent.
- 12 **Johnson FYA, Hills B, Posanau CS.** Roadside driver alcohol survey and hospital alcohol survey in Port Moresby, Papua New Guinea. *Med Law* 1995;14(3-4):157-161.
- This article reports the results of a roadside driver alcohol survey undertaken jointly by a research team from the Papua New Guinea Department of Transport, the Department of Health, the University of Papua New Guinea, the Port Moresby General Hospital and the Transport and Road Research Laboratory of the United Kingdom.
- 13 **Kay BH, Prakash G, Andre RG.** *Aedes albopictus* and other *Aedes* (*Stegomyia*) species in Fiji. *J Am Mosq Control Assoc* 1995 Jun;11(2 Pt 1):230-234.
- During an assessment of the dengue situation in Fiji in early 1992, a house-to-house survey of container-breeding *Aedes* was made. Discarded tires and water drums were identified as key breeding sites for the 4 potential dengue vectors: *Aedes aegypti*, *Aedes albopictus*, *Aedes pseudoscutellaris* and *Aedes polynesiensis*. *Aedes albopictus* were detected on Viti Levu, Vanua Levu, and on Taveuni. Examination of early records and of used tire importation suggests entry into Fiji after July 1985 but well before July 1988 when the species was first detected. It is also possible the *Ae. albopictus* was introduced via aircraft from Hawaii. In Suva, the 4 *Stegomyia* species coexist, but in Lautoka it appears that *Ae. albopictus* may be displacing *Ae. pseudoscutellaris*.
- 14 **Lal RB, Rudolph D, Alpers MP, Sulzer AJ, Shi YP, Lal AA.** Immunologic cross-reactivity between structural proteins of human T-cell lymphotropic virus type I and the blood stage of *Plasmodium falciparum*. *Clin Diagn Lab Immunol* 1994 Jan;1(1):5-10.
- To determine the serologic cross-reactivity between human T-cell lymphotropic virus type I (HTLV-I) and parasite antigens, we measured antibody responses against HTLV-I, *Plasmodium falciparum*, *Plasmodium vivax* and *Brugia malayi* in serum specimens obtained from regions where malaria (n = 482) and filariasis (n = 101) are endemic. Analysis of immune reactivity to HTLV-I antigens showed that specimens from regions where malaria is endemic had significantly higher rates of enzyme immunoassay (EIA) reactivity (76 of 482 [15.8%]) than those from regions where filariasis is endemic (0 of 101 [0%]). Western blot (immunoblot) analysis of the HTLV-I EIA-reactive specimens demonstrated predominant Gag reactivity (HTLV-Iind). Only two specimens each from Indonesia and Brazil and four specimens from Papua New Guinea had Env reactivity by radioimmunoprecipitation analysis. Furthermore, a positive correlation between HTLV-EIA and titers of antibody to the blood stage of *P. falciparum* (rs = 0.24, p less than 0.005) was discerned; no correlation was observed between antibodies to the blood stage or the circumsporozoite protein of *P. vivax* and the circumsporozoite protein of *P. falciparum*. In addition, *P. falciparum*-infected erythrocyte lysate specifically abrogated binding of Gag-specific antibodies in HTLV-Iind specimens from regions where malaria is endemic without affecting binding in HTLV-I-seropositive specimens, suggesting that the immunologic cross-reactivity between HTLV Gag proteins and malaria parasites is restricted to the blood-stage antigens of plasmodia in specimens from regions where malaria is endemic.
- 15 **Meyer E, Wiegand P, Brinkmann B.** Phenotype differences of STRs in 7 human populations. *Int J Legal Med* 1995;107(6):314-322.

A maximum of 6 STR systems (TH01, VWA, ACTBP2, FES, F13B, D21S11) was investigated in 7 human populations (Germans, Turks, Moroccans, Japanese, Chinese, Papuans, Ovambos). In each population no deviations from Hardy-Weinberg equilibrium were observed. Out of each population the phenotypes of 50 individuals (comprising 3 to 6 STRs) were randomly selected. Based on the phenotype frequencies interpopulation comparisons were carried out using the frequencies of each other population. Within major ethnic groups only minor differences in phenotype frequencies were found. Between major ethnic groups differences of up to several orders of magnitude could be observed. The most discriminative STRs for interpopulation comparisons were TH01, FES and F13B.

- 16 **Noel M, Levenes H, Duval P, Barbe C, Ramognino P, Verhaegen F.** [Epidemic of pulmonary histoplasmosis after visiting a cave in New Caledonia]. [Fre] *Sante* 1995 Jul-Aug;5(4):219-225.

We report an epidemic of acute pulmonary histoplasmosis which occurred in February 1994 among a group of 24 persons after they had once or twice visited a cave in New Caledonia. This study describes the physical and laboratory findings, which led to the diagnosis of histoplasmosis. Each test was evaluated. All members of the group had a physical examination, early and late serological tests, pulmonary X-rays (including CT) and some had mycological examination of bronchoalveolar washes. Mycological investigations were made on samples collected from the cave. Histoplasmic skin testing was not possible. We defined a case as a person who visited the cave in January 1994, had evocative radiological features and at least four symptoms among the following: weakness, fever, headache, arthralgia, thoracic pains, dyspnea, cough and nausea. Of the 24 exposed persons, 7 cases were considered as severe, 8 cases as moderate and 6 cases as mild, for a total of 21 cases and an attack rate of 87.5%. There was no progression towards disseminated histoplasmosis and no recorded death. The incubation period lasted from 5 to 17 days. The symptoms were divided into three groups. In the first group, the symptoms of fever, headache and arthralgia were common and nonspecific. In the second group, the symptoms of chest pain, cough and dyspnea, which often occurred later, were less common and more specific. In the third group, the symptoms of vomiting, diarrhoea and dizziness were less common. The chest X-ray showed abnormalities in 100% of the cases, and in 11 of the 21 cases the characteristic finding was a miliary opacity.

- 17 **Okoji GO, Dotollo RA.** Massive hepatomegaly in a 6-week-old infant: is it neuroblastoma? *Ann Trop Paediatr* 1994;14(4):337-341.

Neuroblastoma is described in a 6-week-old baby presenting with a rapidly enlarging liver. Initial ultrasound examination of the abdomen could not characterize the tumour but a second examination showed a cyst in the superior pole of the kidney which at autopsy was found to be due to adrenal

haemorrhage. The role of prenatal and postnatal ultrasonography in the diagnosis of neuroblastoma is emphasized. This tumour is more common in white children in the more industrialized countries, but even in developing countries clinicians should remain alert to its myriad manifestations.

- 18 **Quinnell RJ, Woolhouse ME, Walsh EA, Pritchard DI.**

Immunoepidemiology of human necatoriasis: correlations between antibody responses and parasite burdens.

Parasite Immunol 1995 Jun; 17(6):313-318.

In this paper we describe the relationship between antibodies to *Necator americanus* stage-specific antigens and parasite burden in an endemically infected population in Papua New Guinea. Using an age-structured analysis, we show that the correlation coefficient between levels of IgG against adult worm excretory-secretory (ES) antigen and parasite burden declined significantly with host age from positive in younger hosts to significantly negative in older hosts. A trend towards similar patterns was present for anti-larval IgG both pretreatment and after reinfection, and for anti-ES IgM and anti-ES IgE pretreatment. These patterns are consistent with a role for these isotypes in a protective immune response, although parasite-induced immunosuppression may provide an alternate explanation. This is another demonstration of possibly protective responses to *N. americanus* infection.

- 19 **Schaumberg DA, Linehan M, Hawley G, O'Connor J, Dreyfuss M, Semba RD.** Vitamin A deficiency in the South Pacific.

Public Health 1995 Sep;109(5):311-317.

Vitamin A deficiency is a major cause of morbidity, mortality and blindness among children. Although vitamin A deficiency is known to affect many children in developing countries, the magnitude of the problem in the South Pacific region is unclear. METHODS: Five cross-sectional surveys for vitamin A deficiency were conducted between 1989 and 1992 in the Republic of Kiribati, Tuvalu, the Republic of Vanuatu, Solomon Islands and the Cook Islands. RESULTS: In total, 10 673 children between the ages of 6 and 72 months were examined for clinical signs of vitamin A deficiency (nightblindness and xerophthalmia). The prevalence of xerophthalmia was 14.76% in the Republic of Kiribati, 1.55% in Solomon Islands, 0.59% in the Cook Islands, 0.28% in Tuvalu and 0.11% in Vanuatu. The most common clinical findings were Bitot's spots followed by nightblindness. Xerophthalmia was more common among boys (Kiribati p less than 0.001, Solomon Islands p = 0.03) and tended to occur in older preschool children (p less than 0.0001). CONCLUSIONS: These studies suggest that vitamin A deficiency is a public health problem in the Republic of Kiribati and Solomon Islands.

- 20 **Seck B, Poinso F, Gepner B.**

[Traditional medicine and psychiatry: apropos of 3 experiences in Senegal, New Caledonia and Nepal]. [Fre]

Acta Psychiatr Belg 1994 May-Jun;94(3):151-164.

The authors describe by turns their experience with indigenous medicine in Senegal, in New Caledonia and in Nepal. They show that these indigenous medicines have common fundamental characteristics, although these various cultures are not linked together by their history. They compare these ways of thinking with occidental scientific medicine, and with the way of thinking of psychoanalysis.

21 **Taubes G.**

Scientists attacked for 'patenting' Pacific tribe.
Science 1995 Nov 17;270(5239):1112.

22 **Theunissen JJ, Kariwiga G, Ossewaarde JM, Van Rijsoort Vos JH, Stolz E, van der Meijden WI.**

Prevalence of *Chlamydia trachomatis* in women attending a family planning clinic in Papua New Guinea.

Genitourin Med 1995 Oct;71(5):295-298.

OBJECTIVE: To determine the prevalence of *Chlamydia trachomatis* infection in women attending a family planning clinic in Papua New Guinea, in the period between April and June 1991. **SETTING:** The outpatient department of Obstetrics and Gynaecology of Port Moresby General Hospital, Port Moresby, Papua New Guinea, the departments of Dermato-Venereology and Clinical Microbiology of the Erasmus University, Rotterdam, The

Netherlands and the National Institute of Public Health and Environmental Protection, Bilthoven, The Netherlands. **PATIENTS:** A total of 254 consecutive women who attended the family planning clinic at Port Moresby General Hospital, Papua New Guinea were enrolled into this study. **METHODS:** Cervical infections with *C. trachomatis* were diagnosed using the direct immunofluorescent assay (DFA) and the polymerase chain reaction (PCR). Serum IgM and IgG antibodies directed against *C. trachomatis* were detected using the enzyme-linked fluorescent assay (ELFA). **RESULTS:** The prevalence of *C. trachomatis* was 14.6% using the PCR, 9.1% using the DFA and 17.3% when the results of the PCR and the DFA were combined. An elevated IgM titre was observed in 14.2% of the women, whereas 44.1% had an elevated IgG titre. The titres of IgM or IgG were significantly higher in women who were positive using the PCR or the DFA than in those who were negative in both the PCR and the DFA ($p = 0.032$ and $p = 0.0046$, respectively). **CONCLUSION:** Cervical infection by *C. trachomatis* can be considered a major health problem in at least the studied population in Papua New Guinea. The prevalence of *C. trachomatis* infection is at least comparable with that in groups with a high prevalence in industrialized countries. Effective screening and treatment programmes are imperative to combat this problem.

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- 3 **Garner PA, Hill G.** Brainwashing in tuberculosis management. *PNG Med J* 1985;28:291-293.

- 4 **Cochrane RG.** A critical appraisal of the present position of leprosy. In: Lincicome DP, ed. *International Review of Tropical Medicine*. New York: Academic Press, 1961:1-42.

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Tables and figures (an original with 2 copies of each) should be prepared on separate pages. Photographs should be glossy prints, either 7 cm or 14.5 cm in width. Graphs and charts must be prepared in India ink on stiff white paper, or presented as glossy photographs. Photomicrographs should have internal scale markers. Each table should have a heading and footnotes which make it understandable without reference to the text. Each figure should have a legend; figure legends should be typed together on a separate sheet. Indicate the top of figures lightly in pencil on the back.

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